

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary)
Bachelor of Commerce (Scheme- D)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Banking and Insurance	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Industrial Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Corporate Governance & Auditing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME D - BACHELOR OF COMMERCE (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME D - BACHELOR OF COMMERCE (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D

B.Com. Vocational (Banking & Insurance)

as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Regulatory Framework of Banking	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Regulatory Framework of Insurance	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Banking & Insurance Operations	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D
B.Com. Vocational (E-Commerce)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
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	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
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VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Fundamentals of E-Commerce	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
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THIRD YEAR SCHEME																
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	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	M-Commerce	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Internet and Web Design	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-	

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D

B.Com. Vocational (Advertising, Sales Promotion & Sales Management)

as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Marketing Communication	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Creativity and Advertising	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Managing Sales Force	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-	

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D

B.Com. Vocational (Computer Applications)

as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Programing for Problem Solving	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Database Management System	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Networking and ERP	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-	

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D
B.Com. Vocational (Foreign Trade Practices and Procedures)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Export Procedures & Documentation	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	International Logistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Foreign Trade Policy	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D

B.Com. Vocational (Office Management and Secretarial Practice)

as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Office Management & Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Computer Typing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Communication and Automation	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D
B.Com. Vocational (Principles and Practice of Insurance)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Life and General Insurance	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Principles of Insurance	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Regulatory Framework of Insurance	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D
B.Com. Vocational (Tax Procedures & Practices)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Corporate Taxation	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Corporate Tax Planning	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	International Taxation	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-

OR

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Undergraduate Programme (Interdisciplinary) -Scheme- D
B.Com. Vocational (Tourism & Travel Management)
as per NEP-2020 Curriculum Framework

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) w.e.f. the session 2023-2024 (in phased manner)

Semester	Course Type	Course Code	Nomenclature of Course	Credits			Contact Hours L: Lecture P: Practical T: Tutorial			Internal Assessment Marks		End Term Examinations Marks		Total Marks	Examination Hours	
				Total	Theory (T)	Tutorial (T)	L	T	Total	T	T/P	T	T/P		T	T/P
FIRST YEAR SCHEME																
I	CC-1	B23-COM-101	Financial Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-2	B23-COM-102	Business Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-3	B23-COM-103	Business Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M1	B23-COM-104	Business Mathematics-I	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-1	B23-COM-105	Personal Finance	3	2	1	2	1	3	25	-	50	-	75	3	-
	AEC-1	Select one course from the pool of Ability Enhancement Courses (AEC)														
	SEC-1	Select one course from the pool of Skill Enhancement Courses (SEC)														
	VAC-1	Select one course from the pool of Value Added Courses (VAC)														

II	CC-4	B23-COM-201	Computerized Accounting System *	4	2	2	2	4	6	20	10 (P)	50	20 (P)	100	3	3
	CC-5	B23-COM-202	Company Law	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-6	B23-COM-203	Principles of Marketing	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M2	B23-COM-204	Business Mathematics-II	2	1	1	1	1	2	15	-	35	-	50	3	-
	MDC-2	B23-COM-205	Fundamentals of Banking and Insurance	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-2	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-2	Select one course from the pool of Skill Enhancement Courses (SEC)															
VAC-2	Select one course from the pool of Value Added Courses (VAC)															
SECOND YEAR SCHEME																
III	CC-7	B23-COM-301	Corporate Accounting-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-8	B23-COM-302	Income Tax Law-I	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-9	B23-COM-303	Tourism Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M3	B23-COM-304	Business Economics	4	3	1	3	1	4	30	-	70	-	100	3	-
	MDC-3	B23-COM-305	Fundamentals of Indian Capital Markets	3	2	1	2	1	3	25	-	50	-	75	3	-
AEC-3	Select one course from the pool of Ability Enhancement Courses (AEC)															
SEC-3	Select one course from the pool of Skill Enhancement Courses (SEC)															

IV	CC-10	B23-COM-401	Corporate Accounting-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-11	B23-COM-402	Income Tax Law-II	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-12	B23-COM-403	Entrepreneurship Development	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M4(V)	B23-COM-404	Consumer Protection in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	AEC-4	Select one course from the pool of Ability Enhancement Courses (AEC)														
	VAC-3	Select one course from the pool of Value Added Courses (VAC)														
THIRD YEAR SCHEME																
V	CC-13	B23-COM-501	Cost Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-14	B23-COM-502	GST & Custom Laws	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-15	B23-COM-503	Tourism in India	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M5(V)	B23-COM-504	Corporate Secretarial Practices	4	3	1	3	1	4	30	-	70	-	100	3	-
VI	CC-16	B23-COM-601	Management Accounting	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-17	B23-COM-602	Tour and Travel Operations	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-18	B23-COM-603	Business Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M6	B23-COM-604	Business Environment of Haryana	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-M7(V)	B23-COM-605	Advertising and Personal Selling	4	3	1	3	1	4	30	-	70	-	100	3	-

FOURTH YEAR SCHEME (HONOURS)

VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H6	B23-COM-803	International Business	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSC-H2 (any one)	B23-COM-804	Business Ethics & CSR	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-805	Corporate & Security Valuation	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H2	B23-COM-806	Stock Market Operations *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM2	B23-COM-807	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
OR																

FOURTH YEAR SCHEME (HONOURS WITH RESEARCH)																
VII	CC-H1	B23-COM-701	Organizational Behaviour	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H2	B23-COM-702	Advanced Statistics	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H3	B23-COM-703	Indian Business Environment	4	3	1	3	1	4	30	-	70	-	100	3	-
	DSE-H1 (any one)	B23-COM-704	Business Research Methods	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-705	Strategic Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	PC-H1	B23-COM-706	Analysis of Financial Statements *	4	2	2	2	4	6	20	10	50	20	100	3	3
	CC-HM1	B23-COM-707	Retailing	4	3	1	3	1	4	30	-	70	-	100	3	-
VIII	CC-H4	B23-COM-801	Human Resource Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-H5	B23-COM-802	Financial Management	4	3	1	3	1	4	30	-	70	-	100	3	-
	CC-HM2	B23-COM-806	Supply Chain Management	4	3	1	3	1	4	30	-	70	-	100	3	-
		B23-COM-807	Project/Dissertation Report	12	-	-	-	-	-	-	-	300	-	300	-	-

***Practical Course**

Note: - Syllabus of courses other than CC-9; CC-15 and CC-17 is same as that of the corresponding courses in B.Com.

Session 2023-2024			
Part-A Introduction			
Subject	Commerce		
Semester	I		
Name of the Course	Financial Accounting		
Course Code	B23-COM-101		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. develop the understanding of theoretical framework of financial accounting, artificial intelligence and data analytics, accounting standards and accounting cycle. 2. prepare the financial statements of companies and apply the knowledge of depreciation accounting. 3. understand and prepare the accounts for the non-profit organizations and consignment accounts. 4. prepare the branch accounts and knowing the accounting treatment in hire purchase & installment payment accounts. 		
	5*.		
	Theory	Tutorial	Total
Credits	3	1	4
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.	-	3 Hrs.
Part-B Contents of the Course			
Instructions for Paper Setters			
<ol style="list-style-type: none"> 1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprise of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. About 40% questions should be numerical type. 2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question. 			
Unit	Topics		Contact Hours
I	Financial accounting: Concept, objectives & scope; Accounting as an information system; Accounting principles: Concepts and		14

	conventions; Double entry system; A brief overview of accounting standards in India; Journal, Ledger & trial balance.	
II	Capital and revenue: Concept and classification of income; Expenditure; Receipts; Provisions & reserves. Final Accounts: Trading & Profit and loss account and balance sheet with adjustments.	14
III	Accounting for non-profit organizations; Consignment accounts: accounting records; Normal and abnormal loss; Valuation of unsold stock.	16
IV	Branch accounts: dependent branch, debtor's system, stock and debtor system; Wholesale branch, Final accounts; Hire purchase and installment payment system: basic concepts, difference and accounting treatment.	16
V*	----	
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Gupta R. L. and Radhaswamy, M., Financial Accounting, Sultan Chand and Sons, New Delhi. • Hanif & Mukherjee., 2016. Financial Accounting. Tata McGraw Hill. • Lal Jawahar, Seema Srivastava & Shivani Abrol, Financial Accounting Text and Problems, Himalaya Publishing House, New Delhi. • Maheswari S. N. and Maheswari S. K.: Financial Accounting, Vikas Publishing House, Noida. • Sehgal Ashok & Sehgal Deepak, Fundamentals of Financial Accounting, Taxmann, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	I		
Name of the Course	Business Laws		
Course Code	B23-COM-102		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the provisions of Indian Contract Act. 2. know the obligations of buyer and seller for making the business agreements and contracts. 3. apply skills to initiate entrepreneurial ventures as partnership and LLP. 4. understand the concepts & scope of negotiable instruments and legal safeguards in Information Technology. 		
	5*.		
	Theory	Tutorial	Total
Credits	3	1	4
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	The Indian Contract Act,1872: nature and classification of contracts; Essentials of a valid contract; An overview of Proposal and acceptance, Capacity of parties to contract, Free consent, Lawful consideration, Lawful object; Void Agreement; Performance of contract; Discharge of contract; Remedies for	15

	breach of contract.	
II	Sale of Goods Act, 1930: Formation of contract of sale; Goods and their classification; Price; Conditions and warranties; Transfer of ownership in goods; Performance of the contract of sale; Remedies: unpaid seller and his rights, buyer's remedies; Auction sale, Online auction.	15
III	Indian Partnership Act 1932: Nature of firm; Duties and rights of partners; Liabilities of firm and partner; Limited Liability Partnership Act, 2008: concepts, characteristics of LLP; Incorporation of LLP; LLP agreement, Extent & limitations of liabilities of LLP and partners.	15
IV	Negotiable Instruments Act, 1881: scope, features and types; Negotiation; Crossing; Dishonor and discharge of negotiable instruments. Information Technology Act, 2000: Purpose; Benefits and limitations; Digital signature; E-Governance; Attribution of electronic records, duties of subscribers; Penalties and adjudication offences.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam:		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Aggarwal Rohini, <i>Mercantile & Commercial Laws</i>, Taxmann Allied Services (P) Ltd., New Delhi. • Bhushan, Bharat. Kapoor, N.D., Abbi, Rajni, "Elements of Business Law". Sultan Chand & Sons Pvt. Ltd. • Bulchandani, K.R., <i>Business Laws</i>, Himalaya Publishing House, New Delhi. • Datey, V.S., <i>Business and Corporate Laws</i>, Taxmann Publications, New Delhi. • Kapoor, N.D., <i>Business Law</i>, Sultan Chand & Sons, New Delhi. • Kuchhal, M.C., Kuchhal Vivek, <i>Business Legislation for Management</i>, Vikas Publishing House Pvt. Ltd., New Delhi. • Tulsian, P.C., <i>Business Laws</i>, Tata McGraw Hill, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	I		
Name of the Course	Business Management		
Course Code	B23-COM-103		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. gain knowledge about the conceptual framework of business management; development of management thoughts and knowing the emerging management thoughts. 2. understand the utility and application of planning and organizing functions of management. 3. assimilate and use the concepts of delegation, decentralization and staffing in organization. 4. comprehend the concept and applications of leadership styles, and controlling practices in organizations. 		
	5*.-----		
	Theory	Tutorial	Total
Credits	3	1	4
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Introduction to Management: characteristics and significance, process and functions of management; Management: as science, art and profession; Approaches to management: Classical and neo classical approach, behavioral approach, management science	15

	approach, systems approach and contingency approach; Emerging management concepts.	
II	Planning: process and importance; Types of plans: Policy, programme, strategy, vision, mission, goals and objectives; Organizing: Principles and benefits of organizations; Organizational structure: Functional, line and staff, matrix, formal vs. informal; Organizational structure for large scale business organization, virtual organization.	15
III	Staffing: Importance, scope and modes of staffing; Delegation: Advantages, barriers to delegation, guidelines for effective delegation; Decentralization and Centralization: Advantages and disadvantages; Factors influencing decentralization; Directing; Coordination; Controlling: Characteristics and process of control, prerequisites of an effective control system, controlling techniques.	15
IV	Motivation: Objectives and significance; Approaches to motivation; Leadership: Significance and functions; Leadership styles; Approaches to leadership	15
V*	-	
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam: 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Basu, C, Business Organisation and Management, McGraw Hill Education. • Bhattacharya Kumar Deepak, Principles of Management, Pearson, New Delhi. • Gupta, C.B.: Management: Theory and Practice, Sultan Chand & Sons, New Delhi • O'Donnel Cyril & Koontz Harold, Management, McGraw Hill, New Delhi. • Stephen P Robbins, David A DeCenzo, 'Fundamentals of Management, Essential Concepts and Applications • Tripathi, P.C. & Reddy, P.N., Principles of Management, Tata McGraw Hill, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024			
Part-A Introduction			
Subject	Commerce		
Semester	I		
Name of the Course	Business Mathematics-1		
Course Code	B23-COM-104		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand set theory, logical statements and truth tables. 2. learn the logarithms and arithmetic and geometric progressions and their applications. 3. familiarize with the concepts of matrices and determinants. Learn to solve system of simultaneous linear equations. 4. have the conceptual knowledge of Compound interest, annuity, loan, debenture and sinking funds and attain skills to use these concepts in daily life. 		
	5*.		
	Theory	Tutorial	Total
Credits	01	01	02
Internal Assessment Marks	15	-	15
End Term Exam Marks	35	-	35
Exam Time	3 Hrs.	-	3 Hrs.
Part-B Contents of the Course			
Instructions for Paper Setters			
<ol style="list-style-type: none"> 1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 1 marks each. Question Nos. 2 to 9 will carry 7 marks each, having two questions from each unit. About 40% questions should be numerical type. 2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question. 			
Unit	Topics		Contact Hours
I	Set Theory: Representation of sets, equivalent sets, power set, complement of a set. Venn Diagrams: Union and intersection of		8

	sets, De-Morgan's laws; Logical statements and truth tables.	
II	Logarithms: Laws of operation, log tables; Arithmetic and geometric progression.	7
III	Matrices and Determinants: Definition of a matrix, order, equality, types of matrices; Operations on matrices: Addition, multiplication and multiplication with a scalar and their simple properties. Determinant of a square matrix (upto 3x 3 order): Properties of determinants, minors, co-factors and applications of determinants in finding the area of triangle, adjoint and inverse of a square matrix, solutions of a system of linear equations by examples.	8
IV	Compound interest and annuities: Different types of interest rates, types of annuities, present value and amount of an annuity (including the case of continuous compounding), valuation of simple loans and debentures, problems related to sinking funds.	7
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam:		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Allen R.G.D., Basic Mathematics, Macmillan, New Delhi • D.C. Sancheti and V.K. Kapoor, Business Mathematics, Sultan Chand and Sons. • E. Don and J. Lerner (2009). Schaum outlines of Basic Business Mathematics, McGraw Hill. • Holden, Mathematics for Business and Economics, Macmillan India, New Delhi. • S.C. Gupta and V.K. Kapoor, Fundamentals of Mathematical Statistics, S. Chand & Sons, Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	I		
Name of the Course	Personal Finance		
Course Code	B23-COM-105		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	MDC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of personal finance and personal financial planning. 2. gain the knowledge of investment and different investment avenues available for managing finance. 3. understand the relationship between investment risk and return and the role of regulatory environment in managing personal finance. 4. do insurance planning, tax and estate planning and retirement planning. 		
	Theory	Tutorial	Total
Credits	02	01	03
Internal Assessment Marks	25	-	25
End Term Exam Marks	50	-	50
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 9 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Personal finance: Concept, need, principles, scope; Personal finance services and strategies; Personal financial planning: Process, factors affecting; Financial planner: Role and functions; Financial objectives; Time Value of Money: Compounding and discounting.	12

II	Basics of investment; Investment avenues and strategies; Mutual Funds: Concept, types, asset management companies, identifying mutual fund for investment; Investing in stock markets: Identifying stocks, holding, day trading, hedging instruments, etc.; Investing in real estate: Identifying properties, likely legal issues in purchase of property, documents in purchase of property; Other avenues for investment: Gold bonds, sovereign bonds, tax saving instruments, PPF, Provident Fund, etc.; loans: Sources and types; Identifying risky avenues for investment.	11
III	Calculating risk and return of various investment avenues; Calculating costs in investment and loans; Identifying hidden costs; Tax treatment of investment; Likely causes of cheating and fraud in investment; Institutional framework for investing: SEBI, IRDA, RERA, AMFI, bank ombudsman, etc.	11
IV	Insurance planning: Concept, importance; Types of insurance policies; Risk coverage and returns from insurance; Considerations in purchase of insurance policy; Retirement planning: Pension plans, NPS.	11

Suggested Evaluation Methods

Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam	End Term Exam
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Part-C Learning Resources

<p>Recommended Books/E-Resources/LMS:</p> <ul style="list-style-type: none"> • Arthur J. Keown: Personal Finance, Pearson India. • Halan, Monika, Lets Talk Money: You've Worked Hard for It, Now Make It Work for You, July 2018, Harper Business. • Jack R. Kapoor, Les R. Dlabay, Robert J. Hughes, Melissa Hart: Personal Finance, Tata McGraw Hill India. • Lewis Altfest: Personal Financial Planning, Tata McGraw Hill. • Madura Jeff: Personal Finance, Pearson India. • Sinha. Madhu, Financial Planning: A Ready Reckoner July 2017 McGraw Hill.

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	II		
Name of the Course	Computerized Accounting System*		
Course Code	B23-COM-201		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/DSE/PC/AEC/VAC)	CC-4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept of computerized accounting and be familiar with accounting software. 2. create company ledger, vouchers in accounts software. 3. prepare financial statements in Tally. 4. comply with tax regulations – GST, Income Tax, etc. <p>5*. make journal entries, ledgers, trial balance, profit and loss account, balance sheet and records, other business operations on Computerized accounting software, such as Tally Prime (Latest Version).</p>		
Credits	Theory	Practical	Total
	2	2	4
Internal Assessment Marks	20	10	30
End Term Exam Marks	50	20	70
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Computerized Accounting System: Concept, Tally Prime, installations of Tally Prime, licensing configurations; Tally vault password: Security control in Tally Prime, data backup and restore, export and import data, edit log feature in tally; Gateway of Tally.	15
II	Company creation: Setup features, accounting features, configuration,	15

	shutting and deleting a company; Ledger creation: Creating single and multiple ledgers, altering, deleting and displaying ledger; Invoicing; Budgets; Cost centres; Interest calculations; Inventory: Stock items, purchase and sales orders processing, godowns.	
III	Financial Statements: Profit & loss account, balance sheet; Bank reconciliation; Debit and credit note; Tally audit features; Printing features; Management Information System & different reports in tally.	15
IV	Income tax and GST in Tally Prime; TDS; TCS; Payroll in Tally: Introduction, salary accounting, payroll masters, payroll vouchers, gratuity, provident fund, ESI, payroll reports.	15
V*	Procedures to create a company, prepare a profit and loss account, prepare Balance sheet, show some entries of TDS and TCS, GST entries in Tally Payroll in Tally.	

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam: ➤ Practicum Class Participation Seminar/Demonstration/Viva Voce/Lab Records etc. Mid Term Exam: 	End Term Exam
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Part-C Learning Resources

<p>Recommended Books/E-Resources/LMS:</p> <ul style="list-style-type: none"> • A.K. Nadhavi, Managing VAT with Tally 9 (Taxation), BPB Publications, New Delhi. • Ashok K. Nadavi, Tally Training Guide (Financial Accounting, Invoicing & Inventory), BPB Publications, New Delhi. • Ashok, K. Nadhavi, Kishor K. Nadhavi, Implementary Tally 9, BPB Publications, New Delhi. • Bansal Manoj, Computerized Accounting System, Sahitya Bhawan Publications. • Kavitha et. al., Computerized Accounting, Himalaya Publishing House. • Raman B.S. and Singh Ravi, Computerized Accounting System, EPBP Publication.
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* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	II		
Name of the Course	Company Law		
Course Code	B23-COM-202		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-5		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept of company as form of business organization, regulatory framework and the process of incorporation. 2. elaborate on important documents of the company and their operational usefulness. 3. understand the procedure of raising capital, knowing rights & duties of Directors and Company Secretary. 4. apply the understanding of the regulatory provisions relating to dividend decisions and winding up of the company. 		
	5*.-		
	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	03 Hrs.		03Hrs.
Part-B Contents of the Course			
Instructions for Paper Setters			
<ol style="list-style-type: none"> 1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. 2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question. 			
Unit	Topics		Contact Hours
I	Company: Concept, characteristics, types; Conversion of private company into public company & vice versa; Incorporation of a company; Legal position of promoters; Pre-incorporation contracts.		14

II	Memorandum of Association: Clauses and alteration procedure, Doctrine of ultra vires; Articles of Association: Clauses and alteration; Doctrine of indoor management; Doctrine of constructive notice; Prospectus: Concept, types, contents and formalities of red herring & shelf prospectus, mis-statement and remedies, liabilities for misstatements in Prospectus.	16
III	Share capital: Types, issue and allotment of shares; Reduction of share capital; Board of Directors: Composition, legal position, qualification, appointment, powers, duties & liabilities and removal of directors; Company secretary: Role, appointment, duties, liabilities, rights and removal.	16
IV	Dividend: Types, factors affecting dividend decisions, Legal provisions, dividend practices prevalent in India; Winding up of a company: Reasons, modes, procedure and implications of winding up.	14
V*	-	
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam*		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Bhushan, Bharat. Kapoor, N.D., Abbi, Rajni, <i>Elements of Company Law</i>. Sultan Chand & Sons Pvt. Ltd. • Kapoor N.D., <i>Elements of Company Law</i>, Sultan Chand & Sons, New Delhi. • Majumdar, A.K. and Kapoor, G.K., <i>Company Law</i>, Taxmann Publications. • Ramaiya A., <i>Guide to the Companies Act</i>, Wadhwa & Co, Nagpur. • Ratan Nolakha, <i>Company Law and Practice</i>, Vikas Publications, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	II		
Name of the Course	Principles of Marketing		
Course Code	B23-COM-203		
Course Type: (CC/MCC/MDC/CCM/DSEC/VOC/DSE/PC/AEC/VAC)	CC-6		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basic concepts of marketing and assess the marketing environment. 2. analyse the consumer behaviour in the present scenario and marketing segmentation. 3. discover the new product development and factors affecting the price of a product in the present context. 4. understand the promotional and distribution strategies along with the recent developments in the field of marketing. 		
Credits	Theory	Tutorial	Total
	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	03 Hrs.		03 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Marketing: Concept, nature, scope and importance; Evolution of Marketing; Understanding marketing in new perspectives; Marketing environment: Concept, importance; Micro environmental factors: Suppliers, marketing intermediaries, customers, competitors, public; Macro environmental factors: Demographic, economic, natural,	15

	technological, politico-legal and socio- cultural.	
II	Consumer behaviour: Concept, nature and importance, consumer buying decision process, factors Influencing consumer buying behaviour; Market segmentation: Concept, importance and bases; Target market selection; Positioning: Concept, importance and bases.	15
III	Product: Concept, importance and classification; Branding, Packaging and Labelling; Product life cycle; New product development; Pricing: Concept, significance, price determination, pricing methods, pricing policies and strategies.	15
IV	Promotion: Nature and importance; Advertising, personal selling, sales promotion and publicity/public relations; Factors affecting promotion mix decisions; Distribution: Concept, importance and types of distribution channels; Factors affecting choice of distribution channel; Retailing; Wholesaling. Overview of recent developments in marketing: Social marketing; Online marketing; Direct marketing; Green marketing; Relationship marketing.	15
V*	--	
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Grewal, Dhruv and Michael Levy; <i>Marketing</i>; Tata McGraw Hill. • Kumar Arun & Meenakshi N., <i>Marketing Management</i>, Vikas Publishing House Pvt. Ltd., New Delhi. Third Edition • Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit, <i>Marketing: Concepts and Cases. (Special Indian Edition).</i>, McGraw Hill Education • Philip Kotler, <i>Principles of Marketing</i>. Pearson Education. • Ramaswami, V.S. and Namakumari, S.; <i>Marketing Management</i>; MacMillan India Ltd. • Saxena Rajan, <i>Marketing Management</i>, Tata McGraw-Hill Publishing Company Ltd., New Delhi. Fifth Edition. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	II		
Name of the Course	Business Mathematics-II		
Course Code	B23-COM-204		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> gain the knowledge to find derivatives simple functions related to commerce problems, attain skills to use application of derivatives in evaluating maxima and minima. learn to find integration of simple functions related to commerce and economic problems, attain skills to use application of integration in business and commerce problems. apply binomial theorem, learn the concept and applications of permutations and combinations. learn the concept of Linear programming and formulation of linear programming problems related to business and commerce. 		
	5*.		

	Theory	Tutorial	Total
Credits	01	01	02
Internal Assessment Marks	15	-	15
End Term Examination Marks	35	-	35
Examination Time	3Hrs	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

- The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 1 marks each. Question Nos. 2 to 9 will carry 7 marks each, having two questions from each unit. About 40% questions should be numerical type.
- Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Differentiation; derivative of simple functions and other functions (excluding trigonometric functions) having applications in business studies; Maxima and minima of Revenue, Cost, Demand, Production, Profit functions and other functions related to business and commerce.	6
II	Integration: Definite and indefinite (simple functions excluding trigonometric functions), basic rules of integration, application of integration in commercial and business problems.	6
III	Binomial Theorem; Permutations and Combinations.	6
IV	Linear programming: Formulation of linear programming problems (LPP) and their solution by graphical and simplex methods, Applications of linear programming in solving problems related to business and commerce.	7
V*	-	

Suggested Evaluation Methods

Internal Assessment:	End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 	

Part-C Learning Resources

Recommended Books/E-Resources/LMS:
<ul style="list-style-type: none"> • A.R. Vasishtha, Matrices, Krishna Prakashan (P) Media Ltd. • Allen R.G.D., Basic Mathematics, Macmillan, New Delhi • D.C. Sancheti and V.K. Kapoor, Business Mathematics, Sultan Chand and Sons. • Dowling E.T., Mathematics for Economics, Schaum Series, McGraw Hill, London. • E.T. Dowling, Schaum outlines of Calculus for Business, Economics and the Social Sciences. McGraw Hill. • Holden, Mathematics for Business and Economics, Macmillan India, New Delhi. • S.C. Gupta and V.K. Kapoor, Fundamentals of Mathematical Statistics, S. Chand & Sons, Delhi.

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	II		
Name of the Course	Fundamentals of Banking and Insurance		
Course Code	B23-COM-205		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	MDC-2		
Level of the course (As per Annexure-I);	100-199		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	After completing this course, the learner will be able to:		
	1. know the basics of banking.		
	2. understand the banking instruments.		
	3. understand the basics of insurance.		
	4. learn about various types of insurance.		
	5*.-		
	Theory	Tutorial	Total
Credits	02	01	03
Internal Assessment Marks	25	-	25
End Term Exam Marks	50	-	50
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

- The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 9 marks each, having two questions from each unit.
- Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Banking: Concept, features, functions, importance and principles of banking; Evolution of banking in India; Classifications of banks.	10
II	Banking instruments: Concept, types and crossing of cheques; Lending functions of a bank: Types of Advances: Secured & unsecured, loans- Short, medium and long Term Methods of granting advances; Utility services of a bank: Remittance through bank drafts; E Banking; Internet banking; Safe deposit lockers.	12
III	Insurance: Concept, need and principles of insurance; Insurance and economic development; Life Insurance: Concept, features,	10

	importance, and types: procedure of taking life insurance policies, nomination and assignment.	
IV	General insurance: concept, features, importance, and types; Procedure of taking general insurance: An overview of Fire insurance, Marine Insurance, Health Insurance.	13
V*	-	
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Basu A.K: Fundamentals of Banking-Theory and practice; A Mukerjee and co; Calcutta 2 • Gopinath M.N: Banking Principles and Operations; Snow White Publisher, Mumbai • Mishra, M. N., Principles and Practices of Insurance, S. Chand and Sons. • Mishra, M.N. Principles and Practices of Insurance. Sultan Chand and Sons. • Mohapatra and Acharya., 2018. Banking and Insurance. Pearson • Natrarajan and Parameswaran: Indian Banking; S. Chand Company Ltd, New Delhi • Vasanth Desai: Indian Banking, Nature and Problems, Himalaya Publications House. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	III		
Name of the Course	Corporate Accounting -I		
Course Code	B23-COM-301		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-7		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. know the accounting for share, understand the procedure of buyback of shares. 2. know the accounting for profit prior to incorporation and underwriting of shares. 3. understand the accounting treatment for amalgamation and internal reconstruction of companies. 4. understand IDCS and preparation of final accounts of companies. 		
	5*.--		
	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. About 40% questions should be numerical type.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Issue of shares: Concept, types, process and procedure (including insider trading); Transfer of shares; DMAT; Bonus shares; Sweat equity shares; Right shares; Buy back of shares;	15

	Dividend on shares; Redemption of preference shares.	
II	Profit prior to incorporation: Concept, procedure of ascertaining profit prior to incorporation, basis of allocation of expenses and incomes; Underwriting of shares: Concept, features, benefits, parties, types and accounting treatment.	15
III	Amalgamation of companies: Concept and accounting treatment as per accounting standard 14 (excluding intercompany holdings); Internal reconstruction: Concept and accounting treatment excluding scheme of reconstruction.	15
IV	Overview of income disclosure and computation standards (IDCS); Final accounts of companies: Concept and preparation.	15
V*	-	
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Gupta Nirmal, Corporate Accounting, Sahitya Bhawan, Agra. • Maheshwari S.N. and S. K. Maheshwari, Corporate Accounting, Vikas Publishing House, New Delhi. • Mukherjee, S., & Mukherjee, A. (2019). Corporate Accounting. (1st Ed.). New Delhi: Oxford University • R.L. Gupta and M. Radhaswamy – Advanced accounts – Sultan Chand • Sehgal Ashok and Deepak Sehgal, Corporate Accounting, Taxman Publication, New Delhi. • Shukla M.C., T.S. Grewal, and S.C. Gupta, Advanced Accounts, Vol.-II., S. Chand & Co., New Delhi. • Tulsian P. C. Corporate Accounting. S Chand & Co. New Delhi 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	III		
Name of the Course	Income Tax Law-I		
Course Code	B23-COM-302		
Course Type: (CC/MCC/MDC/ CCM/SEC/VOC/DSE/PC/AEC/ VAC	CC-8		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	After completing this course, the learner will be able to:		
	<ol style="list-style-type: none"> 1. understand the necessary concepts of Income Tax 2. determine the impact of residential status on tax liability. 3. determine Tax liability under five heads of income 4. understand the concepts of set-off and carry forward of losses and clubbing and aggregation of incomes. 		
	5*.		
Credits	Theory	Tutorial	Total
	3	1	4
Internal Assessment Marks	30		30
End Term Exam Marks	70		70
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. About 40% questions should be numerical type.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Income tax: Concepts - Assesse, person, previous year, assessment year, gross total income, total income, casual income, virtual digital asset; Role of PAN and Aadhar number in income tax; Maximum Marginal Rate of Tax; Alternate Minimum Tax; Agricultural Income; Tax evasion, Tax avoidance, Tax planning and Tax management.	12

II	Computation of incomes based on residential status of individuals, HUFs, Company and other persons; Determining incomes taxable and exempt under the head salaries (including retirement benefits and provisions) and income from house property.	19
III	Computation of taxable incomes and exemptions under the head profits and gains of business or profession (including Depreciation provisions), Capital Gains.	16
IV	Income from other sources; Clubbing and aggregation of incomes; Set off and carry forward of losses; Exempted incomes.	13
V*	--	
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Girish Ahuja and Ravi Gupta, Systematic Approach to Income Tax, C.C.H. India Publications, New Delhi. • Mehrotra H.C., Income Tax Law & Account, Sahitya Bhawan Publications, Agra. • Prasad, Bhagwati, Income Tax Law & Practice, Wishwan Prakashan, Bhopal. • Singhanian V.K., Student's Guide to Income Tax, Taxmann Publications Pvt. Ltd., New Delhi. 		
Journals:		
<ul style="list-style-type: none"> • <i>Income tax reports</i>. Company Law Institute Pvt. Ltd., Chennai. • <i>Taxman</i>. Taxman allied Services Pvt. Ltd., New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	III		
Name of the Course	Banking and Insurance		
Course Code	B23-COM-303		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-9		
Level of the course (As per Annexure-I);	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. know the basics of banking. 2. understand the Indian banking system. 3. understand the principles & regulation of insurance. 4. learn about various types of insurance and claims settlement procedure. 		
	5*.-		
	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Banking: Concept, features, functions, importance and principles of banking; Evolution of banking in India; Classifications of banks; Credit creation, Banking Regulation Act 1949: Major provisions.	15
II	Indian Banking System: Features, nationalization of commercial banks and its effects; Reserve Bank of India – Functions, control of credit by RBI, power of RBI; Recent trends in Indian banking system.	15
III	Insurance: Concept, need and principles of insurance; Insurance and	15

	economic development; Life and general insurance: principles, present status & growth of life and general insurance in India, claims settlement procedure; Regulatory Framework of Insurance.	
IV	Fire insurance: Concept, principles; Fire insurance policy, claims settlement procedure; Marine insurance: Marine insurance policy and claims settlement procedures; Accident and motor insurance: Policy and claims settlement procedures.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS: <ul style="list-style-type: none"> • Gopinath M.N: Banking Principles and Operations; Snow White Publisher, Mumbai. • Insurance & Risk Management – Dr. P.K. Gupta, Himalaya Publishing House, Delhi. • Mishra, M.N. Principles and Practices of Insurance. Sultan Chand and Sons. • Mohapatra and Acharya., 2018. Banking and Insurance. Pearson Publications. • Nalini Prava Tripathy and Prabir Pal: Insurance Theory and Practice, Prentice Hall India. • Principles and Practices of Banking (CA-IIBF), Macmillan, New Delhi. • Suneja, H.R. Practical and Law of Banking. Himalaya Publishing House. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	III		
Name of the Course	Business Economics		
Course Code	B23-COM-304		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-M3		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand price & output determination under different market structures. 2. understand behaviour of firms & their stakeholders with many products and multiple objectives 3. develop the capability to analyse macro-economic environment 4. take decisions according to state economic policies 		
	5*.-		
	Theory	Tutorial	Total
Credits	01	01	02
Internal Assessment Marks	15	-	15
End Term Exam Marks	35	-	35
Exam Time	03 Hrs.		03 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 1 marks each. Question Nos. 2 to 9 will carry 7 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Nature and scope of business economics, Importance of economics in business decisions. Basic Economic Concepts; Marginal analysis. Nature of demand function: law of demand, shifts in demand curve, factors influencing demand. Elasticity of demand: price, income and cross. Consumer's equilibrium: Cardinal Utility Approach, Ordinal Utility approach.	12
II	Production function: short and long run - law of variable	18

	proportions; Return to factor; Law of returns to scale; economies and diseconomies of scale; Equilibrium of firm under perfect competition; monopoly - price discrimination, Price and output determination under monopolistic competition; Decisions under monopolistic competition.	
III	Non-collusive oligopoly models- Cournot and Kinked Demand Curve; Collusive oligopoly models – Cartels, price leaderships. Employment theory, classical employment theory; Keynesian theory of employment. Money definition and its functions.	15
IV	Macro Economics: concept, nature and scope. Circular flow of income (four core sectors). National income concepts (an overview) – GNP, GDP, NNP, NDP. Inflation: types and control; Money supply (monetary aggregates); Fiscal policy; Monetary policy; Business cycles and their control.	15
V*	-	
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS: <ul style="list-style-type: none"> • Ahuja, H.L., Macro Economics, S. Chand Publications, New Delhi. • Dwivedi, D.N., Macro Economics, Tata McGraw Hill, New Delhi. • G.S. Gupta : Managerial Economics McGraw Hill Education; 2nd edition, 2017 • Jhinghan M.L.: Advanced Economic Theory. Vrinda Publications, New Delhi. • Koutsoyiannis A.: Modern Microeconomics; Macmillan New Delhi. • Paul, S., Gupta, G. and Mote, V., Managerial Economics, Tata McGraw Hill 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	III		
Name of the Course	Fundamentals of Indian Capital Markets		
Course Code	B23-COM-305		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	MDC-3		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of Indian capital market. 2. understand the stock market regulator and provisions for investors' protection. 3. get acquainted with the functioning of stock exchanges of India. 4. understand the depository system of Indian capital market. 		
	Theory	Tutorial	Total
Credits	02	01	03
Internal Assessment Marks	25	-	25
End Term Exam Marks	50	-	50
Exam Time	3 Hrs.	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 9 marks each, having two questions from each unit.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Capital market: Need and structure; Types of capital market: Primary and secondary market; Functions of primary and secondary market; Financial instruments in Indian capital market.	12
II	Regulation of Indian capital market: The Securities Exchange Board of India- Constitution, role of SEBI in regulating primary	11

	and secondary market; Investor protection and grievance redressal.	
III	Stock Exchanges in India: Origin, role and functions; Listing of Securities: Concept, merits & demerits, listing requirements, procedure.	11
IV	Depository System in India: Role, function, dematerialisation of securities; Recent trends in Indian capital market.	11
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Bhole L.M., Financial Markets and Institutions, Tata McGraw Hill, Delhi. • Kanuk, Alan R., Capital Markets of India, Wiley Finance • Khan M.Y., Indian Financial System, Tata McGraw Hill, Delhi. • Machi Raju, H.R., Working of Stock Exchanges in India, Wiley Eastern Ltd., New Delhi. • Pathak Bharti V., The Indian Financial System, Pearson Education. • Raghunathan V., Rajib Prabina, Stock Exchanges, Investments and Derivatives, Tata McGraw Hill, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	IV		
Name of the Course	Corporate Accounting -II		
Course Code	B23-COM-401		
Course Type: (CC/MCC/MDC/ CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-10		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the methods of shares and goodwill. 2. understand the basics of debentures and valuation of debentures. 3. understand and prepare the accounts of banking and insurance companies. 4. understand and prepare the accounts of holding companies and accounting treatment of liquidation of companies. 		
	5*.		
	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.	-	3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. About 40% questions should be numerical type.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question

Unit	Topics	Contact Hours
I	Valuation of shares: Concept, need, factors affecting and methods of share valuation; Valuation of goodwill: Concept, factors affecting and methods of Goodwill valuation.	12

II	Debentures: Concept, features and types; Provisions related to issue of debentures, utilization of debenture capital, role and status of debenture holders in company, purchase of own debentures; Valuation of debentures: Concept, need, factors affecting and methods of debenture valuation.	13
III	Concept and accounting treatment of banking companies; Concept and accounting treatment of insurance companies.	17
IV	Accounts of holding companies: Preparation of consolidated balance sheet with one subsidiary company, relevant provisions of Accounting Standard 21; Liquidation of companies: Concept, need, types, process and accounting treatment.	18
V*	-	

Suggested Evaluation Methods

Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam	End Term Exam
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Part-C Learning Resources

Recommended Books/E-Resources/LMS:

- Gupta, Nirmal, Corporate Accounting, Sahitya Bhawan, Agra.
- Jain, S.P. and K.L. Narang Corporate Accounting, Kalyani Publishers, New Delhi.
- Maheshwari S.N. and S. K. Maheshwari, Corporate Accounting, Vikas Publishing House, New Delhi.
- Mukherjee, S., & Mukherjee, A. (2019). Corporate Accounting. (1st Ed.). New Delhi: Oxford University
- Sehgal Ashok and Deepak Sehgal, Corporate Accounting, Taxman Publication, New Delhi.
- Shukla M.C., T.S. Grewal, and S.C. Gupta, Advanced Accounts, Vol.-II., S. Chand & Co., New Delhi.

* Applicable for courses having practical component.

Session 2023-2024

Part-A Introduction

Subject	Commerce
Semester	IV
Name of the Course	Income Tax Law-II
Course Code	B23-COM-402
Course Type: (CC/MCC/MDC/ CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-11
Level of the course (As per Annexure-I)	200-299
Pre-requisite for the course (if any)	NIL

Course Learning Outcomes (CLO)	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the deductions from gross total income of individuals, HUFs and firms. 2. compute the total income and tax liability of individuals, HUFs and Firms. 3. understand the filing of returns and working of Income Tax department. 4. understand the assessments, defaults and consequences. 5*. 		
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	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	03 Hrs.	-	

Part-B Contents of the Course

Instructions for Paper Setters

1. The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit. About 40% questions should be numerical type.
2. Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Deductions from Gross Total Income: Deductions (including rebates) applicable to individuals, HUFs and Firms u/s 80C to 80U for computation of total income.	13
II	Computation of total income and tax liability of individuals, HUFs (including alternate tax regime) and total income & tax liability of firms; Authorities in income tax administration	20
III	Filing of returns: Types of returns (including online filing of return), deduction of tax at source, advance payment of tax; Recovery and refund of tax.	13
IV	Assessments, defaults and consequences: Types of Assessments (including e- Assessment), Penalties, offences and Prosecutions, Appeals (including Faceless) and Revisions, Tax Planning and saving techniques.	14

V*	-	
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS: <ul style="list-style-type: none"> • Gaur and Narang, Income Tax Law & Practice, Kalyani Publishers, Jalandhar. • Girish Ahuja and Ravi Gupta, Systematic Approach, C.C.H. India Publications, New Delhi. • Mehrotra H.C., Income Tax Law & Account, Sahitya Bhawan Publications, Agra. • Prasad, Bhagwati, Income Tax Law & Practice, Wishwan Prakashan, Bhopal. • Singhanian V.K., Student's Guide to Income Tax, Taxmann Publications Pvt. Ltd., New Delhi. 		
Journals: <ul style="list-style-type: none"> • <i>Income Tax Reports</i>. Company Law Institute Pvt. Ltd., Chennai. • <i>Taxman</i>. Taxman allied Services Pvt. Ltd., New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	IV		
Name of the Course	Entrepreneurship Development		
Course Code	B23-COM-403		
Course Type: (CC/MCC/MDC/CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-12		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> understand the development of entrepreneurship as a field of study and as a profession. comprehend the MSMEs in the development of the Indian economy. analyze the business decisions involved in starting a new business venture. determine the institutions supporting entrepreneurs. 		
	5*.		
	Theory	Tutorial	Total
Credits	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	03 Hrs.	-	

Part-B Contents of the Course**Instructions for Paper Setters**

- The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
- Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Entrepreneurship: Concept, importance, factors influencing entrepreneurship; Entrepreneur: Concept, characteristics, qualities, functions, classification of Entrepreneurs; Relationship between entrepreneurship and management; Process of entrepreneurship development; Role of Entrepreneurship in economic development; Motivations to become entrepreneur.	15
II	Entrepreneurship Development and MSMEs: Concept, registration	15

	process, benefits of registration; MSMEs-As a nascence of Entrepreneurship; Start up and Skill India: Concept, steps and need; Role of modern technology in developing MSME; Role of MSMEs in the economic development.	
III	Identifying business opportunity: Concept and steps; Sources of ideas and information; Developing creativity and innovation; Contents of business project report; Project Appraisal: Feasibility study-preparation of feasibility reports, economic, technical, financial and managerial feasibility of project; Selection of factory location; Demand analysis and market potential measurement; Capital and project costing; Working capital requirements; Source of finance; Profit and tax planning.	15
IV	Institutions supporting entrepreneurs: Government support and incentives to new enterprises; Promotional agencies and institutions in entrepreneurship development; Central Govt. supporting institutions: SSIB, NABARD, SIDO, NSIC, SIDBI, NBMSME, KVIC, NISIET; State Govt. supporting institutions: SFCS, SSIDC, TCO; Non-Govt. supporting institutions and their role.	15
V*	--	
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam		End Term Exam
Part-C Learning Resources		
Recommended Books/E-Resources/LMS: <ul style="list-style-type: none"> • Desai Vasant. Small-Scale Industries and Entrepreneurship, Himalaya Publishing House, • Hisrich R D and Peters M P, Entrepreneurship, Tata McGraw-Hill. • Kaulgud Aruna, Entrepreneurship Management, Vikas Publishing House, Delhi. • Kuratko & Hodgetts, Entrepreneurship – Theory, Process and Practices, Thomson Learning. • Rabindra N. Kanungo, Entrepreneurship and Innovation, Sage Publications, New Delhi. • S.S. Khanka, Entrepreneurial Development, S. Chand & Co. Ltd., Ram Nagar, New Delhi. 		

* Applicable for courses having practical component.

Session 2023-2024**Part-A Introduction**

Subject	Commerce		
Semester	IV		
Name of the Course	Consumer Protection in India		
Course Code	B23-COM-404		
Course Type: (CC/MCC/MDC/ CCM/ DSEC/VOC/DSE/PC/AEC/ VAC	CC-M4(V)		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)	NIL		
Course Learning Outcomes (CLO)	After completing this course, the learner will be able to: 1. understanding the Consumer and Consumerism 2. knowledge of consumer rights and responsibilities 3. comprehend the complaint filing procedure and legal redressal machinery 4. examine the remedies available under the COPA, 2019		
Credits	Theory	Tutorial	Total
	03	01	04
Internal Assessment Marks	30	-	30
End Term Exam Marks	70	-	70
Exam Time	3 Hrs.		3 Hrs.

Part-B Contents of the Course**Instructions for Paper Setters**

- The examiner will set 9 questions in all covering the course learning outcomes (CLOs). Question No. 1 will be compulsory and comprises of seven parts of 2 marks each. Question Nos. 2 to 9 will carry 14 marks each, having two questions from each unit.
- Students are required to attempt 5 questions in all, selecting one question from each unit and the compulsory question.

Unit	Topics	Contact Hours
I	Conceptual Framework: Concept and evolution of Consumerism, Profile of the consumer, Consumer Dynamics; Concept of Goods and Services; Restrictive and unfair trade practice; An overview of Prevention of Food Adulteration Act; Overview of Competition Act, 2002; Overview of Standards of Weights and Measures Act, 1976; Overview of Essential Commodities Act, 1955; Drugs and Magic Remedies(Objectionable Advertisement) Act, 1954	17
II	Consumer Education and Organizations: Objectives, purposes	

	and role of consumer organizations; Role of media; Consumer education in India; International consumer organizations; Establishing a consumer organization; Investor Protection Measures of SEBI.	13
III	The Consumer Protection Act, 2019: Salient features, important terms, consumer rights, consumer responsibilities, consumer and corporate social responsibility; United Nations and the guidelines for consumer protection, Comparison of the COPA, 1986 and 2019.	15
IV	Redressal mechanism: Guidelines for filing consumer complaints, Grievance redressal mechanism and limitations; Role of Voluntary Consumer Organization (VCOs) in redressal of consumer; Alternative dispute redressal mechanism: National consumer helpline; Complaint to Ombudsman, Arbitration, Median, Conciliation.	15
V*		
Suggested Evaluation Methods		
Internal Assessment:		End Term Exam
<ul style="list-style-type: none"> ➤ Theory Class Participation Seminar/Presentation/Assignment/Quiz/Class Test etc. Mid Term Exam 		
Part-C Learning Resources		
Recommended Books/E-Resources/LMS:		
<ul style="list-style-type: none"> • Consumer Protection Law & Practice: A Comprehensive Guide to Consumer Protection Law, Taxmann Publications. • Kapoor Sheetal, (2019) Consumer Affairs and Customer Care, 2nd Edition, Galgotia Publishing Company. • Rajyalaxmi Rao, Consumer is King, Universal Law Publishing Company • S.C. Mehta, Indian Consumer, Tata McGraw Hill, New Delhi • The Consumer Protection Act, 1986 and 2019. • V.K. Aggrawal, Consumer Protection: Law and Practice, Bharat Law House, Delhi 		

* Applicable for courses having practical component.

SCHEME OF EXAMINATION

&

SYLLABI

of

Bachelor of Business Administration

(Honours/Honours with Research)

As per National Education Policy 2020

with effect from academic session 2023-24



Kurukshetra University

Kurukshetra-136119

(A+ Grade NAAC Accredited)

Abbreviations

AEC	Ability Enhancement Course
CC	Core Course
CC-H	Core course in Honours discipline
CC-HM	Core Course in Minor Subject of of Honours Program
DSE	Discipline Specific Elective Course
DSE-H	Discipline specific elective course in Honours
H	Honours
M	Minor
MDC	Multi-Disciplinary Course
PC	Practicum Course
PC-H	Practicum Course in Honours
SEC	Skill Enhancement Course
V	Vocational
VAC	Value Added Course

FIRST YEAR: SEMESTER I

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-101	Financial Accounting	CC-A1	30	70	-	100	4
B23-BBA-102	Principles of Management	CC-B1	30	70	-	100	4
B23-BBA-103	Business Organisation	CC-C1	30	70	-	100	4
	Each student will opt one course from pool of minor courses for Semester I	CC-M1	15	35	-	50	2
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-1				75	3
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-1				50	2
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-1				75	3
	Each student will opt one course from pool of value added courses provided by university	VAC-1				50	2
Total						600	24

POOL OF MINOR COURSES FOR SEMESTER I

Course	Course Code	Nomenclature of Minor Course
CC-M1	B23-BBA-104	Business Mathematics
CC-M1	B23-BBA-105	Soft Skills and Personality Development

FIRST YEAR: SEMESTER II

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-201	Business Statistics	CC-A2	30	70	-	100	4
B23-BBA-202	Managerial Economics	CC-B2	30	70	-	100	4
B23-BBA-203	Organisational Behaviour	CC-C2	30	70	-	100	4
	Each student will opt one course from pool of minor courses for Semester II	CC-M2	15	35	-	50	2
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-2				75	3
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-2				50	2
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-2				75	3
	Each student will opt one course from pool of value added courses provided by university	VAC-2				50	2
Total						600	24

POOL OF MINOR COURSES FOR SEMESTER II

Course	Course Code	Nomenclature of Minor Course
CC-M2	B23-BBA-204	Business Ethics
CC-M2	B23-BBA-205	Cyber Security

Exit Option: Any student opting for exit option after first year will get **Undergraduate Certificate in Business Administration** provided he/she completes 48 Credits of first two semesters and additional 4 credits of summer training report (100 External Marks) based on summer training of 4-6 weeks undertaken in a business organization. Thus, he/she will be eligible to exit the course with the said 52 Credits. In addition, the summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra. Furthermore, the credits of summer internship report would be included/mention in the **Undergraduate Certificate in Business Administration** as follow:

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-206	Summer Internship Report	Internship	-	100*	-	100	4

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

SECOND YEAR: SEMESTER III

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-301	Managerial Accounting	CC-A3	30	70	-	100	4
B23-BBA-302	Marketing Management	CC-B3	30	70	-	100	4
B23-BBA-303	Human Resource Management	CC-C3	30	70	-	100	4
	Each student will opt one course from pool of minor courses for Semester III	CC-M3	30	70	-	100	4
	Each student will opt one multidisciplinary course from the discipline which is different from the discipline of business administration	MDC-3				75	3
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-3				50	2
	Each student will opt one course from pool of skill enhancement courses provided by university	SEC-3				75	3
Total						600	24

POOL OF MINOR COURSES FOR SEMESTER III

Course	Course Code	Nomenclature of Minor Course
CC-M3	B23-BBA-304	Production Management
CC-M3	B23-BBA-305	Disaster Management

SECOND YEAR: SEMESTER IV

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-401	Capital Markets	CC-A4	30	70	-	100	4
B23-BBA-402	Business Research Methods	CC-B4	30	70	-	100	4
B23-BBA-403	Business Environment	CC-C4	30	70	-	100	4
	Each student will opt one course from pool of vocational courses provided by university	CC-M4 (V1)				100	4
	Each student will opt one course from pool of ability enhancement courses provided by university	AEC-4				50	2
	Each student will opt one course from pool of value added courses provided by university	VAC-3				50	2
Total						500	20

Exit Option: Any student opting for exit option after second year will get **Undergraduate Diploma in Business Administration** provided he/she completes 92 credits of first four semesters and additional 4 credits of summer training report (100 external marks) based on summer training of 4-6 weeks in a business organization undertaken after completion of second semester or fourth semester. Thus, he/she will be eligible to exit the course with the said 96 Credits. In addition, the summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra. Furthermore, the credits of summer internship report would be included/mention in the **Undergraduate Diploma in Business Administration** as follow:

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-404	Summer Internship Report	Internship	-	100*	-	100	4

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: The student seeking admission in fifth semester would have to undergo a compulsory 4-6 weeks summer internship in a business organization after fourth semester and credits for the same will be included in fifth semester.

THIRD YEAR: SEMESTER V

Course code	Nomenclature of the paper	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-501	Corporate Finance	CC-A5	30	70	-	100	4
B23-BBA-502	International Business	CC-B5	30	70	-	100	4
B23-BBA-503	Business Laws	CC-C5	30	70	-	100	4
	Each student will opt one course from pool of vocational courses provided by university	CC-M5 (V2)				100	4
B23-BBA-504	Summer Internship Report	Internship	-	100*	-	100	4
Total						500	20

*The summer internship report would be evaluated by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

THIRD YEAR: SEMESTER VI

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-601	Analysis of Financial Statements	CC-A6	30	70	-	100	4
B23-BBA-602	Entrepreneurship Development	CC-B6	30	70	-	100	4
B23-BBA-603	Comprehensive Viva-Voce	CC-C6	-	-	100*	100	4
	Each student will opt one course from pool of minor courses for Semester VI	CC-M6	30	70	-	100	4
	Each student will opt one course from pool of vocational courses provided by university	CC-M7 (V3)				100	4
Total						500	20

POOL OF MINOR COURSES FOR SEMESTER VI

Course	Course Code	Nomenclature of Minor Course
CC-M6	B23-BBA-604	E-Commerce
CC-M6	B23-BBA-605	Business Tax Planning

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Exit option: Any student who exit after 6 semesters must complete 132 credits and he/she would be awarded with **Bachelor of Business Administration.**

Notes:

1. A student will opt for Multidisciplinary Course (MDC) from the subject which is different from the discipline of business administration. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) or opted as major and minor courses under this category. Provided further that if a Multidisciplinary Course across the discipline cannot be offered by the Department/Institute/College, due to its constraints and available resources, then
 - i. MDC can be opted out of MOOCs through SWAYAM.
 - ii. MDC can be completed out of online courses offered by the Kurukshetra University.
 - iii. MDC can be completed from a cluster college, i.e., from a neighboring college/institute.
2. 4-year BBA (Honours) or (Honours with Research) will be offered after completion of 3 year BBA programme to those students who have completed at least 60 credits in the concerned discipline. In addition to the above, 4-year BBA (Honours with Research) will be offered only to those students who have obtained CGPA 7.5 or more in the 3 year BBA programme.
3. BBA (Honours) or (Honours with Research) will be awarded after successful completion of the four year programme securing 180 credits.
4. Student opting for Honours with Research will work on a Research Project or do research during the eighth semester. The dissertation work will be of 12 credits. 8 credits will be earmarked for the evaluation report of the dissertation and viva-voce examination will carry weightage of 4 credits.
5. Students have to opt any one specialisation in the seventh semester from provided specialisations as below and the same will continue in the eighth semester:
 - A. Entrepreneurship**
 - B. Business Analytics**
 - C. Agri-Business**

Bachelor of Business Administration (Honours)

A. Entrepreneurship

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-711	Fundamentals of Entrepreneurship Development	CC-H1	30	70	-	100	4
B23-BBA-712	Creativity and New Venture Creation	CC-H2	30	70	-	100	4
B23-BBA-713	Institutional support to Entrepreneur & MSME	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-716	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-717	Labour Laws	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-714	Family Business Management
DSE-H1	B23-BBA-715	Social Entrepreneurship

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-811	Enterprise Planning, Appraisal and Financing	CC-H4	30	70	-	100	4
B23-BBA-812	Financial Innovation and Entrepreneurship	CC-H5	30	70	-	100	4
B23-BBA-813	Marketing Management in New Age Businesses	CC-H6	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VIII	DSE-H2	30	70	-	100	4
B23-BBA-816	MSME Policy Framework	PC-H2	30	70	-	100	4
B23-BBA-817	Comprehensive Viva-Voce	CC-HM2	-	-	100*	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VIII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H2	B23-BBA-814	New Enterprises Human Resource Management
DSE-H2	B23-BBA-815	Digital Entrepreneurship

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Student completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours)**.

Bachelor of Business Administration (Honours with Research)

A. Entrepreneurship

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-711	Fundamentals of Entrepreneurship Development	CC-H1	30	70	-	100	4
B23-BBA-712	Creativity and New Venture Creation	CC-H2	30	70	-	100	4
B23-BBA-713	Institutional support to Entrepreneur & MSME	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-716	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-717	Labour Laws	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-714	Family Business Management
DSE-H1	B23-BBA-715	Social Entrepreneurship

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-811	Enterprise Planning, Appraisal and Financing	CC-H4	30	70	-	100	4
B23-BBA-812	Financial Innovation and Entrepreneurship	CC-H5	30	70	-	100	4
B23-BBA-817	Comprehensive Viva-Voce	CC-HM2	-	-	100*	100	4
B23-BBA-818	Research Project	Project/ Dissertation	0	200**	100***	300	8+4 =12
Total						600	24

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

**Project Report will be evaluated by external examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

***Viva-Voce on Project Report will be conducted by External Examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Students completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours with Research).**

Bachelor of Business Administration (Honours)

B. Business Analytics

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-721	Business Analytics	CC-H1	30	70	-	100	4
B23-BBA-722	Business Analysis using Excel	CC-H2	30	70	-	100	4
B23-BBA-723	Fundamental of Econometrics	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-726	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-727	Digital Marketing	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-724	Decision Modelling and Data Analysis
DSE-H1	B23-BBA-725	Data Mining and Data Warehousing

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-821	Time Series Data Analysis	CC-H4	30	70	-	100	4
B23-BBA-822	Applied Multivariate Analysis	CC-H5	30	70	-	100	4
B23-BBA-823	Financial Modeling	CC-H6	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VIII	DSE-H2	30	70	-	100	4
B23-BBA-826	Market Microstructure	PC-H2	30	70	-	100	4
B23-BBA-827	Comprehensive Viva-Voce	CC-HM2	-	-	100*	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VIII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H2	B23-BBA-824	Predictive Analysis for Business Decision
DSE-H2	B23-BBA-825	Social Media Analytics

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Student completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours)**.

Bachelor of Business Administration (Honours with Research)

B. Business Analytics

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-721	Business Analytics	CC-H1	30	70	-	100	4
B23-BBA-722	Business Analysis using Excel	CC-H2	30	70	-	100	4
B23-BBA-723	Fundamental of Econometrics	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-726	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-727	Digital Marketing	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-724	Decision Modelling and Data Analysis
DSE-H1	B23-BBA-725	Data Mining and Data Warehousing

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-821	Time Series Data Analysis	CC-H4	30	70	-	100	4
B23-BBA-822	Applied Multivariate Analysis	CC-H5	30	70	-	100	4
B23-BBA-827	Comprehensive Viva-Voce	CC-HM2	-	-	100*	100	4
B23-BBA-828	Research Project	Project/ Dissertation	0	200**	100***	300	8+4 =12
Total						600	24

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

**Project Report will be evaluated by external examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

***Viva-Voce on Project Report will be conducted by External Examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Students completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours with Research).**

Bachelor of Business Administration (Honours)

C. Agri-Business

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-731	Agri-Business Entrepreneurship	CC-H1	30	70	-	100	4
B23-BBA-732	Food Technology and Process Management	CC-H2	30	70	-	100	4
B23-BBA-733	Agri-Business Management	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-737	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-738	Management of Agribusiness Cooperatives	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-734	Agri-Business Environment and Policy
DSE-H1	B23-BBA-735	Quality Management in Agribusiness
DSE-H1	B23-BBA-736	Contract Farming

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-831	Agribusiness Financial Management	CC-H4	30	70	-	100	4
B23-BBA-832	Agricultural Marketing Management	CC-H5	30	70	-	100	4
B23-BBA-833	Livestock Business Management	CC-H6	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VIII	DSE-H2	30	70	-	100	4
B23-BBA-837	Agri-Supply Chain Management	PC-H2	30	70	-	100	4
B23-BBA-838	Comprehensive Viva-Voce	CC-HM2	-	-	100*	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VIII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H2	B23-BBA-834	International Agribusiness Trade
DSE-H2	B23-BBA-835	Microfinance for Agribusiness
DSE-H2	B23-BBA-836	Commodity Futures, Markets and Derivatives

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Student completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours).**

Bachelor of Business Administration (Honours with Research)

C. Agri-Business

Fourth Year: Semester VII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-731	Agri-Business Entrepreneurship	CC-H1	30	70	-	100	4
B23-BBA-732	Food Technology and Process Management	CC-H2	30	70	-	100	4
B23-BBA-733	Agri-Business Management	CC-H3	30	70	-	100	4
	Each student will opt one course from pool of discipline specific elective courses for Semester VII	DSE-H1	30	70	-	100	4
B23-BBA-737	Seminar	PC-H1	-	-	100*	100	4
B23-BBA-738	Management of Agribusiness Cooperatives	CC-HM1	30	70	-	100	4
Total						600	24

POOL OF DISCIPLINE SPECIFIC ELECTIVE COURSES FOR SEMESTER VII

Course	Course Code	Nomenclature of Discipline Specific Elective Course
DSE-H1	B23-BBA-734	Agri-Business Environment and Policy
DSE-H1	B23-BBA-735	Quality Management in Agribusiness
DSE-H1	B23-BBA-736	Contract Farming

*Seminar would be assessed by a presentation based on relevant topic assigned to the student by the institute/college and evaluation of the same will be done by the a two members committee comprising of an external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra and Head of Department (or his/her nominee) in concerned college/institute.

Fourth Year: Semester VIII

Course code	Nomenclature of the course	Category	Internal Marks	External Marks	Practical /Viva-Voce Marks	Total Marks	Credits
B23-BBA-831	Agribusiness Financial Management	CC-H4	30	70	-	100	4
B23-BBA-832	Agricultural Marketing Management	CC-H5	30	70	-	100	4
B23-BBA-838	Comprehensive Viva- Voce	CC-HM2	-	-	100*	100	4
B23-BBA-839	Research Project	Project/ Dissertation	0	200**	100***	300	8+4 =12
Total						600	24

*Comprehensive viva-voce would be conducted by external expert from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

**Project Report will be evaluated by external examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

***Viva-Voce on Project Report will be conducted by External Examiner from panel approved by UGBOS of University School of Management, Kurukshetra University, Kurukshetra.

Note: Students completing 180 credits would be eligible to obtain **Bachelor of Business Administration (Honours with Research).**

POOL OF MULTIDISCIPLINARY COURSES (MDC)

Multidisciplinary courses are based on introductory knowledge in a subject. These courses are offered to students of other discipline than discipline of business administration/management.

Course	Course Code	Nomenclature of Multidisciplinary Course	Credits
MDC-1	B23-BBA-MDC-101	Business Environment	3
MDC-1	B23-BBA-MDC-102	Social Media Marketing	3
MDC-1	B23-BBA-MDC-103	Principles of Rural Marketing	3
MDC-2	B23-BBA-MDC-201	Group Dynamics	3
MDC-2	B23-BBA-MDC-202	Corporate Social Responsibility	3
MDC-2	B23-BBA-MDC-203	Essentials of Taxation	3
MDC-2	B23-BBA-MDC-204	Entrepreneurship & Start-ups	3
MDC-3	B23-BBA-MDC-301	Finance for Non-Finance Professionals	3
MDC-3	B23-BBA-MDC-302	Fundamentals of Investing	3
MDC-3	B23-BBA-MDC-303	Fundamentals of Leadership	3

POOL OF SKILL ENHANCEMENT COURSES (SEC)

Course	Course Code	Nomenclature of Skill Enhancement Course	Credits
SEC-2	B23-SEC-212	Integrated Marketing Communications	3
SEC-2	B23-SEC-214	Business Communication	3

POOL OF VALUE ADDED COURSES (VAC)

Course	Course Code	Nomenclature of Value Added Course	Credits
VAC-4	B23-VAC-401	Business Ethics	2
VAC-4	B23-VAC-414	Logistic Management	2
VAC-4	B23-VAC-417	E-Commerce	2

POOL OF VOCATIONAL COURSES (VOC)

Course	Course Code	Nomenclature of Vocational Course	Credits
VOC-3	B23-VOC-319	Event Management	4
VOC-3	B23-VOC-326	Security Analysis and Portfolio Management	4

Part A – Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Financial Accounting		
Course Code	B23-BBA-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A1		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the accounting equations and the rules of recording accounting transactions. 2. Understand the recording of accounting transactions in the books of entry and the preparation of ledger accounts. 3. Understand the preparation of trial balance and reconciliation of accounting statements. 4. Analyze accounting transactions by preparing final accounts of statements for the profit and non-profit business entities. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Unit Basic Accounting-Nature, scope and objectives of accounting: accounting as information system, users of accounting information. Accounting equation: Accounting concepts and conventions, capital and revenue expenditure; Accounting principles, rules of accounting for recording the transaction for different accounts.	15
II	Journal and Ledger: Double Entry System; Journal and recording of entries in journal; Ledger- Posting from Journal to respective ledger accounts. Preparation of Cash book.	15
III	Trial Balance: Need and objectives; Preparation of Trial Balance; Different types of errors in preparation of trial balance and the rectification of errors. Preparation of Bank Reconciliation statement.	15
IV	Final Accounts: Preparation of Trading Account and Profit and Loss Account; Receipts and payments account, Preparation of Balance sheet for profit and non-profit organizations.	15
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 70</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Gupta R. L.; *Advanced Accounting*; S. Chand & Sons.
2. Grewal T. S and M.C. Shukla; *Advanced Accounting*; S. Chand & Sons.
3. Williams, Haka, Bettner & Carcello; *Financial and Managerial Accounting*; McGraw Hill

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Principles of Management		
Course Code	B23-BBA-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B1		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the Nature and Evolution of Management. 2. Apply the Managerial skills and roles at workplace. 3. Apprehend the functions of Management 4. Recognize the latest changes in the field of Management. _____ 5*.		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
<p>The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.</p>		
Unit	Topics	Contact Hours
I	Introduction to Management: Concept, Evolution of Management Thought, Functions, Significance, Managerial Roles & Skills; Planning and Decision Making: Concept, Planning Process, Components of Plans.	15
II	Organizing: Concept, Guiding Principles, Types of organizational structure: Line, Functional, Line & Staff relationship, Delegation of Authority: Meaning and elements of Delegation, Centralization Vs Decentralization.	15
III	Staffing – Nature and Meaning, Importance, Steps; Directing: Elements, Principles and Importance.	15
IV	Communication: Meaning, Process, Barriers, Corrective Measures; Communication networks, Controlling: Concept, Importance, Process of controlling, Control Techniques.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Koontz & Weirich. *Essentials of Management*. Tata McGraw Hill.
2. Kaul Vijay Kumar. *Business Organization & Management – Text and Cases*. Pearson.
3. Robbins. *Fundamentals of Management: Essentials Concept and Applications*. Pearson Education.

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Business Organisation		
Course Code	B23-BBA-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C1		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the basic concepts in commerce, trade and industry. 2. Understand modern business practices, forms, procedures and functioning of various business organizations. 3. Understand the recent trends and practices in business world. 4. Understand the Government support and Community efforts. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Business Organisation: Meaning and nature, Objectives; Evolution; Forms/Types of Business Organisations; Partnership: Characteristics, Registration, Partnership Deed, Rights, Duties and Liabilities, Dissolution of Partnership.	15
II	Joint Stock Company-Concept, Characteristics, Types; Formation of Company; Multinational Companies; Conceptual Framework of Corporate Governance; One person Company.	15
III	Co-operative and State Ownership: Forms/Types; Non- Profit Organizations; Trade Associations; Emergence of Indian MNCs & transnational corporations-Recent trends business world. Globalization & challenges for Indian Business in new millennium.	15
IV	Setting up a New Enterprise Decisions in setting up an Enterprise – opportunity and idea generation, Role of creativity and innovation, Feasibility study and Business Plan, Business size and location decisions, various factors to be considered for starting a new unit, Relevant Government Policies - SEZ (Special Economic Zone) policy etc.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. C.R. Basu: *Business Organization and Management*; McGraw Hill.
2. P.C. Tulsian & Vishal Pandey: *Business Organization and Management*; Pearson.
3. Frank R. Mason: *Business Principles and Organization*; Forgotten Books.
4. S. A. Sherlekar: *Modern Business Organization*; Himalaya Publishing House.
5. Jallo: *Business Organization and Management*; Tata McGraw Hill.
6. Dr. V. Desai: *Organizing and Financing of Small Scale Industry*; Himalaya Publishing House.
7. Dr. C. B. Gupta: *Industrial Organization and Management*; Sultan Chand & Sons

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Business Statistics		
Course Code	B23-BBA-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the meaning of the statistics and data in everyday life and its presentation for business decision making. 2. Understand distinctive features and characteristics of data with the help of descriptive and summary statistical measures. 3. Understand and analyses the departure from statistical normality of data for better business decision making. 4. Understand the significance of sampling in the statistical data collection and applications in business decision making. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
<p>The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.</p>		
Unit	Topics	Contact Hours
I	Business Statistics: Introduction, Scope, Functions, Importance, Limitations; Distrust of Statistics; Collection of Primary and Secondary data; Types of Statistical Methods; Data Analysis and Interpretation; Graph: Characteristics, Types, Merits and Demerits.	15
II	Measures of Central Tendency: Meaning, Types; Arithmetic Mean; Geometric Mean; Harmonic Mean; Quadratic Mean; Moving Average; Progressive Average; Relation between Mean, Median and mode.	15
III	Measures of Dispersion and Skewness: Absolute and Relative measures of Dispersion range, Quartile deviation, Mean and Standard Deviation; Difference between Skewness and Dispersion, Empirical relation among various measures of Dispersion, Moments and Kurtosis.	15
IV	Sampling: Introduction, Census versus Sample, Errors in Sampling, Types of sampling, Judging reliability of sample; Index numbers: Introduction, Types of Index Numbers, Methods of constructing Index numbers, uses of Index numbers; Time Series analysis: Components and Seasonality analysis.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. D. N Elhance, Veena Elhance & BM Aggarwal. *Fundamentals of Statistics*. Kitab Mahal.
2. T.N Srivastava and Shailaja Rego. *Statistics for Management*. McGraw Hill.
3. S.C Gupta. *Fundamental of Statistics*. Himalaya Publishing House.
4. Levine & Rubin. *Statistics for Management*. Pearson Publication.
5. S.P Gupta. *Statistical Methods*. Sultan Chand & Sons.

Part A – Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Managerial Economics		
Course Code	B23-BBA-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the nature and scope of managerial economics and identify the role of economics in decision making. 2. Understand theory of demand, law of demand and cardinal utility analysis. 3. Understand theory of production, costs, and revenue function. 4. Understand theory of firm and market organization including determination of price under different market conditions. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Managerial Economics: Meaning, Nature and Scope. Objectives of the firm, Equilibrium, Utility, Opportunity cost, Marginal and Incremental Principles.	15
II	Theory of Demand: Nature of demand for a product, individual demand, market demand, determinants of demand, Law of demand, Elasticity of demand and its determinants; Theory of Consumer Behavior: Cardinal utility analysis, Indifference curve analysis, applications of Indifference curves.	15
III	Theory of Production and Costs: The concept of Production function, production with one and two variable inputs, theory of Cost in short run and long run, Revenue function.	15
IV	Theory of firm and market organization: Pricing under Perfect Competition, Pricing under Monopoly, Price Discrimination, Pricing under Monopolistic Competition, Selling cost, Pricing under Oligopoly.	15
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 70</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Koutsoyiannis, A.: *Modern Microeconomics*; Palgrave Macmillan.
2. Varshney, R. L. and Maheshwari, K. L.: *Managerial Economics*; Sultan Chand & Sons.
3. Mote, V., Paul, S., and Gupta, G.: *Managerial Economics*; McGraw Hill Education.

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Organisational Behaviour		
Course Code	B23-BBA-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the Nature, Evolution of Organisational Behaviour. 2. Understand the process of group formation and role of Groups at workplace. 3. Discover and Understand the concept of Motivation and Leadership theories 4. Comprehend the latest changes happening in the field of Organisational Behaviour. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70	Time: 3 Hours		

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Organizational Behaviour: Definition, Fundamental concepts of OB, Historical Background.	15
II	Motivation: Definition, Importance, Motives, Characteristics, Content Theories of Motivation Morale - Definition and relationship with productivity - Morale Indicators.	15
III	Theories of Leadership -Trait Theory, Behavioural theories, Contingency Theories, Transactional Theories and Transformational Leadership Theory.	15
IV	Group Dynamics and Team building: Concept of Group & Team. Theories of Group Formation – Types of Groups. Importance of Team building at workplace.	15
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **5**
- Seminar/presentation/assignment/quiz/class test etc.: **10**
- Mid-Term Exam: **15**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Robbins, S. P. and Sanghi. *Organizational Behaviour*. Pearson Education.
2. Robbins, S. P. and Judge T. A. Vohra; *Organisational Behaviour*. Pearson Education.

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Managerial Accounting		
Course Code	B23-BBA-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the fundamentals of management/managerial accounting and effective decision making through management accounting. 2. Understand the application of marginal costing and break-even analysis for decision making in business 3. Learn budgeting process and types of budgets for effective planning. 4. Learn decision making through financial analysis and management control systems. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Managerial Accounting: Nature, scope, functions and significance. Distinction between management accounting and financial accounting. Decision making through management accounting.	15
II	Marginal Costing: Nature, Significance and Limitations. CVP Analysis and Break-even analysis. Marginal costing as decision making tool. Distinction between Marginal Costing and Standard Costing.	15
III	Budgeting Process; Performance Budgeting, Zero base budgeting, Programme budgeting and Activity based budgeting. Budgetary control: Nature, objectives and significance. Types of Budgets: Operational Budgets, Financial budgets and Master Budget.	15
IV	Responsibility accounting and centres, management control systems, Financial Analysis: Nature and tools; Ratio Analysis: Meaning and Significance. Decisions through financial analysis.	15
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 70</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Rajesh Kothari, 'Management Accounting- concepts and applications, MacMillan India Ltd., 2007.
2. S. N. Maheshwari, S. K. Mahaeshwari, 'Accounting for Management, Vikas Publishing House Pvt. Ltd., 2006.
3. M. A. Sahaf, 'Management Accounting- Principles and Practice' Vikas Publishing House

*Applicable for courses having practical component.

Part A – Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Marketing Management		
Course Code	B23-BBA-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe the fundamental concept related to marketing 2. Describe the different approach of marketing and environment in which marketing system operate. 3. Demonstrate an understanding of the 4P's used by marketers. 4. Design a marketing plan for real world market offering (product/service). <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Marketing Management- Meaning, Nature and Scope. Concepts of Marketing, Marketing Environment, Marketing Mix, STP (segmenting, targeting and positioning) approach to marketing.	15
II	Marketing Information System- Meaning and Components. Marketing Research. Consumer Behaviour-Meaning and Importance of study for Marketers.	15
III	Product —Meaning, levels and product Mix. New Product development, Product Life Cycle, Branding and Packaging decision, Pricing-Meaning, procedure for setting a price, Pricing Strategy Distribution Channels- Levels and Roles. Management of Physical Distribution.	15
IV	Promotion- promotion Mix- A study of advertising, sales promotion, personal selling, direct marketing and public relations. Marketing organization and control, Marketing of Services: An introduction to services, Role of Service Sector in the economy, 7P's of Service Marketing.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Kotler, P. & Keller, K.: *Marketing Management*, 16th ed.; Pearson Publisher, New Delhi.
2. Ramaswamy, V.S. and Namakumari, S.: *Marketing Management: Planning, Control*; MacMillan Press, New Delhi.
3. Saxena, R.: *Marketing Management*, 6th ed.; Tata Mc. Graw Hill, New Delhi.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Human Resource Management		
Course Code	B23-BBA-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize students with the concept of Human resource management. 2. To understand the role and competencies required for Human resource Managers in an organization. 3. To help students understand the various aspects of employee life cycle within an organization. 4. To significantly improve the understanding of students about global HR Practices. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Human Resource Management-An Introduction; Human Resource Planning; Recruitment and Selection	15
II	Training and Development: Methods of Training; Job Analysis; Job Evaluation; Career Planning	15
III	Performance Management; Payroll and Compensation Management; Employee Retention; Employee Health and Safety; Mental Health and Wellbeing	15
IV	Recent trends in Human resource Management; Impact of technology on HRM; International HRM practices	15
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 70</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. K. Aswathapa: *Human Resource Management: Text and Cases*; Tata McGraw Hill, New Delhi.
2. P. Jyothi: *Human Resource Management*; Oxford University Press.
3. V.S.P. Rao: *Human Resource Management*; Himalaya Publication House.
4. Seema Sanghi: *Human Resource Management*; Macmillan India Publication.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	Capital Markets		
Course Code	B23-BBA-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A4		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand regulatory framework of capital markets. 2. Understand the role of primary and secondary capital markets. 3. Understand depository system across the global capital markets 4. Understand the role of development banks and financial institution in India. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Capital Markets - meaning, nature, role and features; recent reforms in the capital markets across the world; regulatory framework of Indian capital market; capital market instruments; innovation in financial instruments.	15
II	Primary capital market - scenario in India, primary capital market intermediaries, primary market activities, methods of raising resources from primary market; secondary capital market - scenario in India, reforms in secondary market; organization and management, trading and settlement, listing of securities; stock market index; Role of SEBI to increase liquidity in the stock market.	15
III	Depository system - meaning, need and benefits of depository system in India; depository process, functioning of NSDL and SHCIL; importance of debt market in capital market; participants in the debt market, types of instrument treated in the debt market, primary and secondary segments of debt market.	15
IV	Role and policy measures relating to development banks and financial institution in India, products and services offered by IFCI, IDBI, IIBI, SIDBI, IDFC, EXIM Bank, NABARD and ICICI Meaning and benefits of mutual funds, types of mutual funds, SEBI guidelines relating to mutual funds.	15
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **5**
- Seminar/presentation/assignment/quiz/class test etc.: **10**
- Mid-Term Exam: **15**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **70**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Pathak, Bharati V. *The Indian Financial System*. Pearson Education
2. Khan, M. Y. *Indian Financial System*. Tata McGraw Hill
3. Bhole, L M. *Financial Institutions and Markets*. Tata McGraw Hill

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	Business Research Methods		
Course Code	B23-BBA-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B4		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Provide an exposure pertaining to the nature and extent of research orientation and give an understanding of the components, concept, constructs, and variables. 2. Provide an understanding of the research design and measurement scales. 3. Provide an understanding of the sample design. 4. Provide an understanding of the basic techniques and tools of business research. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
<p>The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.</p>		
Unit	Topics	Contact Hours
I	Business Research – Meaning, Types, Managerial value of Business Research; Theory and Research – Components, Concept, Constructs, variables, Proposition and Hypothesis, Deductive and Inductive theory; Nature, Process and Importance of Problem Definition; Purpose and types of Research Proposal, Ingredients of Research Proposal.	15
II	Research Design – Meaning, Classification and Elements of Research Design; Methods and categories of Exploratory Research; basic issues in Experimental Design, classification of Experimental Design; Concept and their measurement, Measurement Scales.	15
III	Sample Design and Sampling Procedure, Determination of Sample Size; Research Methods of collecting Primary data; and Issues in construction of Questionnaire.	15
IV	Statistical techniques of Data Analysis; Nature and Types of Descriptive Analysis, Univariate and Bivariate tests of Statistical Significance; Meaning and Types of Research Report, Ingredients of Research Report.	15
V*		
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 		<p>End Term Examination: 70</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Cooper, D., Schindler, P., and Sharma, J. K. *Business Research Methods*. McGraw Hill Education.
2. Bajpai, N. *Business Research Methods*. Pearson Education.
3. Zikmund, William G., Babin, Barry J., Carr, Jon C., and Griffin, M. *Business Research Methods*. Cengage India Private Limited.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	Business Environment		
Course Code	B23-BBA-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C4		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Develop an understanding of Business environment and the factors influencing it. 2. Comprehend the various micro and macro environmental forces and economic systems 3. Understand the current business ecosystem, its dynamics and possible future outlook of Indian business ecosystem. 4. Make themselves future ready concerning availing opportunities and overcoming threats present in business ecosystem. <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Business environment: Concept, Nature and Significance; Economic, Social, Political forces affecting business operations & growth. Digital disruptions and transformations of businesses: Micro risk analysis.	15
II	Types of Business Environment, Environmental Scanning, Risk in Business Environment: Country risk and Political risk; SWOT Analysis and Political Risk Management; Economic systems: Capitalism, Socialism & Mixed economy.	15
III	Economic Planning in India: Objectives, Strategy and Problems; Impact of Economic Planning in India; Economic roles of Government: Regulatory role, Promotional role, Entrepreneurial role, Planning role, Economic role in Indian context; The Constitutional Environment and State intervention in business.	15
IV	Social Responsibility of business: Concept, Rationale, Dimensions and its disclosure by Indian business; Professionalisation and business ethics. Competitive Environment of business with reference to Competition Commission of India (CCI) and Competition Act.	15
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **5**
- Seminar/presentation/assignment/quiz/class test etc.: **10**
- Mid-Term Exam: **15**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Daniel, J. D. and Radebangh, L. H.: *International Business*; Addison Wesley Publishing Company.
2. Sundram, K. P. M., Datt, G., and Mahajan, A.: *Indian Economy*; S Chand.
3. Aswathapa, K.: *Business Environment*; Excel Books.
4. Bedi, S. K.: *Business Environment*; Excel Books.
5. Paul: *Business Environment Text and Cases*; McGraw Hill Education.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Business Mathematics		
Course Code	B23-BBA-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand set theory, logical statements and truth table. Find the solution of linear equations. 2. Determine the solution of quadratic equations. Learn the concept and applications of permutations and combinations. 3. Apply binomial theorem. Understand the concepts related to functions, limit and continuity and appropriately apply the concepts of differential calculus to solve related problems. 4. Understand the matrix algebra and its application to business problems. Find the solution of system of simultaneous linear equations using determinants and matrices. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 7 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Set Theory: Representation of sets, equivalent sets, power set, complement of a set. Venn Diagrams: Union and Intersection of sets, De-Morgan’s laws.	8
II	Quadratic Equations with real roots: Relations between roots and coefficient of the quadratic equations , Methods of solving a quadratic equation	8
III	Binomial Theorem (positive index). Functions, Limits and Continuity.	7
IV	Matrix System: Matrices, Basic operations on matrices (Addition, Multiplication, Transpose), Determinant of a square matrix, Inverse of a square matrix, Cramer’s rule	7
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **4**
- Seminar/presentation/assignment/quiz/class test etc.: **4**
- Mid-Term Exam: **7**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **35**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Dr. Sancheti & Kapoor: *Business Mathematics and Statistics*; Sultan Chand.
2. R.S. Bhardwaj: *Mathematics for Economics & Business*; Excel Books, India.
3. M. Raghavachari: *Mathematics for Management: An Introduction*; Tata McGraw Hills.
4. Azharuddin: *Business Mathematics*; Vikas Publishers.
5. Gorakh Prasad: *Differential Calculus*; Rashi Kansal (Pothishala).
6. G. Rangaraj, R. Mallieswari & V. Rema: *Business Mathematics*; Cengage.
7. Eugene Don, Joel Lerner: *Schaum's Outline of Basic Business Mathematics (Schaum's Outlines)*; McGraw-Hill Education.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Soft Skills and Personality Development		
Course Code	B23-BBA-105		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Acquire the basic knowledge about Soft Skills. 2. Develop the basic language skills (listening, speaking, reading and writing skills etc.) 3. Apply the interview skills, group discussions and presentation skills in real life situations. 4. Inculcate positive attitude in them by developing emotional Intelligence. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Maximum Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 7 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Soft skills; Effective Communication and Presentation, Power of Public speaking.	8
II	The Art of reading and listening –Skimming, Scanning, Intensive reading and Extensive reading, Active and passive listening.	8
III	Developing confidence-Body Language, Dressing Etiquettes, Telephonic and E-mail Etiquettes.	7
IV	Skills for job preparedness; Resumes and Cover letters; Facing Interviews and Group Discussions.	7
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 35</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. B. N. Ghosh: *Managing Soft Skills for Personality Development*; Tata McGraw-Hill, 2012.
2. Gajendra Singh Chauhan, Sangeeta Sharma: *Soft Skills – An Integrated Approach to Maximize Personality*; WILEY.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Business Ethics		
Course Code	B23-BBA-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Identify and apply ethical principles to human decision typical of business as a result of reading course texts and participating in lecture presentation and class discussion. 2. Enhance analytical skill of ethical position taken on these matters and formulate morale defenses of decisions by completing course activities. 3. Embrace value system in decision making. 4. Recognize organizational challenges to ethical behavior and ethical dilemma resolution process. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 7 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Business Ethics: An Overview, Ethics and Morals, Need for Business Ethics, Types of Ethics, Benefits of Business Ethics, Principles of Business Ethics, Factors affecting Business Ethics, Meaning of Corporate social responsibility, Relation between corporate responsibility & Business Ethics.	8
II	Organisational Ethics: Introduction, Ethical Corporate Behaviour, Development of Ethical Corporate behaviour, Ethical Leadership; Concept of Morals, Values, Beliefs; Moral issues in business; Ethical Dilemmas in Organisation	8
III	Workplace Ethics: Introduction, Factors affecting Ethical Behavior at work; Ethical Issue: Business Relationships, Conflicts of Interest, Fairness and Honesty, Communications, Discrimination, Harassment; Role of Business ethics in building a good society.	7
IV	Ethical Issues in the Functional Area, Ethics in functional area-Ethics in Marketing, Finance, HR, Production and Information Technology; Gender Ethics.	7
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 35</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Chakraborty S.K.; *Management by Values*; Oxford.
2. R. Subramanian; *Professional Ethics*; OXFORD.
3. Jayashree S. Sadri S. and Dastoor D.S.; *Theory and Practice of Managerial Ethics*; Jaico.
4. Sharma Subash; *New Mantras in Corporate Corridors*; New age International Publishers.
5. Sadri S., Jayashree; *Business Ethics and Corporate Governance (towards excellence and sustainability)*; Himalaya Publishing House.
6. Manuel G Velasquez; *Business ethics - concepts and cases*; Pearsons.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Cyber Security		
Course Code	B23-BBA-205		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Gain knowledge about cyber security fundamentals, cyber crime classification, and mobile device security challenges. 2. Identify cyber vulnerabilities, explore common cyber crime methods, and understand protection against various attacks. 3. Learn about computer forensics, digital evidence analysis, and the forensic process in cyber investigations. 4. Acquire skills in network forensics, computer forensic laboratory setup, and examination of handheld devices for forensic purposes. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 7 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Cyber Security and Cybercrime; Classification of Cyber Crimes; Cyber Offences and Planning; Mobile & Wireless devices and the related security challenges ; Authentication Service Security; Attacks on Mobile/Cell phones; Mobile Devices and Security Implications for Organizations.	8
II	Basic Cryptography Concepts, Cyber Security Vulnerability; Data Integrity and Authentication; Tools and Methods used in Cyber Crime; Proxy Servers and Anonymizers; Phishing; Password Attacks & Cracking; Keyloggers and Spywares; Steganography; virus and worms; DoS and DDoS Attacks.	8
III	Introduction to Computer Forensics; Historical background of Cyber Forensic; Digital Forensics Science; Need for Computer Forensics; Cyber Forensics and Digital Evidence; Forensic analysis of E-Mail; Digital Forensics Life Cycle.	7
IV	Network Forensics; Approaching a Computer Forensics Investigation; Setting up a Computer Forensics Laboratory; Computer Forensics and Steganography; Forensics and Social Networking Sites.	7
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: 4
- Seminar/presentation/assignment/quiz/class test etc.: 4
- Mid-Term Exam: 7

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: 35

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Nina Godbole, Sunit Belapure: *Cyber Security*; Wiley.
2. Gaurav K. Roy: *Cyber Security and Digital Privacy: A Universal Approach*; Highbrow Scribes Publication.
3. Thomas J. Mowbray: *Cybersecurity: Managing Systems, Conducting Testing, and Investigating Intrusions*; Wiley.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Production Management		
Course Code	B23-BBA-304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the nature and importance of production management and decision making in production function. 2. Obtain an understanding of production planning and control practice in organizations and various methods of production 3. Understand inventory management techniques, store management and its functions. 4. Gain an in-depth knowledge of ISO certification and Statistical Quality Control in Production. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Production Management: Meaning, nature objectives and functions of Production Management, scope of Production Management; Historical background of Production Management; Types of Production System: intermittent and continuous; Emerging trends in Production Management.	15
II	Productivity; Plant location and its factor affecting plant location; Plant layout, types of plant layout: process, product and fixed layout.	15
III	Product design, steps in product design; Process planning and selection; Make or buy decisions; Purchase Management, purchasing cycle; Maintenance Management.	15
IV	Production Planning and Control; Inventory Management and control, inventory control techniques: ABC Analysis, XYZ Analysis, VED Analysis, FSN Analysis, SDE Analysis; Quality control in production.	15
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **5**
- Seminar/presentation/assignment/quiz/class test etc.: **10**
- Mid-Term Exam: **15**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **70**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. K. Aswathappa and K. Shridhara Bhat: *Production and Operations Management*; Himalaya Publishing House.
2. S. N. Chary: *Production and Operations Management*; Tata McGraw Hill.
3. Richard B. Chase, Jacobs, Aquilano, and Aggarwal: *Operations Management*; The McGraw Hill.
4. Faizer: *Operations Management*; Cengage Publications.
5. Chunawalla: *Production and Operation Management*; Himalaya Publishing House.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Disaster Management		
Course Code	B23-BBA-305		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Comprehend the basic conceptual understanding of disasters. 2. Understand approaches of Disaster Management. 3. Differentiate between natural and Man Made disasters. 4. Build skills to respond to disaster. <hr/> 5*.		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 14 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Disaster: Meaning and Nature, Concept of Hazard, Risk and Vulnerability, Types of Disaster: Natural Disaster, Flood, Cyclone, Earthquakes, And Landslides etc.	15
II	Man-made Disaster: Fire, Industrial Pollution, Nuclear Disaster, Biological Disasters, Accidents (Air, Sea, Rail & Road), Structural failures (Building and Bridge), War & Terrorism etc.	15
III	Disaster Management; (Concept & significance), Planning, Coordination, leadership and control, Pre-Disaster Preparation, Handling Disaster, Post-disaster – Damage and Needs Assessment.	15
IV	Institutional Framework of Disaster Management in India, Stakeholders in Disaster Management, National Management, Disaster Management Policy of India.	15

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **5**
- Seminar/presentation/assignment/quiz/class test etc.: **10**
- Mid-Term Exam: **15**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **70**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Anu Kapur & others: *Disasters in India: Studies of Grim Reality*; 2005; Rawat Publishers, Jaipur; 283 pages.
2. Disaster Management Act 2005, Publisher: Govt. of India.
3. National Disaster Management Policy; 2009; Govt. of India.
4. Dr. Mrinalini Pandey: *Disaster Management*; Wiley India Pvt. Ltd.
5. Tushar Bhattacharya: *Disaster Science and Management*, 1st Edition; McGraw-Hill Education (India) Private Limited.

Part A - Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Business Environment		
Course Code	B23-BBA-MDC-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-1		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the factors that influence business and the importance of environmental scanning. 2. Recognize the role of public sector enterprises and the challenges of disinvestment. 3. Analyze the impact of government policies on business and understand the different roles of the government. 4. Identify emerging trends in the business environment and understand the significance of social responsibility and sustainable competitive advantage. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 10 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Business Environment: Meaning, variants and rationale for managerial study; Internal and External environmental factors and their influence on business; Environmental Scanning: Meaning and Techniques.	12
II	Public sector enterprises and their role in Indian Economy; Disinvestment: Issues and Challenges; Public-Private Partnership in Indian Context; Small Scale Enterprises: Role and Problems.	11
III	Government roles in Business: Regulatory, Promotional and Entrepreneurial roles; Major Government Policies Viz. Industrial Policy, Monetary, Fiscal and EXIM Policy and their influence on Business.	11
IV	Emerging trends in global and domestic business environment; Social Responsibility of Business and Scenario in Business Environment and Sustainable Competitive Advantage.	11
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 07 ● Mid-Term Exam: 13 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Francis Cherunilam. *Business Environment*-Himalaya Publishing House
2. Aswathappa. *Essentials of Business Environment*; Himalaya Publishing House.
3. Mishra and Puri. *Indian Economy*; Himalaya Publishing House.
4. Raj Aggarwal. *Business Environment*; Excel Books.
5. A C Fernando. *Business Environment*; Pearson Publication.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Social Media Marketing		
Course Code	B23-BBA-MDC-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-1		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the significance and challenges of social media marketing. 2. Develop a comprehensive social media marketing strategy. 3. Create and manage engaging social media content. 4. Utilize social media advertising tools and analyze campaign performance. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 10 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Social Media Marketing: Meaning and significance in modern era; Impact of social media platforms- Facebook, LinkedIn, Twitter, Instagram, Pinterest, and YouTube on Marketing endeavours; Problems associated with Social Media Marketing.	12
II	Social Media Planning: Social media goals and objectives; Audience analysis; Developing social media marketing strategy; Social media control; Integrating marketing strategy with social media marketing strategy.	11
III	Social Media Content: Content Creation, Audience Engagement; Content Scheduling; Content Management and Control.	11
IV	Social Media Advertising and Analytics: Tools for social media Advertising; Planning and executing social media campaigns; An Overview of social media analytics tools.	11
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 07 ● Mid-Term Exam: 13 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Sameer Deshpande, Philip Kotler, Nancy R. Lee; *Social Marketing in India*; Pearson Publication
2. Jason McDonald; *Social Media Marketing Workbook*
3. Linda Coles; *Marketing with Social Media*; Pearson Publication
4. Dan Zarrella; *The Social Media Marketing Book*; Pearson Publication
5. Michael R. Solomon, Tracy Tuten; *Social Media Marketing*; Pearson Publication
6. Guy Kawasaki, Peg Fitzpatrick; *The Art of Social Media: Power Tips for Power Users*; Pearson Publication.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	I		
Name of the Course	Principles of Rural Marketing		
Course Code	B23-BBA-MDC-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-1		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand Rural Marketing: Concepts, challenges, and opportunities, and the Rural Marketing Environment. 2. Analyze Rural Consumer Behavior: Roles, factors influencing purchase decisions, and Rural Marketing Research methods. 3. Develop Rural Marketing Mix Strategies for Rural Markets. Identify suitable distribution channels. 4. Comprehend Innovation principles for Rural Markets and Government Initiatives for Rural Marketing. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Rural Marketing: Conceptual Framework, Challenges & Opportunities; Rural Marketing Environment.	12
II	Rural Consumer Behaviour: Consumer Behaviour Roles, Factors influencing Purchase of Products in Rural Market; Rural Marketing Research: Objectives and Methods/Techniques.	11
III	Rural Marketing Mix: Strategies related to Product, Price, Place and Promotion in Rural Markets; Distribution Channels for durables and non- durables in rural areas.	11
IV	Rural Marketing: Emerging Trends, Issues and Future; Innovations in Rural Marketing; Rural Marketing Control; Govt. Initiatives for Rural Markets.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Balram Dogra, Karminder Ghuman. *Rural Marketing: Concepts and Practices*; McGraw Hill Education.
2. C.S.G. Krishnamacharyulu, Lalitha Ramakrishnan. *Rural Marketing: Text and Cases*; Pearson Education India
3. R.V. Bedi, N.V. Bedi. *Rural Marketing*; Himalaya Publishing House.
4. Pardeep Kahyap. *Rural Marketing*; Pearson Education India.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Group Dynamics		
Course Code	B23-BBA-MDC-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-2		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate a basic understanding of the major theories of Group dynamics. 2. Understand the Dynamics of work groups in business entities. 3. Acquaint with Team Dynamics, Team building and Behavioural dynamics associated with teams at work. 4. Understand the facilitating or inhibiting role of leader on group development based on the different leadership style. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Nature of Groups at Work: Definition, Types, group formation; Group Decision making Techniques: Delphi Technique; Nominal Group Technique; Traditional Brain Storming; Electronic Brain Storming; Negative Brain Storming; Workgroup Vs. Teams; Transforming Groups into Teams, Stages of Team Building and its Behavioral Dynamics.	12
II	Interpersonal Competence & Team Effectiveness: Measuring Interpersonal Competence FIRO-B test; Group Dynamics: Norms, Cohesiveness, Conformity, Polarization, Obedience, Group Shift and Group Think; Transactional analysis & Johari window.	11
III	Developing Collaboration in Teams: Functional and Dysfunctional Cooperation and Competition, Social Loafing, Social facilitation, Synergy in Teams, Self-Managed Teams and Interpersonal Trust; Team Effectiveness and influencing factors of team effectiveness. Role of Interpersonal Competence in Team Building.	11
IV	Communication Process; Communication Effectiveness & Feedback; Fostering Team Creativity; Group leadership styles and approaches; Organization Development through better management of group dynamic.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Daniel Levi; *Group Dynamics for Teams*; Sage Publications.
2. Donelson R. Frsyth; *Group Dynamics*; Wadsworth Cencage Learning
3. Timoyhy M. Franz; *Group Dynamics and Team Interventions*; Wiley.
4. R.K.Sahu; *Group Dynamics & Team Building*; Excel Books.
5. Edgar Schein; *Organization Psychology* .

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Corporate Social Responsibility		
Course Code	B23-BBA-MDC-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-2		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the Nature and Evolution of Corporate Social responsibility. 2. To Demonstrate a multi stakeholder perspective in viewing CSR activities. 3. Understand the meaning and significance of Corporate Governance 4. Analyze the impact of CSR on Corporate culture. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 10 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Introduction Meaning and Definition of CSR, History and Evolution of CSR, Factors affecting the growth of CSR Reasons for Social Responsibility CSR activities – Nature, types, impact on development programme Corporate responsibility towards various group of stakeholders; Arguments in favour and Against of Corporate Social Responsibility	12
II	CSR - Legislation in India and the world Provision for Corporate Social Responsibility in Companies Act2013 –Section 135 Sustainable Development: concept, definition of sustainable development, need, importance, education, Philosophical development, Gandhian Thought on Sustainable Development,	11
III	Corporate Governance Introduction, Important issues and Need of Corporate Governance ,OECD principles, Difference between governance and management, Purpose of good governance, Potential consequences of poor corporate governance, Business failure and the contribution of poor governance	11
IV	Case Studies on Corporate Governance: Satyam, Infosys, Tata, Wipro etc.	11
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 07 ● Mid-Term Exam: 13 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Christine A Mallin. *Corporate Governance*. Oxford University Press.
2. S C Das. *Corporate Governance in India: An Evaluation*. PHI - Eastern Economy Edition.
3. Ananda Das Gupta. *Ethics, Business & Society* Edited. Response Books.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Essentials of Taxation		
Course Code	B23-BBA-MDC-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-2		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Learn taxation basics and recent amendments in the Income Tax Act. 2. Understand principles of direct and indirect taxes, VAT vs GST, and the role of taxation in society. 3. Calculate taxable income for individuals, deductions, and tax treatment for business income and capital gains. 4. Familiarize with TDS, Advance Tax, different types of returns, E-Filing, and tax recovery/refund procedures. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Concept of Tax and Taxation, Basic Concepts: Assessment Year, Previous Year, Person, Assesses, Agricultural Income, Residential Status, Incidence of Tax, Income Exempted from Tax. Recent major amendments in Income Tax Act 1961.	12
II	Principles of taxation, Forms of direct tax, Forms of indirect tax, VAT vs GST, Tax Planning and Tax Management, Role and significance of taxation in society.	11
III	Determining taxable income for individuals, Allowable deductions and tax credits; Online Tools for Hassle-Free ITR Self-Filing. Tax treatment of business income, deductions, and credits; Capital gains and losses and their impact on taxation.	11
IV	TDS, Advance Tax, Types of Returns, Types of assessment, PAN, E-Filing of return, Recovery and refund of tax, An Overview of Income Tax Authorities of India.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. H.C. Mehrotra AND Dr. S.P. Goyal. *Dr. Income Tax including Tax Planning & Management*; Sahitya Bhawan Publications.
2. R.G. Saha, Sanjay Chhabra. *Income Tax Law and Practice*; Himalaya Publishing House.
3. H.C. Mehrotra AND Dr. S.P. Goyal. *Dr. Income Tax Law and Accounts*; Sahitya Bhawan Publications.
4. Sally M. Jones, Shelley C. Rhoades-Catanach, Sandra R. Callaghan. *Principles of Taxation*; Mc Graw Hill Education.
5. Sally M. Jones. *Principles of Taxation for Business and Investment Planning*; Mc Graw Hill Education.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Entrepreneurship & Start-ups		
Course Code	B23-BBA-MDC-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-2		
Level of the course (As per Annexure-I)	Introductory-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Understand the concept of Entrepreneur and Entrepreneurship. 2. Role of Institutions in promotion of Entrepreneurship culture. 3. Government Support for the startups. 4. Various stakeholders involved in a startup. <hr/> 5*.		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Entrepreneurship: Meaning and Significance, Relationship between Entrepreneurship Development and Economic Development, Qualities of entrepreneurs and Entrepreneurial Competencies, Types of Entrepreneurs.	12
II	Entrepreneurial support system; Family Business and their contribution to Entrepreneurship Role of Educational Institutions in promoting the Entrepreneurship culture	11
III	Role of Government, Promotional Agencies and Institutions in Entrepreneurship Development, Incentives and Various Financial Schemes available for Entrepreneurs.	11
IV	Opportunity Identification process; Business plan, Start-Up India Initiative Major Players/stakeholders in Startup Ecosystem – Mentors, Incubators, Investors, Accelerators, Government Bodies.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Kumar, Arya (2012); *Entrepreneurship*, Pearson, New Delhi.
2. Shukla, MB, (2011), *Entrepreneurship and Small Business Management*, Kitab Mahal, Allahabad.
3. Sahay A., A. Nirjar (2006), *Entrepreneurship: Education, Theory and Practice*, Excel Books, New Delhi.
4. Panda S.C. (2008) *Entrepreneurship Development*. Anmol Publications.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Finance for Non-Finance Professionals		
Course Code	B23-BBA-MDC-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the concept of finance and financial instruments. 2. Identify different types of financial instruments and markets. 3. Comprehend the role of financial intermediaries. 4. Recognize the presence and functions of financial markets. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Concept of Finance, Financial instruments-Money market and capital market, financial intermediaries, financial markets-Primary and secondary, financial institutions-Banking and non-banking.	12
II	Overview of Financial accounting, management accounting and cost accounting, Financial Statements: Income statement, balance sheet, difference between Income, Liabilities, Expense and Assets, Sources and Uses of Funds.	11
III	Concept and objectives of Finance Management, Sources of long-term and Short- term finance, Capital structure and financial structure.	11
IV	Time value of money, Role of regulators and promoters like-RBI, SEBI, IRDAI, Ministry of finance, AMFI etc.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. I.M. Pandey. *Financial Management*; Vikas Publishing House Pvt. Ltd.
2. Prasanna Chandra. *Financial Management*; Tata McGraw Hill
3. M.Y. Khan, P.K. Jain. *Financial Management*; Tata McGraw Hill
4. Ravi M. Kishore. *Financial Management*; Taxmann Publications
5. Paresh Shah. *Financial Management*; biztantra
6. White, Sondhi & Fried. *Financial Statements*; Willey Books
7. Vasant Desai. *Financial Markets & Financial Services*; Himalaya Publishing House

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Fundamentals of Investing		
Course Code	B23-BBA-MDC-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand different investment avenues and their characteristics. 2. Gain knowledge about the functioning of the Indian Securities Market and the role of SEBI. 3. Analyze the relationship between returns and risks in financial investments. 4. Recognize the significance of depositories in securities transactions and investor protection measures. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Investment avenues-money market and capital market instruments, Investment process, Objectives of investment.	12
II	Indian Securities Market, Process of investing through stock exchange, Stock Market Indices, NEAT System, BOLT System, Role of SEBI.	11
III	Returns and Risks in financial investment, Fixed-Income Securities and variable income securities, Bonds and Mutual funds and role of AMFI.	11
IV	Role of Depositories in India, Investor Protection in India, Rights and Duties of Investors.	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ Theory

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ Practicum

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Vanita Tripathi; *Fundamentals of Investments*; Taxmann Publication.
2. M. Madan Mohan, S. Brinda, V. Ravi; *Investment Management*; Himalaya Publication House.
3. Rajiv Srivastava; *Investment Management*; Wiley Publication.
4. R. B. Maheshwari; *Investment Management*; Sahitya Bhawan
5. R. P. Rustagi, *Investment Management: Theory and Practice*; Sultan Chand & Sons.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Fundamentals of Leadership		
Course Code	B23-BBA-MDC-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC-3		
Level of the course (As per Annexure-I)	Intermediate-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To enable students to embark on paths of personal and professional leadership development. 2. To make the learners understand why and how leadership skills are so critical for personal and organizational success. 3. To develop critical appreciation and impart effective leadership skills. 4. To understand the real time applications of learnt leadership traits through creative modes. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction to Leadership- Roles, functions and characteristics of a leader; evolution and growth of leadership; Leadership traits and ethics; Attitude, Behaviour, Personality traits and leadership; Types and Styles of leadership.	12
II	Theories of Leadership -Trait Theory, Behavioural theories, Contingency Theories, Transactional Theories and Transformational Leadership Theory.	11
III	Issues and Challenges for Leaders - Immerging trends in leadership; Servant leadership, Situational leadership; Gender and leadership; Effective Leadership Communication; Emotional intelligence and leadership	11
IV	Leadership in Action, Cases on Leadership; Games / Activities / Exercises on Leadership.	11
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 07 ● Mid-Term Exam: 13 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 50</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. K.Aswathapa; *Human Resource Management: Text and Cases*; Tata McGraw Hill.
2. P. Jyothi; *Human Resource Management*; Oxford University Press.
3. V.S.P.Rao; *Human Resource Management*, Himalaya Publication House.

*Applicable for courses having practical component.

Part A - Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Integrated Marketing Communication		
Course Code	B23-SEC-212		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC-2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1 To define various terms associated with the field of integrated marketing communication. 2. To explain the components of integrated marketing communication. 3. To distinguish the utility of various promotional tools. 4. To evaluate the effectiveness of marketing communication strategy. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction – Concept of Marketing Communication, Marketing communication mix, Factor affecting marketing communication mix, Drivers of integrated marketing mix	12
II	Managing the Marketing Communication Process – Analysis of promotional opportunities, Concepts of segmentation and target marketing, Promotional strategy of formulation and competitive positioning.	11
III	Advertising and Media Planning – Advertising plan, creative strategy, Advertising appeal, Creative formats, Stages of creative strategy – Idea generation, copy writing, layout, copy testing and diagnosis	11
IV	Wider Issues and Dimensions – Sales promotions, Personal selling, direct marketing, Public relations, Publicity and corporate advertising, Unconventional promotional media.	11
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 07 ● Mid-Term Exam: 13 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: 	<p>End Term Examination: 50</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

7. Blakeman, R. Integrated Marketing Communication: Creative Strategy from Idea to Implementation, Rowman & Littlefield
8. Dutta, K., Integrated Marketing Communication, Oxford Higher Education
9. Belch, G. E., Belch, M. A. and Purani, K., Advertising and Promotion, McGraw Hill Education.

Part A – Introduction			
Subject	Business Administration		
Semester	II		
Name of the Course	Business Communication		
Course Code	B23-SEC-214		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC-2		
Level of the course (As per Annexure-I)	Foundation-Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To define and outline all four business communication skills i.e. reading, writing, speaking and listening 2. To apply and demonstrate the gathered knowledge about the business communication regarding both inter and intra organizational situations 3. To distinguish and examine the necessary techniques and skills that help them in communicating effectively for handling organizational issues. 4. To design and develop their methods and ways in transmitting information within and outside the organizations in the most effective manner. 5*. 		
Credits	Theory	Practical	Total
	3	0	3
Contact Hours	45	0	45
Max. Marks: 75 Internal Assessment Marks: 25 End Term Exam Marks: 50		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 2.5 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 10 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction to the Communication: Meaning, Nature, scope and Process of communication, Importance of Effective Business Communication, Objectives of Business Communication, Types/Pattern of Business Communication; Media/Channels of Business Communication; Barriers to Business Communication.	12
II	Written Communication- (a) Business Letter Writing, (b) Business Report Writing: Importance, Need, Types, Techniques, Language, Structure, Planning and Drafting Written Communication; Preparing Official Communication, Circular, Notification, Amendment, Press Communiqué, DO letter, Telegram.	11
III	Oral Communication: Interviewing-Art of effective interviewing, Types of Interviewing, Techniques of Interviewing, Qualities of Interviewer and Interviewee, Planning of Interviewing, Process of Interviewing. Communicating within groups.	11
IV	Audio visual Communication: Role of Audio-Visual Communication, Channels of Audio-Visual Communication, Importance of Body language in non-verbal communication; Role of Public Relation in Business Communication	11
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **05**
- Seminar/presentation/assignment/quiz/class test etc.: **07**
- Mid-Term Exam: **13**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: **50**

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Murty, C.V.S., Rai, Urmila and S.M. Rai, Business Communication, Himalaya Publishing House, Mumbai.
2. Koneru, Arun, Professional Communication, Tata McGraw Hill, New Delhi.
3. Monipally, M.M., Business Communication Strategies, Tata McGraw Hill, New Delhi.

Part A – Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	Business Ethics		
Course Code	B23-VAC-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC-4		
Level of the course (As per Annexure-I)	Intermediate		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 5. To Identify and apply ethical principles to human decision typical of business as a result of reading course texts and participating in lecture presentation and class discussion. 6. To Enhance analytical skill of ethical position taken on these matters and formulate morale defenses of decisions by completing course activities. 7. To Embrace value system in decision making. 8. To Recognize organizational challenges to ethical behavior and ethical dilemma resolution process. <hr/> <p>5*.</p>		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 7 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Introduction to Business Ethics: An Overview, Ethics and Morals, Need for Business Ethics, Types of Ethics, Benefits of Business Ethics, Principles of Business Ethics, Factors affecting Business Ethics	8
II	Organisational Ethics: Introduction, Ethical Corporate Behaviour, Development of Ethical Corporate behaviour, Ethical Leadership; Concept of Morals, Values; Moral issues in business; Ethical Dilemmas in Organisation	8
III	Workplace Ethics: Introduction, Factors affecting Ethical Behavior at work; Ethical Issue: Business Relationships, Conflicts of Interest, Fairness and Honesty, Communications, Discrimination, Harassment; Role of Business Ethics in building a good society.	7
IV	Ethical Issues in the Functional Area-Ethics in Marketing, Finance, HR, Production and Information Technology; Gender Ethics.	7
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 35

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Sharma Subash; *New Mantras in Corporate Corridors*; New age International Publishers.
2. Sadri S., Jayashree; *Business Ethics and Corporate Governance (towards excellence and sustainability)*; Himalaya Publishing House.
3. Manuel G Velasquez; *Business ethics - concepts and cases*; Pearsons.
4. Chakraborty S.K.; *Management by Values*; Oxford. R. Subramanian; *Professional Ethics*; OXFORD.
5. Jayashree S. Sadri S. and Dastoor D.S.; *Theory and Practice of Managerial Ethics*; Jaico.

Part A – Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	Logistic Management		
Course Code	B23-VAC-414		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC-4		
Level of the course (As per Annexure-I)	Intermediate Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To give insight about logistic management. 2. To outline key logistic management concepts and its application to market. 3. To analyse and examine the implementation of logistic management concepts and strategy to firms. 4. To attain organisational goals using logistic management techniques in proper way. 5*. 		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course

Instructions for Paper- Setter

The Paper-Setter shall set *nine* questions in all and the question paper shall be divided into two parts. **Part ‘A’** shall comprise *four* short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. **Part ‘B’** shall comprise *eight* questions (*two* questions from each unit) carrying 7 marks each and the student will be required to attempt *four* questions selecting *one* question from each unit.

Unit	Topics	Contact Hours
I	Introduction of Logistic Management: Definition, Objectives, Components, Significance, Role of Logistic Management, Use of IT in Logistic, Logistics Management: Logistical operation, Integration, Logistical performance cycle, Customer service global logistics, Logistical resources (Information & Forecasting)	8
II	Warehouse and Transport Management: Concept of strategic storage, Warehouse functionality, Warehouse operating, Material handling and packaging in warehouse, Types of Warehouses, Transportation management, Transport functionality and principles, Transport Infrastructure, Transport decision making	8
III	Wider Issues and Dimensions – Sales promotions, Personal selling, Direct marketing, Public relations, Publicity and corporate advertising, unconventional promotional media.	7
IV	Inventory Management: Introduction, Basic Concepts of Inventory, Classification of Inventory, Concept of EOQ (Including examples), Material planning and Controlling Techniques (ABC Analysis, FSN, VED, HML Analysis)	7
V*		

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: **4**
- Seminar/presentation/assignment/quiz/class test etc.: **4**
- Mid-Term Exam: **7**

➤ **Practicum**

- Class Participation:
- Seminar/Demonstration/Viva-voce/Lab records etc.:
- Mid-Term Exam:

End Term Examination: 35

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

10. Stern, Louis W. Adel, I.E.L. – Ansary, Annee T. Coughlan: Marketing Channels, Prentice Hall, New Delhi.
11. Ballu, Ronald H, Business Logistics Management, Englewood Cliffs, New York, Prentice Hall Inc.
12. Martin, Christopher and Gordon Wills: Marketing Logistics and Distribution Management
13. Khanna, K.K. Physical Distribution Management, Himalaya Publishing House, New Delhi.
14. Lambert, D. et. al., Strategic Logistics Management, Tata McGraw Hill, New Delhi.

Part A – Introduction			
Subject	Business Administration		
Semester	IV		
Name of the Course	E-Commerce		
Course Code	B23-VAC-417		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC-4		
Level of the course (As per Annexure-I)	Intermediate Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To describe the foundation and importance of E - Commerce. 2. To compare the different electronic payment system. 3. To create business model and strategy for online business. 4. To select the infrastructure for E-Commerce. 5*. 		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	30	0	30
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 1.75 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 7 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	Introduction – Meaning, Nature, Concepts, Advantages and reasons for transacting online, Categories of e-commerce; Planning Online Business: nature and dynamics of the internet, pure online vs. brick and click business.	8
II	Technology for Online Business – internet, IT infrastructure; middleware contents: text and integrating e-business applications; mechanism of making payment through internet: online payment mechanism, electronic payment systems, payment gateways.	8
III	Applications in e-commerce – e-commerce applications in manufacturing, wholesale, retail and service sector.	7
IV	Virtual Existence – Concepts, working, advantages and pitfalls of virtual organizations, Security in e-commerce: digital signatures, network security, data encryption secret keys, data encryption.	7
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 35

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Murty, C.V.S., E-Commerce, Himalaya Publications, New Delhi
2. Kienam, Managing Your E-Commerce business, Prentice Hall of India, N.Delhi.
3. Kosiur, Understanding E-Commerce, Prentice Hall of India, N.Delhi.
4. Kalakota, Whinston, Frontiers of Electronic Commerce, Addison Wesley

Part A – Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Event Management		
Course Code	B23-VOC-319		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VOC-3		
Level of the course (As per Annexure-I)	Intermediate Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To give insight about event management. 2. To outline key event management concepts and its application to market. 3. To analyse and examine the implementation of event management concepts and strategy to firms. 4. Attainment of organisational goals using event management techniques in proper way. 5*. 		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
<p>The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.</p>		
Unit	Topics	Contact Hours
I	Event Planning and Control : Introduction to event planning and management, Event Production, Role of event planner and qualities of good planner, Importance of organising events and its components, Techniques, Selection, Coordination, Creativity, Designing, Marketing, sponsorship, Production of special corporate and sports events	15
II	Legal Aspects of Business: Introduction to legal components of event management, Relevant Legislation, Contract Agreement Act, Company and Business Law, Sales Act, Indian Partnership Act, Negotiable Instrument Act.	15
III	IT in Event Management: Hardware and Software, Data Processing System, Input-Output devices, Storage devices, Word processing software such as Microsoft Word processing- Level -1 Micro Computer operation and operating environment, Creating and Editing Documents, Formatting, Saving, Retrieving and Printing Text, Profiling Documents and Spreadsheet programs such as Excel.	15
IV	Event Marketing: Marketing Concept, Marketing Mix, Marketing Planning, Marketing Budget, Merchandising, Marketing Control, Brand Promotion and Catchment Area	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

15. Shone, Anton and Bryn Parry, Successful Event Management, Cengage Learning India Pvt. Ltd, New Delhi
16. Gaur, S.S. and Saggere, S.V., Event Marketing Management
17. Panwar, J.S., Marketing in the New Era, Sage Publications, 1998

Part A – Introduction			
Subject	Business Administration		
Semester	III		
Name of the Course	Security Analysis and Portfolio Management		
Course Code	B23-VOC-326		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VOC-3		
Level of the course (As per Annexure-I)	Intermediate Level		
Pre-requisite for the course (if any)	None		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1 To demonstrate the processes of calculating risk and return of financial assets. 2. To appraise the processes of doing fundamental and technical analysis. 3. To define the concepts and terminologies of portfolio management. 4. To summarise the theories underlying portfolio management. 5*. 		
Credits	Theory	Practical	Total
	4	0	4
Contact Hours	60	0	60
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3 Hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
The Paper-Setter shall set <i>nine</i> questions in all and the question paper shall be divided into two parts. Part ‘A’ shall comprise <i>four</i> short answer type questions from the whole of the syllabus carrying 3.5 marks each, which shall be compulsory. Part ‘B’ shall comprise <i>eight</i> questions (<i>two</i> questions from each unit) carrying 14 marks each and the student will be required to attempt <i>four</i> questions selecting <i>one</i> question from each unit.		
Unit	Topics	Contact Hours
I	The Investment Environment - Meaning and objective of investment, investment vs. gambling and speculation, investment alternatives, investment process, concept of return and risk.	15
II	Security Analysis – Fundamental analysis: economic analysis, industry analysis and company analysis. Technical analysis: assumptions Dow theory, chart patterns, moving averages and market indicators. Efficient market theory: weak form hypothesis, semi-strong form hypothesis and strong form hypothesis.	15
III	Introduction to Portfolio Management: Meaning, need, and objective of portfolio management, the process of portfolio management, determination of risk & return of a portfolio, risk analysis tools.	15
IV	Theories of portfolio selection and management- Markowitz portfolio theory: optimal portfolio, meaning and construction of efficient frontier, investors’ utility; CAPM: capital asset pricing model, risk-free and risky lending and borrowing.	15
V*		
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.: 10 ● Mid-Term Exam: 15 ➤ Practicum ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam:		End Term Examination: 70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Pandian, Security Analysis and Portfolio Management, Vikas Publishing House, New Delhi.
2. Reilly, Frank K. And Brown, Keith C., Investment Analysis and Portfolio Management, South-Western Cengage Learning India Pvt. Ltd.
3. Bodie, Z., Kane, A. and Marcus, A., Investments, McGraw-Hill.
4. Fischer, Donald E. and Jordan, Ronald J., Security Analysis and Portfolio Management, Prentice Hall of India.

Kurukshetra University, Kurukshetra
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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes
Bachelor of Computer Applications (BCA): SCHEME D
according to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: BCA
According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
1	CC-A1	B23-CAP-101	Problem Solving through C	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B1	B23-CAP-102	Foundations of Computer Science	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C1	B23-CAP-103	Logical Organization of Computer	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M1	B23-CAP-104	Mathematical Foundations for Computer Science-I	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC1	To be taken from other department							
	SEC1	To be taken from SEC Pool							
VAC1	To be taken from VAC Pool								
AEC1	To be taken from AEC Pool								
2	CC-A2	B23-CAP-201	Object Oriented Programming using C++	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

	CC-B2	B23-CAP-202	Introduction to Web Technologies	3	3	20	50	70	3
			Practical	1	3	10	20	30	3
	CC-C2	B23-CAP-203	Concepts of Operating Systems	3	3	20	50	70	3
			Practical	1	2	5	15	20	3
	CC-M2	B23-CAP-204	Mathematical Foundations for Computer Science-II	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC-2	To be taken from other department							
	SEC-2	To be taken from SEC Pool							
	VAC-2	To be taken from VAC Pool							
	AEC-2	To be taken from AEC Pool							
3	CC-A3	B23-CAP-301	Java OOP Foundations	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B3	B23-CAP-302	Linux and Shell programming	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C3	B23-CAP-303	Data Base Technologies	3	3	20	50	70	3
			Practical	1	3	10	20	30	3
	CC-M3	To be taken from other department							
	MDC-3	To be taken from other department							
	SEC-3	To be taken							

		from SEC Pool							
	AEC-3	To be taken from AEC Pool							
4	CC-A4	B23-CAP-401	Data Structures and Applications	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B4	B23-CAP-402	Front-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C4	B23-CAP-403	Computer Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	AEC-4	To be taken from AEC Pool							
	VAC-3	To be taken from VAC Pool							
CC-M4(V)	To be taken from VOC Pool								
5	CC-A5	B23-CAP-501	Software Engineering	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B5	B23-CAP-502	Back-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C5	B23-CAP-503	Network Infrastructure and Data Communication Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M5(V)	To be taken from VOC Pool							
	SEC-4	Internship @ 4 Credits							

6	CC-A6	B23-CAP-601	Programming using Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B6	B23-CAP-602	Advanced Web Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C6	B23-CAP-603	Artificial Intelligence	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
CC-M6	To be taken from other department								
CC-M7(V)	To be taken from VOC Pool								
7	CC-H1	B23-CAP-701	Principles & Paradigms of Programming Languages	4	4	30	70	100	3
	CC-H2	B23-CAP-702	Software Testing	4	4	30	70	100	3
	CC-H3	B23-CAP-703	Data Mining and Warehousing	4	4	30	70	100	3
	DSE-H1	B23-CAP-704	NoSQL Databases	4	4	30	70	100	3
		Or							
		B23-CAP-705	Cyber Security	4	4	30	70	100	3
	PC-H1	B23-CAP-706	Practical	4	8	30	70	100	6
CC-HM1	B23-CAP-707	Cloud Computing	4	4	30	70	100	3	
8	CC-H4	B23-CAP-801	Design & Analysis of Algorithms	4	4	30	70	100	3
	CC-H5	B23-CAP-802	Software Project Management	4	4	30	70	100	3
	CC-H6	B23-CAP-803	Emerging Trends in Information Security	4	4	30	70	100	3
	DSE-H2	B23-CAP-804	Big Data	4	4	30	70	100	3
		Or							
	B23-CAP-805	Machine Learning	4	4	30	70	100	3	

PC-H2	B23-CAP-806	Practical	4	8	30	70	100	6
CC-HM2	B23-CAP-807	Internet of Things (IoT)	4	4	30	70	100	3
OR								
CC-H4	B23-CAP-801	Design & Analysis of Algorithms	4	4	30	70	100	3
CC-H5	B23-CAP-802	Software Project Management	4	4	30	70	100	3
CC-HM2	B23-CAP-807	Internet of Things (IoT)	4	4	30	70	100	3
Research	B23-CAP-808	Project/ Dissertation	12				300	

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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st & 3rd Semester) for Under-Graduate Programmes

Bachelor of Computer Applications (BCA)
according to

Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	I		
Name of the Course	Problem Solving through C		
Course Code	B23-CAP-101 (Common with B23-CAI-101, B23-CDS-101, B23-CTS-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. learn the basics of C program, data types and input/output statements. 2. understand different types of operators, their hierarchies and also control statements of C. 3. implement programs using arrays and strings. 4. get familiar with advanced concepts like structures, union etc. in C language. <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on various concepts of C.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First</p>			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	<p>Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant.</p> <p>Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().</p>	10
II	<p>Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.</p>	10
III	<p>Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation.</p> <p>Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions.</p> <p>Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring.</p>	10
IV	<p>Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays.</p> <p>User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; difference between Structure and Union.</p>	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • To read radius of a circle and to find area and circumference • To read three numbers and find the biggest of three • To check whether the number is prime or not • To read a number, find the sum of the digits, reverse the number and check it for palindrome • To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • To read percentage of marks and to display appropriate message (Demonstration of else-if ladder) • To find the roots of quadratic equation • To read marks scored by n students and find the average of 	25

	<p>marks (Demonstration of single dimensional array)</p> <ul style="list-style-type: none"> • To remove Duplicate Element in a single dimensional Array • To perform addition and subtraction of Matrices • To find factorial of a number • To generate Fibonacci series • To remove Duplicate Element in a single dimensional Array • To find the length of a string without using built in function • To demonstrate string functions • To read, display and add two m x n matrices using functions • To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters • To Swap Two Numbers using Pointers • To demonstrate student structure to read & display records of n students • To demonstrate the difference between structure & union. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley. • Yashwant Kanetker, Let us C, BPB. • Rajaraman, V., Computer Programming in C, PHI. • Yashwant Kanetker, Working with C, BPB. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	I		
Name of the Course	Foundations of Computer Science		
Course Code	B23-CAP-102 (Common with B23-CAI-101, B23-CDS-101, B23-CTS-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of computer 2. learn about I/O devices and operating systems 3. understand internet and its services 4. learn about the threats and security concepts on computers <hr style="width: 50%; margin-left: 0;"/> <p>5*. to understand the working of operating system, internet and security related concepts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of</p>			

three-hour duration.		
Unit	Topics	Contact Hours
I	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software. Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.	10
II	I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter. Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	10
III	The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	10
IV	Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking. Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Operating System: <ul style="list-style-type: none"> • Starting with basics of Operating Systems and its functionalities Computer Basics: <ul style="list-style-type: none"> • Identify the various computer hardware • Understanding the working of computer • Understanding various types of software 	25

	<p>Internet and E-mail:</p> <ul style="list-style-type: none"> • Using Internet for various tasks • Creating and using e-mail. <p>Security:</p> <ul style="list-style-type: none"> • Understanding various threats • How to be safe from virus threats • Various software to get safe from virus attacks. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB. • Dromey, R.G., How to Solve it By Computer, PHI. • Norton, Peter, Introduction to Computer, McGraw-Hill. • Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World. • Rajaraman, V., Fundamentals of Computers, PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	I		
Name of the Course	Logical Organization of Computer		
Course Code	B23-CAP-103 (Common with B23-CAI-101, B23-CDS-101, B23-CTS-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of Mathematics (10 th Level)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand number systems, error detecting correcting code and representations of numbers in a computer system. 2. understand computer arithmetic and Boolean algebra and simplification of Boolean expressions. 3. understand working of logic gates and design various combinational circuits using these logic gates. 4. understand working of different types of flip-flops and design different types of registers. <hr style="width: 20%; margin-left: 0;"/> <p>5*. to understand the practical aspects of logical organization of computer.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question</p>			

will comprise of short answer type questions covering entire syllabus.
 Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.
 Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another, BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations.	10
II	Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Compliment representations, Addition and subtraction with BCD representations. Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates & Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions.	10
III	Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions. Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters.	10
IV	Sequential Circuits: Basic Flip-Flops and their working. Synchronous and Asynchronous Flip-Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Number System: <ul style="list-style-type: none"> • Problems based on Number System and their conversion. • Programs based on Number System conversion. Binary Arithmetic <ul style="list-style-type: none"> • Problems based on Binary Arithmetic. 	25

	<ul style="list-style-type: none"> • Programs based on Binary Arithmetic. • Problems based on Boolean Expression and their simplification <p>Logic Gates</p> <ul style="list-style-type: none"> • Understanding working of logic Gates. <p>Combinatorial Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various combinational circuits. <p>Sequential Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various sequential circuits. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd. • V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall. • Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd. • Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	I		
Name of the Course	Mathematical Foundations for Computer Science-I		
Course Code	B23-CAP-104 (Common with B23-CAI-101, B23-CDS-101, B23-CTS-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. Gain the knowledge of set theory, types of sets and operations on sets. Understand various concepts of matrices and determinants, and acquire the cognitive skills to apply different operations on matrices and determinants. 2. Have the knowledge of the basic concepts of complex numbers and acquire skills to solve linear quadratic equations. 3. Gain the knowledge of the concepts of Arithmetic progression, Geometric progression and Harmonic progression, and find A.M., G.M. and H.M. of given numbers. 4. Understand the concept of differentiation 5. * Attain the skills to make use of the learnt concepts of Introductory Mathematics in multidisciplinary learning contexts and to know their applications 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50(30(T)+20(P)) Internal Assessment Marks:15(10(T)+5(P)) End Term Exam Marks:35(20(T)+15(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			

<u>Instructions for Paper- Setter</u>		
Unit	Topics	Contact Hours
I	Sets and their representations, Empty set, Finite and infinite sets, Subsets, Equal sets, Power sets, Universal set, Union and intersection of sets, Difference of two sets, Complement of a set, Venn diagram, De-Morgan's laws and their applications.	4
II	An introduction to matrices and their types, Operations on matrices, Symmetric and skew-symmetric matrices, Minors, Co-factors. Determinant of a square matrix, Adjoint and inverse of a square matrix, Solutions of a system of linear equations up to order 3.	4
III	Quadratic equations, Solution of quadratic equations. Arithmetic progression, Geometric progression, Harmonic progression, Arithmetic mean (A.M.), Geometric mean (G.M.), Harmonic mean (H.M.), Relation between A.M., G.M. and H.M.	4
IV	The concept of differentiation, differentiation of simple functions, Use of differentiation for solving problems related to real-life situations. Differentiation of simple algebraic, trigonometric and exponential functions.	4
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Problem Solving- Questions related to the practical problems based on following topics will be worked out and record of those will be maintained in the Practical Note Book:</p> <ul style="list-style-type: none"> • Problems related to union, intersection, difference and complement of sets. • Problems based on De Morgan's Laws. • Problems related to Venn diagrams. • Problems to find inverse of a matrix. • Problems to find determinant of a square matrix of order 3. • Problems to find nth term of A.P., G.P. and H.P. • Problems to find sum of n terms of A.P., G.P. and H.P. • Problems to find A.M., G.M. and H.M. of given numbers. • Problems involving formulation and solution of quadratic equations in one variable. • Problems to find first derivatives of functions. 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory • Class Participation: 4		End Term Examination: A three hour exam

<ul style="list-style-type: none"> • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>for both theory and practicum.</p>
<p>PartC-Learning Resources</p>	
<p>Text /Reference Books:</p> <ul style="list-style-type: none"> • C. Y. Young (2021). <i>Algebra and Trigonometry</i>. Wiley. • S.L. Loney (2016). <i>The Elements of Coordinate Geometry (Cartesian Coordinates)</i> (2nd Edition). G.K. Publication Private Limited. • Seymour Lipschutz and Marc Lars Lipson (2013). <i>Linear Algebra</i>. (4th Edition) Schaum’s Outline Series, McGraw-Hill. • C.C. Pinter (2014). <i>A Book of Set Theory</i>. Dover Publications. • J. V. Dyke, J. Rogers and H. Adams (2011). <i>Fundamentals of Mathematics</i> (10th Edition), Brooks/Cole. • A. Tussy, R. Gustafson and D. Koenig (2010). <i>Basic Mathematics for College Students</i> (4th Edition). Brooks Cole 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	III		
Name of the Course	Java OOP Foundations		
Course Code	B23-CAP-301 (Common with B23-CAI-301, B23-CDS-301, B23-CTS-301)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Knowledge of any Computer Programming Language		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Implement simple java programs. 2. Implement multiple inheritance using Interfaces 3. Implement Exception Handling and File Handling. 4. Use AWT to design GUI applications. 5* develop the project using java.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			

Unit	Topics	Contact Hours
I	Object Oriented Programming and Java Fundamentals: Structure of Java programs, Classes and Objects, Data types, Type Casting, Looping Constructs.	10
II	Interfaces: Interface basics; Defining, implementing and extending interfaces; Implementing multiple inheritance using interfaces Packages: Basics of packages, Creating and accessing packages, System packages, Creating user defined packages	10
III	Exception handling using the main keywords of exception handling: try, catch, throw, throws and finally; Nested try, multiple catch statements, creating user defined exceptions. File Handling Byte Stream, Character Stream, File I/O Basics, File Operations	10
IV	AWT and Event Handling: The AWT class hierarchy, Events, Event sources, Event classes, Event Listeners, Relationship between Event sources and Listeners, Delegation event model, Creating GUI applications using AWT.	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • WAP to find the sum of 10 numbers, entered as command line arguments. • WAP to find the area of rectangle and circle using Interface. • WAP to implement multiple inheritance. • WAP to show the concept of packages. • WAP to handle the Exception using try and multiple catch blocks and a finally block. • WAP for Implementing Calculator in an Applet, use appropriate Layout Manager. • Write Applet code to add two integers in textbox and their sum should appear in third textbox. • Write AWT program in Java to find the sum, Multiplication and average of three numbers entered in three Text fields by clicking the corresponding Labeled Button. The result should be appearing in fourth text field. • Write Applet code to show all the activities of Mouse using Mouselistener and MouseMotionlistener. • What are various stream classes in Java? Write Java code to read character from a file and write into another file. • What are AWT Classes? Write Java Program to generate Even numbers and Odd Numbers in TextField “T1 and T2 respectively” while pressing Button “Even” and “Odd”. • Write a program to Copy the text from one file to another using byte stream. 	25
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Schildt, H. (2018). Java: The Complete Reference. 10th edition. McGraw-Hill Education. • Balaguruswamy E. (2014). Programming with JAVA: A Primer. 5th edition. India: McGraw Hill Education • Horstmann, C. S. (2017). Core Java - Vol. I – Fundamentals (Vol. 10). Pearson Education • Schildt, H., & Skrien, D. (2012). Java Fundamentals - A Comprehensive Introduction. India: McGraw Hill Education. 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	III		
Name of the Course	Linux and Shell Programming		
Course Code	B23-CAP-302 (Common with B23-CAI-302, B23-CDS-302, B23-CTS-302)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Must have basic knowledge of computer		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand Linux architecture. 2 use various Linux commands that are used to manipulate system operations. 3 acquire knowledge of Linux File System. 4 understand and make effective use of I/O and shell scripting language to solve problems. <hr style="width: 20%; margin-left: 0;"/> <p>5*. to implement the programs based on various shell commands and programs in linux.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Introduction to Linux: Linux distributions, Overview of Linux operating system, Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems.	10
II	Commands in Linux: General-Purpose commands, File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux: Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions.	10
III	Linux file system: Linux files, inodes and structure and file system, file system components, standard file system, file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time.	10
IV	Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux.	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • Basic Linux command • Basic Shell Programming (Fibonacci Series generation, Factorial of a given number, Checking for Armstrong number) • Designing an Arithmetic calculator • Generation of Multiplication table • Base Conversion (Decimal to Binary, Binary to Decimal) • Finding the information about the Login name and File name. • Write a shell script to exchange the contents of two variables. • Write a shell script, which accepts three subject marks scored by a student and declare the result. • Write a shell script program to find area of a square, rectangle, circle and triangle. • Write a shell script to print integer numbers from 1 to 20. 	25
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p>		<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>

<ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Yashwant Kanetkar, Unix & Shell programming – BPB Publications. • Richard Petersen, The Complete Reference – Linux, McGraw-Hill. • M.G.Venkateshmurthy, Introduction to Unix & Shell Programming, Pearson Education. • Stephen Prata, Advanced UNIX-A Programmer’s Guide, SAMS Publication. • Sumitabha Das, Your Unix - The Ultimate Guide, Tata McGraw-Hill. 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA		
Semester	III		
Name of the Course	Data Base Technologies		
Course Code	B23-CAP-303 (Common with B23-CAI-303, B23-CDS-303, B23-CTS-303)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of computer		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the concepts of problem solving on computer 2. understand the basics of C programming along with various I/O functions 3. understand various operators and branching statements in C 4. understand loops, functions and arrays in C <hr style="width: 20%; margin-left: 0;"/> 5*. to design programs based on theoretical concepts of C.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics	Contact Hours	
I	Basic Concepts – Data, Information, Records, Files, Schema and Instance etc. Limitations of File Based Approach,	10	

	<p>Characteristics of Database Approach, Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Database Interfaces, Advantages and Disadvantages of DBMS.</p> <p>Database Users: Data and Database Administrator, Role and Responsibilities of Database Administrator, Database Designers, Application Developers etc. Database System Architecture – 1-Tier, 2-Tier & Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances, Data Independence – Logical and Physical Data Independence.</p>	
II	<p>Data Models: Hierarchical, Network and Relational Data Models.</p> <p>Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER Diagram, Symbolic Notations for Designing ER Diagram,</p>	10
III	<p>SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL.</p> <p>Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc.</p> <p>Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.</p>	10
IV	<p>Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency,</p> <p>Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.</p>	10
V*	<p>The following activities be carried out/ discussed in the lab during the period of the semester.</p> <p>Programming Lab:</p> <ul style="list-style-type: none"> • Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus. • Understanding relational model concepts • Understanding normalization • Understanding various concepts of databases. 	25
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 		<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>

<p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Elmasri & Navathe, Fundamentals of Database Systems, Pearson Education. • A Silberschatz, H Korth, S Sudarshan, Database System and Concepts, McGraw-Hill. • Thomas Connolly Carolyn Begg, Database Systems, Pearson Education. • C. J. Date, An Introduction to Database Systems, Addison Wesley. 	

*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes
**Bachelor of Computer Applications (Cloud Technologies &
Information Security)**

BCA (CTIS): SCHEME D

according to

Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: BCA (Cloud Technologies and Information Security)
According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P	
1	CC-A1	B23-CTS-101	Problem Solving through C	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-B1	B23-CTS-102	Foundations of Computer Science	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-C1	B23-CTS-103	Logical Organization of Computer	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-M1	B23-CTS-104	Mathematical Foundations for Computer Science-I	1	1	10	20	30	3	
			Practical	1	2	5	15	20	3	
		MDC1	To be taken from other department							
		SEC1	To be taken from SEC Pool							
	VAC1	To be taken from VAC Pool								
	AEC1	To be taken from AEC Pool								
2	CC-A2	B23-CTS-201	Object Oriented Programming using C++	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	

CC-B2	B23-CTS-202	Introduction to Web Technologies	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-C2	B23-CTS-203	Concepts of Operating Systems	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-M2	B23-CTS-204	Mathematical Foundations for Computer Science-II	1	1	10	20	30	3	
		Practical	1	2	5	15	20	3	
MDC-2	To be taken from other department								
SEC-2	To be taken from SEC Pool								
VAC-2	To be taken from VAC Pool								
AEC-2	To be taken from AEC Pool								
3	CC-A3	B23-CTS-301	Java OOP Foundations	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
CC-B3	B23-CTS-302	Linux and Shell programming	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-C3	B23-CTS-303	Data Base Technologies	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-M3	B23-CTS-304	Quantitative Foundations of Computer Science	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
MDC-3	To be taken from other department								

	SEC-3	To be taken from SEC Pool							
	AEC-3	To be taken from AEC Pool							
4	CC-A4	B23-CTS-401	Data Structures and Applications	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B4	B23-CTS-402	Front-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C4	B23-CTS-403	Computer Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	AEC-4	To be taken from AEC Pool							
	VAC-3	To be taken from VAC Pool							
	CC-M4(V)	B23-CTS-404	Introduction to Information Security	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
5	CC-A5	B23-CTS-501	Software Engineering	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B5	B23-CTS-502	Back-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C5	B23-CTS-503	Network Infrastructure and Data Communication Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M5(V)	B23-CTS-504	Introduction to Cloud Computing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

	SEC-4	Internship @ 4 Credits								
6	CC-A6	B23-CTS-601	Programming using Python	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-B6	B23-CTS-602	Advanced Web Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-C6	B23-CTS-603	Artificial Intelligence	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-M6	B23-CTS-604	Storage Management and Data Centers	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-M7(V)	B23-CTS-605	Principles of Virtualization	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	7	CC-H1	B23-CTS-701	Cryptography and Network Security	4	4	30	70	100	3
		CC-H2	B23-CTS-702	Cloud Migration	4	4	30	70	100	3
CC-H3		B23-CTS-703	Cyber Forensics and Investigations	4	4	30	70	100	3	
DSE-H1		B23-CTS-704	Cloud Applications and Web Security	4	4	30	70	100	3	
			Or							
			B23-CTS-705	Cloud Web Services	4	4	30	70	100	3
PC-H1		B23-CTS-706	Practical	4	8	30	70	100	6	
CC-HM1	B23-CTS-707	Internet of Things	4	4	30	70	100	3		
8	CC-H4	B23-CTS-801	Containerization using Docker	4	4	30	70	100	3	
	CC-H5	B23-CTS-802	Cloud Administrator	4	4	30	70	100	3	
	CC-H6	B23-CTS-803	Infrastructure Solutions on Cloud	4	4	30	70	100	3	

DSE-H2	B23-CTS-804	Security Threats and Trends	4	4	30	70	100	3
	Or							
	B23-CTS-805	Ethical Hacking	4	4	30	70	100	3
PC-H2	B23-CTS-806	Practical	4	8	30	70	100	6
CC-HM2	B23-CTS-807	IoT Security	4	4	30	70	100	3
OR								
CC-H4	B23-CTS-801	Containerization using Dockers	4	4	30	70	100	3
CC-H5	B23-CTS-802	Cloud Administrator	4	4	30	70	100	3
CC-HM2	B23-CTS-807	IoT Security	4	4	30	70	100	3
Research	B23-CTS-808	Project/ Dissertation	12				300	

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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st Semester) for Under-Graduate Programmes
Bachelor of Computer Applications
(Cloud Technologies & Information Security)
BCA (CTIS)
according to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA (Cloud Technologies and Information Security)		
Semester	I		
Name of the Course	Problem Solving through C		
Course Code	B23-CTS-101 (Common with B23-CAP-101, B23-CAI-101, B23-CSD-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. learn the basics of C program, data types and input/output statements. 2. understand different types of operators, their hierarchies and also control statements of C. 3. implement programs using arrays and strings. 4. get familiar with advanced concepts like structures, union etc. in C language. <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on various concepts of C.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First</p>			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	<p>Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant.</p> <p>Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().</p>	10
II	<p>Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.</p>	10
III	<p>Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation.</p> <p>Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions.</p> <p>Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring.</p>	10
IV	<p>Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays.</p> <p>User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; difference between Structure and Union.</p>	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • To read radius of a circle and to find area and circumference • To read three numbers and find the biggest of three • To check whether the number is prime or not • To read a number, find the sum of the digits, reverse the number and check it for palindrome • To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • To read percentage of marks and to display appropriate message (Demonstration of else-if ladder) • To find the roots of quadratic equation • To read marks scored by n students and find the average of 	25

	<p>marks (Demonstration of single dimensional array)</p> <ul style="list-style-type: none"> • To remove Duplicate Element in a single dimensional Array • To perform addition and subtraction of Matrices • To find factorial of a number • To generate Fibonacci series • To remove Duplicate Element in a single dimensional Array • To find the length of a string without using built in function • To demonstrate string functions • To read, display and add two m x n matrices using functions • To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters • To Swap Two Numbers using Pointers • To demonstrate student structure to read & display records of n students • To demonstrate the difference between structure & union. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley. • Yashwant Kanetker, Let us C, BPB. • Rajaraman, V., Computer Programming in C, PHI. • Yashwant Kanetker, Working with C, BPB. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA (Cloud Technologies and Information Security)		
Semester	I		
Name of the Course	Foundations of Computer Science		
Course Code	B23-CTS-102 (Common with B23-CAP-102, B23-CAI-102, B23-CSD-102)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of computer 2. learn about I/O devices and operating systems 3. understand internet and its services 4. learn about the threats and security concepts on computers <hr style="width: 50%; margin-left: 0;"/> <p>5*. to understand the working of operating system, internet and security related concepts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of</p>			

three-hour duration.		
Unit	Topics	Contact Hours
I	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software. Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.	10
II	I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter. Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	10
III	The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	10
IV	Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking. Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Operating System: <ul style="list-style-type: none"> Starting with basics of Operating Systems and its functionalities Computer Basics: <ul style="list-style-type: none"> Identify the various computer hardware Understanding the working of computer Understanding various types of software 	25

	<p>Internet and E-mail:</p> <ul style="list-style-type: none"> • Using Internet for various tasks • Creating and using e-mail. <p>Security:</p> <ul style="list-style-type: none"> • Understanding various threats • How to be safe from virus threats • Various software to get safe from virus attacks. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB. • Dromey, R.G., How to Solve it By Computer, PHI. • Norton, Peter, Introduction to Computer, McGraw-Hill. • Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World. • Rajaraman, V., Fundamentals of Computers, PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA (Cloud Technologies and Information Security)		
Semester	I		
Name of the Course	Logical Organization of Computer		
Course Code	B23-CTS-103 (Common with B23-CAP-103, B23-CAI-103, B23-CSD-103)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of Mathematics (10 th Level)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand number systems, error detecting correcting code and representations of numbers in a computer system. 2. understand computer arithmetic and Boolean algebra and simplification of Boolean expressions. 3. understand working of logic gates and design various combinational circuits using these logic gates. 4. understand working of different types of flip-flops and design different types of registers. <hr/> <p>5*. to understand the practical aspects of logical organization of computer.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question			

will comprise of short answer type questions covering entire syllabus.
 Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.
 Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another, BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations.	10
II	Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Complement representations, Addition and subtraction with BCD representations. Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates & Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions.	10
III	Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions. Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters.	10
IV	Sequential Circuits: Basic Flip-Flops and their working. Synchronous and Asynchronous Flip-Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Number System: <ul style="list-style-type: none"> • Problems based on Number System and their conversion. • Programs based on Number System conversion. Binary Arithmetic <ul style="list-style-type: none"> • Problems based on Binary Arithmetic. 	25

	<ul style="list-style-type: none"> • Programs based on Binary Arithmetic. • Problems based on Boolean Expression and their simplification <p>Logic Gates</p> <ul style="list-style-type: none"> • Understanding working of logic Gates. <p>Combinatorial Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various combinational circuits. <p>Sequential Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various sequential circuits. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd. • V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall. • Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd. • Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	BCA (Cloud Technologies and Information Security)		
Semester	I		
Name of the Course	Mathematical Foundations for Computer Science-I		
Course Code	B23-CTS-104 (Common with B23-CAP-104, B23-CAI-104, B23-CSD-104)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. Gain the knowledge of set theory, types of sets and operations on sets. Understand various concepts of matrices and determinants, and acquire the cognitive skills to apply different operations on matrices and determinants. 2. Have the knowledge of the basic concepts of complex numbers and acquire skills to solve linear quadratic equations. 3. Gain the knowledge of the concepts of Arithmetic progression, Geometric progression and Harmonic progression, and find A.M., G.M. and H.M. of given numbers. 4. Understand the concept of differentiation 5. * Attain the skills to make use of the learnt concepts of Introductory Mathematics in multidisciplinary learning contexts and to know their applications 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50(30(T)+20(P)) Internal Assessment Marks:15(10(T)+5(P)) End Term Exam Marks:35(20(T)+15(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
PartB-Contentsofthe Course			

<u>Instructions for Paper- Setter</u>		
Unit	Topics	Contact Hours
I	Sets and their representations, Empty set, Finite and infinite sets, Subsets, Equal sets, Power sets, Universal set, Union and intersection of sets, Difference of two sets, Complement of a set, Venn diagram, De-Morgan's laws and their applications.	4
II	An introduction to matrices and their types, Operations on matrices, Symmetric and skew-symmetric matrices, Minors, Co-factors. Determinant of a square matrix, Adjoint and inverse of a square matrix, Solutions of a system of linear equations up to order 3.	4
III	Quadratic equations, Solution of quadratic equations. Arithmetic progression, Geometric progression, Harmonic progression, Arithmetic mean (A.M.), Geometric mean (G.M.), Harmonic mean (H.M.), Relation between A.M., G.M. and H.M.	4
IV	The concept of differentiation, differentiation of simple functions, Use of differentiation for solving problems related to real-life situations. Differentiation of simple algebraic, trigonometric and exponential functions.	4
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Problem Solving- Questions related to the practical problems based on following topics will be worked out and record of those will be maintained in the Practical Note Book:</p> <ul style="list-style-type: none"> • Problems related to union, intersection, difference and complement of sets. • Problems based on De Morgan's Laws. • Problems related to Venn diagrams. • Problems to find inverse of a matrix. • Problems to find determinant of a square matrix of order 3. • Problems to find nth term of A.P., G.P. and H.P. • Problems to find sum of n terms of A.P., G.P. and H.P. • Problems to find A.M., G.M. and H.M. of given numbers. • Problems involving formulation and solution of quadratic equations in one variable. • Problems to find first derivatives of functions. 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory • Class Participation: 4		End Term Examination: A three hour exam

<ul style="list-style-type: none"> • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>for both theory and practicum.</p>
<p>PartC-Learning Resources</p>	
<p>Text /Reference Books:</p> <ul style="list-style-type: none"> • C. Y. Young (2021). <i>Algebra and Trigonometry</i>. Wiley. • S.L. Loney (2016). <i>The Elements of Coordinate Geometry (Cartesian Coordinates)</i> (2nd Edition). G.K. Publication Private Limited. • Seymour Lipschutz and Marc Lars Lipson (2013). <i>Linear Algebra</i>. (4th Edition) Schaum’s Outline Series, McGraw-Hill. • C.C. Pinter (2014). <i>A Book of Set Theory</i>. Dover Publications. • J. V. Dyke, J. Rogers and H. Adams (2011). <i>Fundamentals of Mathematics</i> (10th Edition), Brooks/Cole. • A.Tussy, R. Gustafson and D. Koenig (2010). <i>Basic Mathematics for College Students</i> (4th Edition). Brooks Cole 	

*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
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॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes

Subject: Computer Science

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: Computer Science
According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P	
1	CC-1 MCC-1	B23- CSE- 101	Problem Solving through C	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-2	B23- CSE- 102	Computer Fundamentals	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-M1	B23- CSE- 103	Basics of Computer Science	1	1	10	20	30	3	
			Practical	1	2	5	15	20	3	
	MDC 1	B23- CSE- 104	Fundamentals of Computer Science	2	2	15	35	75	3	
			Practical	1	2	5	20	25	3	
	2	CC-2 MCC-3	B23- CSE- 201	Web Development	3	3	20	50	70	3
				Practical	1	2	10	20	30	3
DSEC-1		B23- CSE- 202	Programming with C++	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
CC-M2		B23- CSE- 203	Programming Methodologies	1	1	10	20	30	3	
			Practical	1	2	5	15	20	3	
MDC 2		B23- CSE- 204	Web Technologies Fundamentals	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
3		CC-3 MCC-4	B23- CSE- 301	Operating Systems	3	3	20	50	70	3
				Practical	1	2	10	20	30	3
	MCC-5	B23- CSE- 302	Quantitative Foundations of Computer Science	3	3	20	50	70	3	

			Practical	1	2	10	20	30	3	
	MDC 3	B23-CSE-303	Programming with C	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
4	CC-4 MCC-6	B23-CSE-401	Data Management with DBMS	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-7	B23-CSE-402	Introduction to Computer System Design and Organization	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-8	B23-CSE-403	Object-Oriented Programming with Java	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-1	B23-CSE-404	Front-end Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CSE-405	Linux and Shell Programming	3	3	20	50	70	3	
Practical	1		2	10	20	30	3			
5	CC-5 MCC-9	B23-CSE-501	Data Structures	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-10	B23-CSE-502	Software Engineering	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-2	B23-CSE-503	Foundations of Server-Side Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CSE-504	Cloud Computing	3	3	20	50	70	3	
	Practical		1	2	10	20	30	3		
	DSE-3	B23-CSE-	Programming in Python	3	3	20	50	70	3	

6		505	Practical	1	2	10	20	30	3	
		Or								
		B23-CSE-506	Programming in R	3	3	20	50	70	3	
	Practical		1	2	10	20	30	3		
	CC-6 MCC-11	B23-CSE-601	Computer Networks	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-12	B23-CSE-602	Essentials of Computer Architecture and Design	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-4	B23-CSE-603	Developing Modern Web Applications using React	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CSE-604	Data Storage Technologies and Networks using AWS	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-5	B23-CSE-605	Data Analytics using Python	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
B23-CSE-606		Data Analytics using R	3	3	20	50	70	3		
		Practical	1	2	10	20	30	3		
7	CC-H1	B23-CSE-701	Principles & Paradigms of Programming Languages	4	4	30	70	100	3	
	CC-H2	B23-CSE-702	Software Testing	4	4	30	70	100	3	

	CC-H3	B23-CSE-703	Data Mining and Warehousing	4	4	30	70	100	3	
	DSE-6	B23-CSE-704	NoSQL Databases	4	4	30	70	100	3	
		Or								
		B23-CSE-705	Artificial Intelligence	4	4	30	70	100	3	
	PC-H1	B23-CSE-706	Practical	4	8	30	70	100	6	
8	CC-H4	B23-CSE-801	Emerging Trends in Information Security	4	4	30	70	100	3	
	CC-H5	B23-CSE-802	Principles of Design and Analysis of algorithms	4	4	30	70	100	3	
	CC-H6	B23-CSE-803	Software Project Management	4	4	30	70	100	3	
	DSE-7	B23-CSE-804	Big Data	4	4	30	70	100	3	
		Or								
		B23-CSE-805	Machine Learning	4	4	30	70	100	3	
		PC-H2	B23-CSE-806	Practical (Advanced Web Frameworks)	4	8	30	70	100	6
		OR								
		CC-H4	B23-CSE-801	Emerging Trends in Information Security	4	4	30	70	100	3
		CC-H5	B23-CSE-802	Principles of Design and Analysis of algorithms	4	4	30	70	100	3
	Research	B23-CSE-807	Project/ Dissertation	12				300		

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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st & 3rd Semester) for Under-Graduate Programmes

Subject: Computer Science

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Problem Solving through C		
Course Code	B23-CSE-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. learn the basics of C program, data types and input/output statements. 2. understand different types of operators, their hierarchies and also control statements of C. 3. implement programs using arrays and strings. 4. get familiar with advanced concepts like structures, union etc. in C language. <hr/> <p>5*. to implement the programs based on various concepts of C.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.		
Unit	Topics	Contact Hours
I	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	10
II	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.	10
III	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring.	10
IV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays. User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; difference between Structure and Union.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • To read radius of a circle and to find area and circumference • To read three numbers and find the biggest of three • To check whether the number is prime or not • To read a number, find the sum of the digits, reverse the number and check it for palindrome • To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • To read percentage of marks and to display appropriate message (Demonstration of else-if ladder) • To find the roots of quadratic equation • To read marks scored by n students and find the average of marks (Demonstration of single dimensional array) 	25

	<ul style="list-style-type: none"> • To remove Duplicate Element in a single dimensional Array • To perform addition and subtraction of Matrices • To find factorial of a number • To generate Fibonacci series • To remove Duplicate Element in a single dimensional Array • To find the length of a string without using built in function • To demonstrate string functions • To read, display and add two m x n matrices using functions • To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters • To Swap Two Numbers using Pointers • To demonstrate student structure to read & display records of n students • To demonstrate the difference between structure & union. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley. • Yashwant Kanetker, Let us C, BPB. • Rajaraman, V., Computer Programming in C, PHI. • Yashwant Kanetker, Working with C, BPB. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Computer Fundamentals		
Course Code	B23-CSE-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	MCC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of computer 2. learn about I/O devices and operating systems 3. understand internet and its services 4. learn about the threats and security concepts on computers <hr/> <p>5*. to understand the working of operating system, internet and security related concepts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.</p>			

Unit	Topics	Contact Hours
I	<p>Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software.</p> <p>Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.</p>	10
II	<p>I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.</p> <p>Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.</p>	10
III	<p>The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet.</p> <p>Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.</p>	10
IV	<p>Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking.</p> <p>Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.</p>	10
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <p>Operating System:</p> <ul style="list-style-type: none"> • Starting with basics of Operating Systems and its functionalities <p>Computer Basics:</p> <ul style="list-style-type: none"> • Identify the various computer hardware • Understanding the working of computer • Understanding various types of software <p>Internet and E-mail:</p> <ul style="list-style-type: none"> • Using Internet for various tasks 	25

	<ul style="list-style-type: none"> • Creating and using e-mail. <p>Security:</p> <ul style="list-style-type: none"> • Understanding various threats • How to be safe from virus threats • Various software to get safe from virus attacks. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB. • Dromey, R.G., How to Solve it By Computer, PHI. • Norton, Peter, Introduction to Computer, McGraw-Hill. • Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World. • Rajaraman, V., Fundamentals of Computers, PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
PartA - Introduction			
Subject	COMPUTER SCIENCE/ COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Basics of Computer Science		
Course Code	B23-CSE-103 (Common with B23-CAC-103)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. To introduce to the students, the basic understanding of the working of a computer system. 2. To familiarize the students with the concept of algorithms and flowchart. 3. To familiarize the students with the various types of software. 4. To make the students familiar with the basic internet technology and concepts. 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50(30(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:15(10(T)+5(P))			
End Term Exam Marks:35(20(T)+15(P))			
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics		Contact Hours
I	Introduction to Computers: Definition of Computers, History and Generations of Computers, Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit.		4

II	Software: Definition of Software, Types of Software-System software, Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler.	4
III	Introduction to Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar, Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming.	4
IV	Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	4
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • Dismantling the system unit, recognize all major components inside a PC, describe function of each component and define the relationship of internal components • Explore and describe some system utility like regedit, memory partitioning, control panel, window tools. • Understanding control panel • Date and Time setting. • Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming. 	25
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: A three hour exam for both theory and practicum.
PartC-Learning Resources		
Text /Reference Books: <ul style="list-style-type: none"> • Fundamentals of Computers, V. Rajaraman 6th edition PHI Learning Private Limited 2014 		

- Peter Norton: Computing Fundamentals. 6th Edition, McGraw Hill-Osborne,2007
- Alexis Leon and Marthews Leon: Introduction to Computers, Leon Vikas,1999.
- Internet Basics. E.DouglasCommer PHI.

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE/ COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Fundamentals of Computer Science		
Course Code	B23-CSE-104 (Common with B23-CAC-104)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	MDC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basic concepts of operating systems 2. do the basic editing and formatting in a document 3. create basic spread-sheets for different purposes 4. create basic presentations for different applications <hr/> <p>5*. to understand the working of operating system and various office tools practically.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:20(15(T)+5(P))			
End Term Exam Marks: 55(35(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.</p>			
Unit	Topics		Contact

		Hours
I	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	7
II	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	7
III	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	5
IV	The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	6
V*	Operating System: <ul style="list-style-type: none"> • Starting with basics of Operating Systems and its functionalities Computer Basics: <ul style="list-style-type: none"> • Identify the various computer hardware • Understanding the working of computer • Understanding various types of software Internet and E-mail: <ul style="list-style-type: none"> • Using Internet for various tasks • Creating and using e-mail. 	25
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 		End Term Examination: A three hour exam for both theory and practicum.

• Mid-Term Exam: NA	
Part C-Learning Resources	
Recommended Books/e-resources/LMS: <ul style="list-style-type: none">• Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB.• Dromey, R.G., How to Solve it By Computer, PHI.• Norton, Peter, Introduction to Computer, McGraw-Hill.• Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World.• Rajaraman, V., Fundamentals of Computers, PHI.	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Operating Systems		
Course Code	B23-CSE-301 (Common with B23-CAC-102)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of Computer		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basic concepts of operating systems and its services along with process management. 2. understand concept of process scheduling and acquire knowledge of process synchronization. 3. learn about memory management and virtual memory concepts. 4. learn to work with directory structure and security aspects. <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on operating systems.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.		
Unit	Topics	Contact Hours
I	<p>Introductory Concepts: Operating System, Functions and Characteristics, Historical Evolution of Operating Systems, Operating System Structure.</p> <p>Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing.</p> <p>Operating System Services, Operating System Interface, Service System Calls, System Programs.</p> <p>Process Management: Process Concepts, Operations on Processes, Process States and Process Control Block. Inter-Process Communication.</p>	10
II	<p>CPU Scheduling: Scheduling Criteria, Levels of Scheduling, Scheduling Algorithms, Multiple Processor Scheduling, Algorithm Evaluation.</p> <p>Synchronization: Critical Section Problem, Semaphores, Classical Problem of Synchronization, Monitors.</p> <p>Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery.</p>	10
III	<p>Memory Management Strategies: Memory Management of Single-User and Multiuser Operating System, Partitioning, Swapping, Contiguous Memory Allocation, Paging and Segmentation;</p> <p>Virtual Memory Management: Demand Paging, Page Replacement Algorithms, Thrashing.</p>	10
IV	<p>Implementing File System: File System Structure, File System Implantation, file operations, Type of Files, Directory Implementation, Allocation Methods, and Free Space Management.</p> <p>Disk Scheduling algorithm- SSTF, Scan, C- Scan, Look, C-Look.</p> <p>SSD Management.</p>	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • Working with various operating systems, and performing different operations using operating system. • Write a program to print file details including owner access permissions, file access time, where file name is given as argument. • Write a program to copy files using system calls. • Write a program to implement FCFS scheduling algorithm. • Write a program to implement Round Robin scheduling algorithm. • Write a program to implement SJF scheduling algorithm. • Write a program to implement non-preemptive priority based scheduling algorithm. 	25

	<ul style="list-style-type: none"> • Write a program to implement preemptive priority based scheduling algorithm. • Write a program to implement SRJF scheduling algorithm. • Write a program to calculate sum of n numbers using thread library. • Write a program to implement first-fit, best-fit and worst-fit allocation strategies. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Silberschatz A., Galvin P.B., and Gagne G., Operating System Concepts, John Wiley & Sons. • Godbole, A.S., Operating Systems, Tata McGraw-Hill Publishing Company, New Delhi. • Deitel, H.M., Operating Systems, Addison- Wesley Publishing Company, New York. • Tanenbaum, A.S., Operating System- Design and Implementation, Prentice Hall of India, New Delhi. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Quantitative Foundation of Computer Science		
Course Code	B23-CSE-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Must have studied mathematics at 10+2 level		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define mathematical structures (relations, functions, sets) and use them to model real life situations 2. Solve puzzles based on counting principles. 3. Organize, manage, present and Analyze Statistical data using measures of central tendency 4. Analyze Statistical data using measures of dispersion and Study the relationship between variables using techniques of correlation <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on various mathematical and statistical function.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.		
Unit	Topics	Contact Hours
I	Sets, relations and functions: Operations on sets, relations and functions, binary relations, partial ordering relations, equivalence relations, principles of mathematical induction.	10
II	Introduction to counting: Basic counting techniques - inclusion and exclusion, pigeon-hole principle, permutation, combination, summations. Introduction to recurrence relation and generating function.	10
III	Data Types and Data Presentation: Data types: Attribute, Variable, Discrete and Continuous variable, Univariate and Bivariate distribution. Types of Characteristics, Different types of scales: nominal, ordinal, interval and ratio. Data presentation: Frequency distribution, Histogram, Ogive curves. Measures of Central tendency: Concept of average/central tendency, characteristics of good measure of central tendency. Arithmetic Mean (A.M.), Median, Mode - Definition, examples for ungrouped and grouped data, effect of shift of origin and change of scale, merits and demerits. Combined arithmetic mean. Partition Values: Quartiles, Deciles and Percentiles - examples for ungrouped and grouped data	10
IV	Measures of dispersion: Concept of dispersion, Absolute and Relative measure of dispersion, characteristics of good measure of dispersion. Range, Semi-interquartile range, Quartile deviation, Standard deviation - Definition, examples for ungrouped and grouped data, effect of shift of origin and change of scale, merits and demerits. Combined standard deviation, Variance. Coefficient of range, Coefficient of quartile deviation and Coefficient of variation (C.V.) Correlation: Concept of correlation, Types and interpretation, Measure of Correlation: Scatter diagram and interpretation; Karl Pearson's coefficient of correlation (r): Definition, examples for ungrouped and grouped data, effect of shift of origin and change of scale, properties; Spearman's rank correlation coefficient: Definition, examples of with and without repetition. Concept of Multiple correlation.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Functions: <ul style="list-style-type: none"> • Identify if the given mapping is a function • Finding domain and range of a given function • Check if the given function is injective/surjective/bijective • Find the inverse of a given function • Operations on functions • Graphs of functions using any online tool Sets:	25

	<ul style="list-style-type: none"> • Performing various set operations <p>Relations:</p> <ul style="list-style-type: none"> • Representation of relations • Determine if the given relation satisfies equivalence relation/partial order relation • Draw Hasse diagrams • Find maximal, minimal, greatest, least element in a poset • Determine if a given poset is a lattice <p>Counting Principles:</p> <ul style="list-style-type: none"> • Sum and product rule • Pigeonhole Principle • Inclusion Exclusion Principle <p>Permutations and Combinations:</p> <ul style="list-style-type: none"> • Permutations • Permutations with repetitions • Combinations • Combinations with repetitions <p>Frequency distribution and data presentation</p> <ul style="list-style-type: none"> • Frequency Distribution (Univariate data/ Bivariate data) • Diagrams • Graphs <p>Measures of Central Tendency</p> <ul style="list-style-type: none"> • Arithmetic Mean • Median • Mode • Partition Values <p>Measures dispersion</p> <ul style="list-style-type: none"> • Range and Coefficient of range • Quartile deviation and Coefficient of quartile deviation • Standard deviation, Variance and Coefficient of variation (C.V.) <p>Correlation</p> <ul style="list-style-type: none"> • Karl Pearson's correlation coefficient • Spearman's Rank correlation 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Kenneth H. Rosen, Discrete Mathematics and its Applications, Tata McGraw-Hill. 		

- C. L. Liu, Elements of Discrete Mathematics, Tata McGraw-Hill.
- Norman L. Biggs, Discrete Mathematics, Oxford University Press.
- Kenneth Bogart, Clifford Stein and Robert L. Drysdale, Discrete Mathematics for Computer Science, Key College Publishing.
- Thomas Koshy, Discrete Mathematics with Applications, Elsevier.
- Ralph P. Grimaldi, Discrete and Combinatorial Mathematics, Pearson Education, Asia.
- Goon, A. M., Gupta, M. K. and Dasgupta, B. (1983). Fundamentals of Statistics, Vol. 1, Sixth Revised Edition, The World Press Pvt. Ltd., Calcutta.
- Gupta, S.C. and Kapoor, V.K. (1987): Fundamentals of Mathematical Statistics, S. Chand and Sons, New Delhi
- Sarma, K. V. S. (2001). Statistics Made it Simple: Do it yourself on PC. Prentce Hall of India, NewDelhi.
- Agarwal, B. L. (2003). Programmed Statistics, Second Edition, New Age International Publishers, NewDelhi.
- Purohit, S. G., Gore S. D., Deshmukh S. R. (2008). Statistics Using R, Narosa Publishing House, NewDelhi.
- Schaum's Outline Of Theory And Problems Of Beginning Statistics, Larry J. Stephens, Schaum's Outline Series McGraw-Hill

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE/ COMPUTER APPLICATIONS		
Semester	III		
Name of the Course	Programming with C		
Course Code	B23-CSE-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	MDC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the concepts of problem solving on computer 2. understand the basics of C programming along with various I/O functions 3. understand various operators and branching statements in C 4. understand loops, functions and arrays in C <hr style="width: 20%; margin-left: 0;"/> <p>5*. to design programs based on theoretical concepts of C.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:20(15(T)+5(P))			
End Term Exam Marks: 55(35(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics		Contact Hours
I	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant.		6

	Input/output: Unformatted & Formatted I/O Function, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	
II	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy & Associativity. Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion.	6
III	Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement Looping: for, while, and do-while loop, jumps in loops.	6
IV	Functions: definition, prototype, function call, passing arguments to a function: call by value, call by reference, recursive functions. Arrays: Definition, types, Initialization, multidimensional arrays, Processing on Arrays.	6
V*	The following activities be carried out/ discussed in the lab during the initial period of the semester. Programming Lab: <ul style="list-style-type: none"> • Write a C Program to read radius and find area and volume of a sphere • Write a C Program to read three numbers and find the biggest of three • Write a C Program to demonstrate library functions in math.h (at least 5) • Write a C Program to read a number, find the sum of the digits, reverse the number and check it for palindrome • Write a C Program to read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • Write a C Program to read percentage of marks and to display appropriate grade (using switch case) • Write a C Program to find the roots of quadratic equation (if else ladder) • Write a C program to read marks scored in 3 subjects by n students and find the average of marks and result (Demonstration of single dimensional array) • Write a C Program to remove Duplicate Element in a single dimensional Array • Program to perform addition and subtraction of Matrices • Write a C Program to generate n prime number by defining isprime () function • Write a C Program to find the trace of a square matrix using function • Write a C Program to read, display and multiply two matrices using functions 	25

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley. • Yashwant Kanetker, Let us C, BPB. • Rajaraman, V., Computer Programming in C, PHI. • Yashwant Kanetker, Working with C, BPB 	

*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
(‘A+’ Grade, NAAC Accredited)

॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes
Skill Enhancement Courses (SEC)
Offered by Department of Computer Science & Applications
According to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit
System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted from 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate Programmes
Skill Enhancement Courses (Computer Science)

According to Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P	
I	SEC	B23-SEC-101	Office and Spreadsheet Tools Learning	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-102	Advance Spreadsheet Tools	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-103	Basic IT Tools	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-104	Essentials of Python	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-105	Introductory Course in R	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-106	Computer Programming in C	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	II	SEC	B23-SEC-201	Cloud Computing Skills	2	2	15	35	50	3
				Practical	1	2	5	20	25	3
III	SEC	B23-SEC-301	Advance IT Skills	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
	SEC	B23-SEC-302	Data Management	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	

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॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination for Under-Graduate Programmes
SKILL ENHANCEMENT COURSES (SEC)
according to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit
System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Office and spreadsheet Tools Learning		
Course Code	B23-SEC-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the basic concepts of operating systems 2. do the basic editing and formatting in a document 3. create basic spread-sheets for different purposes 4. create basic presentations for different applications <hr style="width: 50%; margin: 10px auto;"/> 5*. to understand the working of operating system and various office tools practically.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks: 55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			

Unit	Topics	Contact Hours
I	Operating System - Definition, Functions, Types of Operating System, Basics of Popular Operating Systems, The User Interface, Exploring Computer, Icons, taskbar, desktop, Using Menu and Menu-selection, managing files and folders, Control panel – display properties, add/remove software and hardware, Common utilities.	4
II	Word Processing - Introduction to Word Processing, Menus, Creating, Editing & Formatting Document, Spell Checking, Printing, Views, Tables, Word Art, Mail Merge, Macros, Inserting hyperlinks, Searching for text, Modifying page setup, Applying document themes, Applying document style sets, Inserting headers and footers.	7
III	Spread Sheet: Elements of Electronics Spread Sheet, Applications, Creating and Opening of Spread Sheet, Menus, Manipulation of cells: Enter texts numbers and dates, Cell Height and Widths, Copying of cells, Mathematical, Statistical and Financial function, Drawing different types of charts, Sort and Filter Data.	7
IV	Presentation Software: Creating, Modifying and enhancing a presentation, Type of presentation views, Using sound, Animation, Working with Objects, Printing.	7
V*	Practicum: Operating System: <ul style="list-style-type: none"> • Starting with basics of Operating Systems and its functionalities Word Processing: <ul style="list-style-type: none"> • Create and format word documents. • Use tables, word Art and other features in your documents. • Use macros to simplify the tasks in a document. • Use mail merge to write once for many. Spread Sheet: <ul style="list-style-type: none"> • Use spreadsheet for basic data handling • Apply formulas to sheet for automation. • Use Charts & Shapes for better visualization of the data. • Use sorting and filtering of the data Presentation Software: <ul style="list-style-type: none"> • Prepare and format presentations. • Apply slide transitions, animations and sequencing for slides. • Apply different formatting and insert options to make presentation better. • Applying sound and animation. 	25
Suggested Evaluation Methods		
	Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 	End Term Examination: A three hour exam for both theory and

<p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.: 3 • Mid-Term Exam: NA 	<p>practicum.</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Help files from Apache Open Office, https://wiki.openoffice.org/wiki/Documentation • Channelle Andy, “Beginning OpenOffice 3: From Novice to Professional”, aPress Publications • Beginning OpenOffice 3: From Novice to Professional, Andichannele, Apress. • Microsoft Office 2016 Step by Step: MS Office 2016 Step by Step, By Joan Lambert, Curtis Frye • Computer Fundamentals - By Pradeep K. Sinha, Priti Sinha, BPB Publications, 6th Edition • Getting Started with LibreOffice 5.0, Friends of OpenDocuments Inc., Http://friendsofopendocument.com • Documentation from LibreOffice, https://documentation.libreoffice.org/en/english-documentation/ 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Advance Spreadsheet Tools		
Course Code	B23-SEC-102		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC		
Level of the course (As per Annex- ure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. create and format spreadsheets 2. create and format tables and applying formulas in a spreadsheet 3. create charts and protect worksheets 4. create and use pivot charts and tables <hr style="width: 20%; margin-left: 0;"/> 5*. to implement various spreadsheet tools practically.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:20(15(T)+5(P))			
End Term Exam Marks:55(35(T)+20(P))			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.</p>			

Unit	Topics	Contact Hours
I	Manage Workbook Options and Settings: Create Worksheets and Workbooks, navigate in Worksheets and Workbooks, Format Worksheets and Workbooks, Customize Options and Views for Worksheets and Workbooks, Configure Worksheets and Workbooks for Distribution Apply Custom Data Formats and Layouts: Apply Custom Data Formats and Validation, Apply Advanced Conditional Formatting and Filtering, Create and Modify Custom Workbook Elements	6
II	Create Tables: Create and Manage Tables, Manage Table Styles and Options, Filter and Sort a Table Perform Operations with Formulas and Functions: Summarize Data by using Functions, Perform Conditional Operations by using Functions, Format and Modify Text by using Functions.	6
III	Create Charts and Objects: Create Charts, Format Charts, Insert and Format Objects Manage Workbook Options and Settings: Manage Workbooks, Manage Workbook Review Restrict editing	6
IV	Create Advanced Formulas: Apply Functions in Formulas, Look up data by using Functions, Apply Advanced Date and Time Functions, Perform Data Analysis and Business Intelligence, Define Named Ranges and Objects, Create Advanced Charts and Tables: Create and Manage PivotTables, Create and Manage Pivot Charts	6
V*	Practicum: Spread Sheet: <ul style="list-style-type: none"> • Use spreadsheet for basic data handling • Apply formulas to sheet for automation. • Use if-else to make certain decisions in a sheet. • Use Charts & Shapes for better visualization of data. • Use filters and data validation controls for control of data • Formatting data and spreadsheets • Creating and managing tables • Use Pivot table and charts • Use what-if analysis along with goal seek and scenarios 	25
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 > Practicum <ul style="list-style-type: none"> • Class Participation: 2 		End Term Examination: A three hour exam for both theory and practicum.

- Seminar/Demonstration/Viva-voce/Lab records etc.:3
- Mid-Term Exam: NA

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Help files from Apache Open Office, <https://wiki.openoffice.org/wiki/Documentation>
- Channelle Andy, “Beginning OpenOffice 3: From Novice to Professional”, aPress Publications
- Beginning OpenOffice 3: From Novice to Professional, Andichannele, Apress.
- Microsoft Office 2016 Step by Step: MS Office 2016 Step by Step, By Joan Lambert, Curtis Frye
- Getting Started with LibreOffice 5.0, Friends of OpenDocuments Inc., <Http://friendsofopendocument.com>
- Documentation from LibreOffice, <https://documentation.libreoffice.org/en/english-documentation/>
- Walter Holland, Microsoft Office 2013 Digital Classroom
- Wayne L. Winston, Data Analysis and Business Modeling

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Basic IT Tools		
Course Code	B23-SEC-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	SEC		
Level of the course (As per Annex- ure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Identify the basic components of computers and terminology 2. acquaint with Operating System and its applications for both desktop and mobile devices 3. Understand computer networks, and browse the internet, content search, email and collaborate with peers 4. Use e-Governance applications; and use computer to improve existing skills and learn new skills <hr style="width: 20%; margin-left: 0;"/> <p>5*. to implement various spreadsheet tools practically.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:20(15(T)+5(P))			
End Term Exam Marks:55(35(T)+20(P))			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p>			

Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.
Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software. Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps.	6
II	Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management.	6
III	Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet, Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet.	6
IV	E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.	6
V*	Practicum: <ul style="list-style-type: none"> • Identify the various parts of computer • Using computer/mobile software and hardware • Use of operating system for various tasks such as file creation, directory creation, shortcut creation, using control panel, etc. • Using Internet & various browsers. • Identify the various hardware/software required for Internet • How to create and use e-mail account • Using Facebook, WhatsApp, Instagram, LinkedIn, Telegram • Writing blogs 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory		End Term Examination: A three hour ex-

<ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	am for both theory and practicum.
PartC-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB • Dromey, R.G., How to Solve it By Computer, PHI • Norton, Peter, Introduction to Computer, McGraw-Hill • Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World • Rajaraman, V., Fundamentals of Computers, PHI • Ram, B., Computer Fundamentals, Architecture & Organization, New Age International (P) Ltd. 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Essentials of Python		
Course Code	B23-SEC-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 1. Understand the basic concepts of Python 2. Learn the syntax and semantics of Python Programming Language. 3. Illustrate the process of structuring the data using lists, tuples and dictionaries. 4. Write Python functions to facilitate code reuse and manipulate strings. 5*. Understand the basic concepts of Python Programming practically.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks:55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of			

three-hour duration.		
Unit	Topics	Contact Hours
I	<p>Keywords and Identifiers; Comments: Purpose/use of comments, Single line comment/Multiline comment; Python Variables: Declaration of Variables, Assign Values to Variables, Initialization, Reading, Variable naming restrictions, and Types of Python Variables.</p> <p>Python Data Types: Implicit Declaration of Data Types, Python Numbers (Integers, floating-point numbers, and complex numbers), Python Strings, Python Boolean data type;</p>	6
II	<p>Operators: Arithmetic, Comparison/Relational Operators, Increment Operators, Logical operators, Identity Operators, and Operators Precedence.</p> <p>Python Control Flow Statement, Decision Making: Simple If Structure, if-else structure, if elif structure, and nested If Structure;</p>	6
III	<p>Looping: Python Loop Statements. Python while loop, Python for loop, Python range(), Python Nested Loop Structures, and Inserting conditions in Loops and vice versa; Python Branching Statements – break, continue, pass.</p> <p>Python Lists: Create Python Lists, Update Python Lists, Delete Elements from Python Lists, and Built-in Functions Methods for Python Lists.</p>	6
IV	<p>Tuples: create, update, join and methods; Sets: create, add/remove items, join sets, set methods;</p> <p>Dictionary: create, access, add/remove items, dictionary methods. Manipulating</p> <p>Strings - Working with Strings, Useful String Methods</p> <p>Python Functions: defining function, arbitrary arguments, keywords arguments, default parameter values, return value and return statements; Lambda; Arrays: looping through array elements, array methods;</p>	7
V*	<p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • Write a program to compute distance between two points taking input from the user (Pythagorean Theorem). • Write a program add.py that takes 2 numbers as command line arguments and prints its sum. • Write a Program for checking whether the given number is an even number or not. • Using for loop, write a program that prints out the decimal equivalents of 1/2, 1/3, 1/4, ..1/10. • Create a list and perform the following methods (a) insert() (b) remove() (c) append() (d) len() (e) pop() (f) clear() • Create a dictionary and apply the following methods: (a) Print the dictionary items (b) access items 	25

	<p>(c) useget() (d) change values (e) use len()</p> <ul style="list-style-type: none"> • Create a tuple and perform the following methods: <ul style="list-style-type: none"> (a) Add items (b) len() (c) check for item in tuple (d) Access items • Write a python program to print a number is positive/negative using if-else. • Write a python program to find largest number among three numbers. • Write a python Program to read a number and display corresponding day using if_elif_else? • Write a program to create a menu with the following options: <ul style="list-style-type: none"> (a) TO PERFORM ADDITION (b) TO PERFORM SUBTRACTION (c) TO PERFORM MULTIPLICATION (d) TO PERFORM DIVISION • Accepts users input and perform the operation accordingly. Use functions with arguments. • Write a python program to check whether the given string is palindrome or not. • Write a python program to find factorial of a given number using functions • Write a Python function that takes two lists and returns True if they are equal otherwise false. • Demonstrate a python code to print try, except and finally block statements. • Write a Python script that prints prime numbers less than 20. • Write a python program to find factorial of a number. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015, ISBN: 978-9352134755. • Charles Dierbach, "Introduction to Computer Science Using Python", 1st Edition, WileyIndia Pvt Ltd. ISBN-13: 978-8126556014. • Wesley J Chun, "Core Python Applications Programming", 3rd Edition, Pearson Education India, 2015. ISBN-13: 978-9332555365. • Reema Thareja, "Python Programming using problem solving approach", Oxford 		

dUniversity press, 2017. ISBN-13: 978-0199480173

- Charles R. Severance, “Python for Everybody: Exploring Data Using Python 3”,1st Edition, Shroff Publishers, 2017. ISBN: 978-9352136278

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Introductory Course in R		
Course Code	B23-SEC-105		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 1. Describe the features of R Programming. 2. Use the various data structures in R. 3. Apply data frames, control statements and functions for the simulation. 4. Identify the statistical methods applied in R. <hr style="width: 50%; margin-left: 0;"/> 5*. understand the basic concepts of R Programming practically.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks:55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			

Unit	Topics	Contact Hours
I	Introducing to R, Installation of Libraries; Constants and Variables; Numbers; R Data Structures, Help functions in R. Vectors: Numeric Vectors, Scalars, Declarations Vectorized operation: Using all and any, NA and NULL values, Filtering, Vectorized if-then else, Vector Equality, Vector Element names, Arithmetic and Boolean operations, conditional and loop statement in R.	6
II	Functions and Recursions in R, Packages in R; Creating matrices, Matrix operations, Applying Functions to Matrix Rows and Columns: Adding and deleting rows and columns, Higher Dimensional arrays; Vector/Matrix Distinction; Avoiding Dimension Reduction; Characters and Strings; String vector; String operations and functions.	6
III	List: Creating lists, General list operations, accessing list components and values, applying functions to lists, recursive lists, Different R operations using a List, matrix, Array; Overview on Data Frames: Create it in scratch, Matrix-like operations in frames, Merging Data Frames, Applying functions to Data frames.	6
IV	Factors and Tables: factors and levels, Common functions used with factors, working with tables, Math and Simulations in R, reading a datafile directly into a dataframe, EDA using R, Reading different file formats. Input/Output: reading and writing files, String Manipulation. Statistical analysis: Basic Statistical function, Linear Model, R functions for statistical analysis	6
V*	Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • Perform arithmetic operations in R. • Demonstrate the process of creating a user defined function in R. • Perform logical operations in R. • Implement Loops with different examples. • Learn the basics of functions in R and implement with examples. • Implement data frames in R. Write a program to join columns and rows in a dataframe using cbind() and rbind() in R. • Implement different String Manipulation functions in R. • Implement different data structures in R (Vectors, Lists, Data Frames) • Write a program to read a csv file and analyze the data in the file in R • Create a data set and do statistical analysis on the data using R 	25

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Norman Matloff, “The Art of R Programming: A Tour of Statistical Software Design”, NoStarch Press, 2011 • Jared P. Lander, “R for Everyone: Advanced Analytics and Graphics”, Addison-Wesley Data& Analytics Series, 2013. • Mark Gardener, “Beginning R – The Statistical Programming Language”, Wiley, 2013 • Robert Knell, “Introductory R: A Beginner's Guide to Data Visualisation, Statistical Analysis and Programming in R”, Amazon Digital South Asia Services Inc, 2013. 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Computer Programming in C		
Course Code	B23-SEC-106		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basic concepts of C Programming 2. develop programming capability to design programs as well as real life applications using C language. 3. It also cover the concept of core programming like how to implement functions, arrays and how to manage data in files using different operations. 4. Understand various header Files. <hr style="width: 20%; margin-left: 0;"/> <p>5*. Understand the basic concepts of C Programming practically.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks:55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	<p>Introduction to C: Data Types: Primitive Data types, Derived Data types, User-Defined Data Types; Operators: Different Types of Operators, Precedence of Operators, Expression and Statements; Token: Variables, Constants, Literals, Identifiers, Keyword, Escape Sequence; Types of Conversion: Typecasting, Conversion.</p>	6
II	<p>Decision Control Statements: IF, IF-ELSE, Nested IF, IF- ELSE ladder, Switch-case; Iterative statements: FOR loop, WHILE loop, DO-WHILE loop; Jump Statements: Break, Continue.</p>	6
III	<p>Array: Declaration of an Array, Initialization of Array, Type of Array: Single Dimension Array, Two-Dimensional Array; Address Calculation of an Element in Array. Character Array and Strings: Reading, writing, String Handling Functions: strcat(), strcmp(), strcpy(), strlen().</p>	6
IV	<p>Functions: User-Defined Functions; Function Declaration; Types of Arguments: Actual Arguments, Formal Arguments; Function Definition; Methods to Call a Function: Call by Value, Call by Reference; Passing Arrays as Parameters. Storage classes: Automatic, Register, Static, and External Structures; Unions; Enumerations.</p>	6
V*	<p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • Given the values of the variables x, y and z, write a program to rotate their values such that x has the value of y, y has the value of z, and z has the value of x • The distance between two cities (in Km) is input through the keyboard. Write a C program to convert and print this distance in meter, feet, inches and centimeter. • If a five-digit number is input through the keyboard, write a C program to calculate the sum of its digits without using loop. • If a four-digit number is input through the keyboard, write a C program to obtain the sum of the first and last digit of this number. • Program to find largest and smallest number from four given number. • Program to find whether a year is leap or not. • Program to find out the grade of a student when the marks of 5 subjects are given. • A library charges a fine for every book returned late. For first 5 days the fine is 50 paise, for 6-10 days fine is one 	25

	<p>rupee and above 10 days fine is 5 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to access the number of days the member is late to return the book and display the fine or the appropriate message.</p> <ul style="list-style-type: none"> • Write a C program in which enter any number by the user and perform the operation of Sum of digits of entered number. • Write a C Program to convert Decimal number to Binary number. • WAP to compute the sum of the first n terms of the following series $S = 1 + 1/2 + 1/3 + 1/4 + \dots$ • Write a C program to perform the factorial of given number. • Write a C program to count the number of positive, negative and zero number in the given list of numbers. • Suppose you need to generate a result table which consists of student id, student name, marks of three subject and total marks. Write a program which takes input for ten students and displays result table. Also display student information separately who got the highest total. USE STRUCTURES. • WAP to enter an integer array of size 10 and perform following operations on it. <ul style="list-style-type: none"> a) Display the Elements. b) Calculate the Sum and Average of Array. c) Find largest element. d) Find second largest element. e) Find the Smallest element. f) Display the Array in Reverse order. g) Exit • WAP to display Fibonacci series (i)using recursion, (ii) using iteration • Write a menu driven program to perform following operations on strings: <ul style="list-style-type: none"> a. Show address of each character in string b. Concatenate two strings without using strcat function. c. Concatenate two strings using strcat function. d. Compare two strings e. Calculate length of the string (use pointers) f. Convert all lowercase characters to uppercase g. Convert all uppercase characters to lowercase h. Calculate number of vowels i. Reverse the string 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 		<p>End Term Examination:</p> <p>A three hour exam for both theory and</p>

<ul style="list-style-type: none"> • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.:3 • Mid-Term Exam: NA 	practicum.
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • YashwantKanetkar, “Let us C”, BPB Publications, 2002 • E. BalaGuruswamy, “Programming in ANSI C”, TMH, 1999. • Al Kelly and Ira Pohl, “A Book on C”, (4th Ed.), Addison Wesley, 1999. • B. Kernighan and D. Ritchie, “The ANSI C Programming Language”, PHI, 2000. • Kernighan & Ritchie, "The C Programming Language ANSI C Version", Prentice Hall Software Series • Herbert Schildt "ANSI C - Made Easy", Osborne McGraw-Hill 	

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	II		
Name of the Course	Cloud Computing Skills		
Course Code	B23-SEC-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per An- nexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Get acquainted with the term Cloud computing. 2. Understand various types of free and commercial clouds. 3. Understands various types of cloud services like SaaS, PaaS and IaaS. 4. Know how the Cloud Computing is changing software industry <hr/> 5*. to create and use Cloud.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks: 55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Basic Concepts of Cloud Computing Computer Network Basics. Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity. Cloud Service Providers in use and their Significance.	6
II	Cloud Infrastructure Cloud Pros and Cons. Cloud Delivery Models. Cloud Deployment Models.	6
III	Cloud Storage Management Concept of Virtualization and Load Balancing. Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information. Identifying the problems of scale and management in big data.	6
IV	Building Cloud Networks Designing and Implementing a Data Center-Based Cloud Installing Open Source Cloud service. Amazon Web Services (AWS). Google Cloud Platform.	6
V*	Practicum: <ul style="list-style-type: none"> • Creating & using Amazon(AWS) Account • Creating & using Google Account 	25

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.: 3 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Cloud Computing: Concepts, Technology & Architecture By Thomas Erl, Ricardo
- Cloud computing a practical approach Anthony T.Velte, Toby J.Velte Robert Elsenpeter, TATA McGraw-Hill, New Delhi– 2010
- Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online -Michael Miller-Que2008
- Moving to Cloud by Dinkar Sitaram, Geetha Manjunath, Publication: Syngress Elsevier Inc, 2014(2ndEdition)
- Cloud Computing Second Edition by Dr Kumar Saurabh, Publication Willy INDIA (2013)
- Cloud Computing Bible by Barrie Sosinsky, Publisher Willy INDAI (2014)
- Cloud computing for Dummies-Judith Hurwitz, Robin Bloor, Marcia Kaufman, Fern Halper, Wiley Publishing, Inc, 2010
- Cloud Computing(Principles and Paradigms),Edited by Rajkumar Buyya, James Broberg, Andrzej Goscinski, John Wiley & Sons, Inc. 2011

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Advance IT Skills		
Course Code	B23-SEC-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Use e-Governance applications; and use computer to improve existing skills and learn new skills 2. Using internet for Digital Financial services 3. understand the concept of Cyber security and issues and challenges associated with it 4. Develop knowledge about Future Skills <hr style="width: 20%; margin-left: 0;"/> <p>5*. to understand the various concepts in the syllabi practically.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks: 55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of</p>			

three-hour duration.		
Unit	Topics	Contact Hours
I	WWW and E-Governance - Website Address and URL, Introduction to IP, Address, ISP and Role of ISP, Internet Protocol, Modes of Connecting Internet (HotSpot, Wifi, LAN Cable, BroadBand, USB Tethering), Identifying and uses of IP/MAC/IMEI of various devices, Downloading Web Pages, Printing Web Pages Introduction to Blogs, Basics of E-commerce, Netiquettes, Overview of e-Governance Services like Railway Reservation, Passport, eHospital [ORS], Accessing e-Governance Services on Mobile	5
II	Digital Financial Tools and Applications Digital Financial Tools, Understanding OTP [One Time Password]and QR [Quick Response] Code, UPI [Unified Payment Interface], AEPS [Aadhaar Enabled Payment System], USSD[Unstructured Supplementary Service Data], Card [Credit / Debit], eWallet, PoS [Point of Sale], Internet Banking, National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS), Immediate Payment Service (IMPS), Online Bill Payment	5
III	Cyber Security: Cyber Security, Defining Cyberspace, Architecture of cyberspace, Regulation of cyberspace, Concept of cyber security, Issues and challenges of cyber security. Classification of cybercrimes, Common cybercrimes- cybercrime targeting computers and mobiles, cybercrime against women and children, financial frauds, social engineering attacks, malware and ransomware attacks, zero day and zero click attacks, Cybercriminals modus-operandi , Reporting of cybercrimes, Remedial and mitigation measures, Legal perspective of cybercrime, IT Act 2000 and its amendments, Cybercrime and offences, Organisations dealing with Cybercrime and Cyber security in India.	7
IV	Overview of Futureskills: Introduction to Internet of Things (IoT), Big Data Analytics, Cloud Computing, Virtual Reality, Artificial Intelligence, Social & Mobile, Blockchain Technology, 3D Printing/ Additive Manufacturing, Robotics Process Automation.	7
V*	Practicum: WWW and E-Governance: <ul style="list-style-type: none"> • Understanding the various devices related to Internet • Using e-governance services • Writing e-blogs. Digital Financial Tool: <ul style="list-style-type: none"> • Using digital financial tools. Cyber Security: <ul style="list-style-type: none"> • Checklist for reporting cyber-crime at Cybercrime Police Station • Checklist for reporting cybercrime online • Reporting phishing emails 	25

	<ul style="list-style-type: none"> • Demonstration of email phishing attack and preventive measures. <p>Futuristic Technology:</p> <ul style="list-style-type: none"> • Introducing various futuristic technologies. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 2 • Seminar/Demonstration/Viva-voce/Lab records etc.: 3 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Cyber Crime Impact in the New Millennium, by R. C Mishra, Auther Press. Edition 2010. • Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd. (First Edition, 2011) • Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver, Create Space Independent Publishing Platform. (Pearson, 13th November, 2001) • Electronic Commerce by Elias M. Awad, Prentice Hall of India Pvt Ltd. • Computer Fundamentals - By Pradeep K. Sinha, Priti Sinha, BPB Publications, 6th Edition 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Data Management		
Course Code	B23-SEC-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	SEC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe major components of DBMS and their functions 2. Model an application's data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model. 3. Write queries in relational algebra / SQL 4. Normalize a given database schema to avoid data anomalies and data redundancy. <hr style="width: 20%; margin-left: 0;"/> <p>5*. to implement the concepts of databases using SQL.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P)) Internal Assessment Marks:20(15(T)+5(P)) End Term Exam Marks: 55(35(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First</p>			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Database Management System – Introduction and Purpose, Database Architectures: Centralised, Client-Server, Parallel, Distributed, Web based system: Web architecture (2 tier, 3 tier, N-tier Architecture) Database Storage Structures: Introduction, Indexing, Hashing, Data Dictionary.	6
II	Data Models: Introduction to various data models, Cardinality Ratio & Relationships, Representation of entities, attributes, relationship attributes, relationship set, Generalization, aggregation, Structure of relational Database and different types of keys, Codd's rules and Relational data model	6
III	Relational Database design: Basic System Development Life Cycle, Database Design – ER to Relational, Functional dependencies, Normalization, Normal forms based on primary keys (1NF, 2NF, 3NF)	6
IV	SQL queries: SQL data definition, data types, specifying constraints, Queries for retrieval, insertion, deletion, updation, introduction to views.	6
V*	<p>Practicum: Create and use the following database schema to answer the given queries.</p> <p>EMPLOYEE Schema: Field Type NULL KEY DEFAULT Eno Char(3) NO PRI NIL Ename Varchar(50) NO NIL Job_type Varchar(50) NO NIL Manager Char(3) Yes FK NIL Hire_date Date NO NIL Dno Integer YES FK NIL Commission Decimal(10,2) YES NIL Salary Decimal(7,2) NO NIL</p> <p>DEPARTMENT Schema: Field Type NULL KEY DEFAULT Dno Integer No PRI NULL Dname Varchar(50) Yes NULL Location Varchar(50) Yes New Delhi</p> <p>Query List 1. Query to display Employee Name, Job, Hire Date, Employee Number; for each employee with the Employee Number appearing first. 2. Query to display unique Jobs from the Employee Table. 3. Query to display the Employee Name concatenated by a Job separated by a comma.</p>	25

4. Query to display all the data from the Employee Table. Separate each Column by a comma and name the said column as THE_OUTPUT.
5. Query to display the Employee Name and Salary of all the employees earning more than \$2850.
6. Query to display Employee Name and Department Number for the Employee No= 7900.
7. Query to display Employee Name and Salary for all employees whose salary is not in the range of \$1500 and \$2850.
8. Query to display Employee Name and Department No. of all the employees in Dept 10 and Dept 30 in the alphabetical order by name.
9. Query to display Name and Hire Date of every Employee who was hired in 1981.
10. Query to display Name and Job of all employees who don't have a current Manager.
11. Query to display the Name, Salary and Commission for all the employees who earn commission.
12. Sort the data in descending order of Salary and Commission.
13. Query to display Name of all the employees where the third letter of their name is 'A'.
14. Query to display Name of all employees either have two 'R's or have two 'A's in their name and are either in Dept No = 30 or their Manger's Employee No = 7788.
15. Query to display Name, Salary and Commission for all employees whose Commission amount is 14 greater than their Salary increased by 5%.
16. Query to display the Current Date.
17. Query to display Name, Hire Date and Salary Review Date which is the 1st Monday after six months of employment.
18. Query to display Name and calculate the number of months between today and the date each employee was hired.
19. Query to display the following for each employee earns < Salary> monthly but wants < 3 * Current Salary >. Label the Column as Dream Salary.
20. Query to display Name with the 1st letter capitalized and all other letter lower case and length of their name of all the employees whose name starts with 'J', 'A' and 'M'.
21. Query to display Name, Hire Date and Day of the week on which the employee started.
22. Query to display Name, Department Name and Department No for all the employees.
23. Query to display Unique Listing of all Jobs that are in Department # 30.
24. Query to display Name, Dept Name of all employees who have an 'A' in their name.
25. Query to display Name, Job, Department No. And Department Name for all the employees working at the Dallas location.
26. Query to display Name and Employee no. Along with their Manger's Name and the Manager's employee no; along with the Employees' Name who do not have a Manager.
27. Query to display Name, Dept No. And Salary of any employee whose department No. and salary matches both the department no. And the salary of any employee who earns a commission.

	<p>28. Query to display Name and Salaries represented by asterisks, where each asterisk (*) signifies \$100.</p> <p>29. Query to display the Highest, Lowest, Sum and Average Salaries of all the employees</p> <p>30. Query to display the number of employees performing the same Job type functions.</p> <p>31. Query to display the no. of managers without listing their names.</p> <p>32. Query to display the Department Name, Location Name, No. of Employees and the average salary for all employees in that department.</p> <p>33. Query to display Name and Hire Date for all employees in the same dept. as Blake.</p> <p>34. Query to display the Employee No. And Name for all employees who earn more than the average salary.</p> <p>35. Query to display Employee Number and Name for all employees who work in a department with any employee whose name contains a 'T'.</p> <p>36. Query to display the names and salaries of all employees who report to King.</p> <p>37. Query to display the department no, name and job for all employees in the Sales department</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 2 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 3 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Elmasri, R., & Navathe, S.B. (2015). Fundamentals of Database Systems. 7th edition. Pearson Education. ● Date, C. J. (2004). An Introduction to database systems. 8th edition. Pearson Education. ● Silberschatz, A., Korth, H. F., & Sudarshan, S. (2010). Database System Concepts. 6th edition. McGrawHill. 		

*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
(‘A+’ Grade, NAAC Accredited)

॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes
Vocational Courses (VOC)
Offered by Department of Computer Science & Applications
According to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit
System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted from 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate Programmes
Vocational Courses (Computer Science)
According to Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
IV	VOC	B23-VOC-101	Animation	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	VOC	B23-VOC-106	Web Designing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
V	VOC	B23-VOC-201	Graphic Designing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	VOC	B23-VOC-206	3-D Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	VOC	B23-VOC-216	Software Testing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
VI	VOC	B23-VOC-301	Mobile App Designing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	VOC	B23-VOC-305	Analytics with Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	VOC	B23-VOC-306	Data Analytics with R	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

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॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State
of Yoga)



Syllabus of Examination for Under-Graduate Programmes
VOCATIONAL (VOC)

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based Credit
System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Animation		
Course Code	B23-VOC-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the basic idea of 2-D animation. 2. Using Photoshop for animation. 3. Using Corel-Draw and paint for animation 4. Using Macromedia Flash for animation <hr/> 5*. Implementing the animation using Photoshop, Corel-Draw, Paint and Flash.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics		Contact Hours
I	Introduction to 2D Animation: Basic of sketching, still life and assignment of basic drawing, Composition of basic elements, Creating Digital Layout, Working with visual images, Paint & animate (scanning, tracing, ink & Paint)		10
II	Drawing concept, Work in different media, such as drawing, collage, and painting, Professional image editing (PHOTOSHOP), Story Boarding, Understanding Background		10

	composition	
III	Colour theory & basics, Explore the relationship between elements and principal, Advertising and relevant case ,Graphics and illustration (Corel Draw, Paint), Titles and Credit Making, Basic Understanding of 2D animation and technique.	10
IV	Incorporating sound into 2D animation, Pixel and resolution: Vector and Bitmap Graphics, Vector Composition , 2D animation (Macromedia Flash), Stop motion animation, Animation with flash, Portfolio Making	10
V*	<ul style="list-style-type: none"> • Drawing fundamentals using lines • Sketching of cartoon characters • 2D Logo designing • Storyboarding of a 30 seconds film • Portfolio making of an organization 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: A three hour exam for both theory and practicum.
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • The Illusion of Life: Disney Animation, Ollie Johnston and Frank Thomas, Disney Editions. • Blender Production Creating Short Animations from Start to Finish, Roland Hess, Routledge. • Animating with Blender: Creating Short Animations from Start to Finish, Roland Hess, Focal Press • Simplified Drawing for Planning Animation, Wayne Gilbert, Anamie Entertainment Ltd. • Creating Characters with Personality: For Film, TV, Animation, Video Games, and Graphic Novels, Tom Bancroft, Watson-Guption • Force: Dynamic Life Drawing for Animators, Mike Mattesi, Focal Press 		

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	I		
Name of the Course	Web Designing		
Course Code	B23-VOC-106		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the fundamental concepts of web development 2. understand the basic tags of HTML 3. understand the Concepts of CSS 4. create static web pages with different positioning elements <hr style="width: 50%; margin-left: 0;"/> 5*. to understand the designing of a static websites.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			

Unit	Topics	Contact Hours
I	Web Programming Introduction: Architecture of a website, Different technologies in making the website; Introduction to HTML: History of HTML, Basic structure of an HTML document, Introduction to Static and Dynamic Websites, HTML Tag vs Element, HTML Attributes; HTML-Basic Formatting Tags; Grouping Using Div and Span, HTML-Lists: Unordered Lists, Ordered Lists, Definition list; Image and Image Mapping, Hyperlink.	10
II	HTML-Table: < table >, < th >, < tr >, < td >, < caption >, < thead >, < tbody >, < tfoot >, < colgroup >, < col >; Colspan & Rowspan HTML-Iframe: Iframe attributes, Using Iframe as the Target; HTML-Form: Form attributes, Form elements: < input >, < textarea >. < button >, < select >, < label >, <fieldset>, <legend> etc.	10
III	CSS: Introduction, Benefits of CSS, CSS Syntax, Types of CSS, CSS Selectors: Element selector, ID Selectors, Class Selectors, Grouping Selectors, Universal Selector, CSS - Pseudo Classes, pseudo element; Text Fonts: color, background-color, text-decoration, text-align, vertical-align, text-indent, text-transform, white space, letter-spacing, word-spacing, line-height; font properties: font-family, font-size, font-style, font-variant, font-weight.	10
IV	Lists: list-style-type, list-style-position, list-style-image, list-style Tables: border, width & height, text-align, padding, colour; CSS Box Model: Border, Margin & Padding, width & height; CSS Positioning properties: Static Positioning, Fixed Positioning, Relative Positioning, Absolute Positioning.	10
V*	Practicum Web Designing: <ul style="list-style-type: none"> • Starting with introduction to WWW HTML: <ul style="list-style-type: none"> • Write a HTML document to print "Hello World" in bold and Italic Format. • Design a page having suitable background colour and text colour with title "My First Web Page" using all the attributes of the Font tag. • Write HTML code to design a page containing some text in a paragraph by giving suitable heading style. • Write HTML code to display three images at LEFT, RIGHT and CENTER respectively in web browser. • Write HTML code which contains Hyperlinks. • Program based on HTML form and frames • Design a HTML table with the use of colspan and row 	25

	span. CSS: <ul style="list-style-type: none"> • Practical based on CSS 	
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: A three hour exam for both theory and practicum.
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Deitel H.M., Deitel P.J., Internet & World wide Web: How to program, Pearson Education. • Jackson, Web Technologies, Pearson Education 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	II		
Name of the Course	Graphic Designing		
Course Code	B23-VOC-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Perform basic to intermediate image correction to existing images 2. Enhance images using advance editing tools to create magazine covers 3. Work with the Type tools and panels to type, insert and manage text 4. Work with layers and masks to manage your projects efficiently 5. Design various types of documents/cards/logos/etc. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Elements of design- Types of Lines, Line Compositions, Different types of Shapes-Geometric, Organic, Free-form, Natural, and Shape, composition, Positive &Negative. Textures- Physical &Visual, Texture Composition, Form Space-Positive &Negative	10
II	Introduction to Photoshop: The Photoshop Interface, setting up a new Photoshop document, Saving a new document, The Default Palettes, Working with Photoshop Palettes, The Photoshop Toolbox and Options bar, Using Guides and Ruler, Supported import in export image formats, Opening an Image in Photoshop, Creating Images in Photoshop, Saving Images in Photoshop, Basic Image Editing, Changing Image Size, Cropping an Image, Changing Color/Bit Depth, Optimizing Images using Save for Web, Working with Color in Photoshop.	10
III	Photoshop Tools Move tool, Crop tool, Slice tools, Pencil, Paintbrush, Eraser tools, History brushes, Clonetamp-Pattern stamp, healing brush tool, Retouch tool, Gradient, Paint bucket, Burn- DodgeSponge, Blur-Sharpensmudge, Shapes-Line rectangle- polygon-custom shapes, Path, selection tool, Pen tool, Type tools, Notes Tool-Audio annotation, Eyedropper-Color sampler Measure tool, Hand-Zoom, Quick Mask-Screen modes, Jump to Image Ready, Back ground and Foreground.	10
IV	Photoshop Layers About Layers-Fill and adjustment layers, The Layer Palette, Naming Layers, Creating Layers, Deleting Layers, Viewing Layers, Moving Layers, Layer Opacity, Locking Layers, Merging Layers, Layer modes and blending options, Image composting using layers.	10
V*	Apply Photoshop skills to demonstrate following: <ul style="list-style-type: none"> • Use basic selection tools and edge refinement to isolate and edit parts of an image. • Manipulate layers through ordering, positioning, scaling, rotation, and adjustments. • Create composite images that demonstrate advanced selection and layering techniques. • Prepare images for Web and print output with appropriate sizing and resolution. • Apply painted masks, selection-based masks, gradient masks, and blend modes to create sophisticated image effects. 	25

	<ul style="list-style-type: none"> • Create adjustment layers for editable, non-destructive changes to image coloration and exposure. • Set and modify typography using the full range of type tools, the Character panel, and the Paragraph panel. • Apply special effects to typography using masks, paths, and layer styles. • Use preset brushes and custom brushes to colorize images, enhance images, and build illustrations. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Adobe Photoshop Bible, Dayley and Dayley, Wiley India Publication. • Photoshop in Easy Steps 1st Edition (Paperback), Robert Shufflebotham, Tata McGraw-Hill Publication. • Adobe Photoshop-Classroom in a Book 1st Edition, Adobe Creative Team, Pearson Publication 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	II		
Name of the Course	3-D Graphics		
Course Code	B23-VOC-206		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the fundamental concepts of computer graphics 2. understand the 3-D transformation of images 3. understand the Concepts of viewing in 3-D 4. determine the visible surface in an image <hr style="width: 20%; margin-left: 0;"/> 5*. to implement the various graphics elements.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			
Unit	Topics		Contact

		Hours
I	Introduction to Computer Graphics: Overview of Computer Graphics, Computer Graphics Application and Software, Description of some graphics devices, Input Devices for Operator Interaction, Active and Passive Graphics Devices, Display Technologies, Storage Tube Graphics Displays, Calligraphic Refresh Graphics Displays, Raster Refresh (Raster-Scan) Graphics Displays, Cathode Ray Tube Basics, Color CRT Raster Scan Basics, Video Basics, The Video Controller, Random-Scan Display Processor, LCD displays.	10
II	Three-Dimensional Transformations: Three-Dimensional Scaling, Three-Dimensional Shearing, Three- Dimensional Rotation, Three-Dimensional Reflection, Three- Dimensional Translation, Multiple Transformation, Rotation about an Arbitrary Axis in Space, Reflection through an Arbitrary Plane, Matrix Representation of 3D Transformations, Composition of 3D Transformations, Affine and Perspective Geometry, Perspective Transformations, Techniques for Generating Perspective Views, Vanishing Points, the Perspective Geometry and camera models, Orthographic Projections, Axonometric Projections, Oblique Projections, View volumes for projections.	10
III	Viewing in 3D: Stages in 3D viewing, Canonical View Volume (CVV), Specifying an Arbitrary 3D View, Examples of 3D Viewing, The Mathematics of Planar Geometric Projections, Combined transformation matrices for projections and viewing, Coordinate Systems and matrices, camera model and viewing pyramid.	10
IV	Visible-Surface Determination: Techniques for efficient Visible-Surface Algorithms, Categories of algorithms, Back face removal, The z-Buffer Algorithm, Scan-line method, Painter's algorithms (depth sorting), Area sub-division method, BSP trees, Visible-Surface Ray Tracing, comparison of the methods.	10
V*	<p>Practicum</p> <p>Study and enlist the basic functions used for graphics in C / C++ / Python language. Give an example for each of them.</p> <ul style="list-style-type: none"> • Draw a co-ordinate axis at the center of the screen. • Divide your screen into four regions, draw circle, rectangle, ellipse and half ellipse in each region with appropriate message. • Draw a simple hut on the screen. • Draw the following basic shapes in the center of the screen i Circle ii. Rectangle iii. Square iv. Concentric Circles v. Ellipse vi. Line • Program to create a house like figure and perform the following operations. i. Scaling about the origin followed by translation. ii. Scaling with reference to an arbitrary point. iii. Reflect about the line $y = mx + c$. • Develop a simple text screen saver using graphics functions. 	25

	<ul style="list-style-type: none"> • Perform smiling face animation using graphic functions. 	
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	End Term Examination: A three hour exam for both theory and practicum.	
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Computer Graphics - Principles and Practice, J. D. Foley, A. Van Dam, S. K. Feiner and J. F. Hughes, Pearson • Fundamentals of Computer Graphics, Steve Marschner, Peter Shirley, CRC press • Computer Graphics, Hearn, Baker, Pearson • Principles of Interactive Computer Graphics, William M. Newman and Robert F. Sproull, TMH • Mathematical Elements for CG, D. F. Rogers, J. A. Adams, TMH 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	II		
Name of the Course	Software Testing		
Course Code	B23-VOC-216		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	On the completion of the course students will: 1.To understand the basic terminologies and types of testing 2.Understand different testing methods 3.Understand the testing process 4.Manage the tests, plan testing process and create reports 5. Testing the software/projects using various techniques		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			
Unit	Topics		Contact Hours

I	Introduction: Definition of Software Testing and its Role, Terms: - Failure, Error, Fault, Defect, Bug, Goals of Testing, Principles of Testing, Software Testing Life Cycle, Verification and Validation: - V-testing Life cycle	10
II	Types of Testing: Black Box Testing: Overview: What is & When? Techniques: Boundary Value Analysis, Equivalence class testing, Decision Table White Box Testing: What is white box Testing, Need of white box Testing, Classification , Structural : Coverage, Path testing	10
III	Levels of Testing Unit Testing : Overview, Integration Testing : Overview, Techniques: Graph based & Path based, Functional Testing, System Testing : Overview, Categories: Reliability Security Performance Recovery, Acceptance Testing : Overview, Types of Acceptance Testing	10
IV	Test Planning: Preparing a Test plan, Scope management, Decide Test Approach, Setting Up Criteria, for testing, Identifying responsibilities, Staffing, training needs, Resource requirements, Test deliverables, Testing Tasks	10
V*	Practicum: 1. Prepare a small project and submit SRS, design, coding and test plan. 2. Study of any one of the testing tools. (e.g win runner, test direct, etc) 3. MANUAL TESTING for the project a. Whitebox Testing b. Blackbox Testing 4. Functional Testing a. Boundary value Testing b. Equivalence class testing 5. Structural Testing a. Path testing b. Data-flow testing	25
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: A three hour exam for both theory and practicum.
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Software Testing: Principles and Practice by Srinivasan Desikan, Gopalswamy Ramesh, 		

Pearson Publication

- Software Testing: Principles and Practice by Naresh Chauhan, Oxford
- Software Testing: Easy Learning Approach by Shubha Agarwal Kundlas

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Mobile App Designing		
Course Code	B23-VOC-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. know the components and structure of mobile application development frameworks for Android based mobiles; 2. design and implement the user interfaces of mobile applications. 3. understand the concept of Intents 4. implement fragments in Android application; 5. <hr style="width: 20%; margin-left: 0;"/> <p>5*. understand the designing of a mobile application.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p>			

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Introduction: Mobile Applications, Characteristics and Benefits, Application Models, Mobile devices Profiles. Basics of Android, Importance and scope, Android Versions, Features of Android, Android Architecture, Android Stack, Android Applications Structure, Android Emulator, Android SDK, Overview of Android Studio, Android and File Structure, Android Virtual Device Manager, DDMS, LogCat.	10
II	Android User Interface: Measurements – Device and pixel density independent measuring units. Layouts – Linear, Relative, Grid and Table Layouts. User Interface (UI) Components – Editable and non-editable Text Views, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers, List View, Spinner View.	10
III	Event Handling – Handling clicks or changes of various UI components. Intents and Broadcasts: Intent – Using intents to launch Activities, explicitly starting new Activity, Implicit Intents Services- Callbacks and Override in application, Application Signing, API keys for Google Maps, Publishing application to the Android Market.	10
IV	Fragments – Creating fragments, Lifecycle of fragments, Fragment states, adding fragments to Activity, adding, removing and replacing fragments with fragment transactions; Introduction to SQLite database	10
V*	Practical List: 1. Create “Hello World” application. That will display “Hello World” in the middle of the screen in the emulator. Also display “Hello World” in the middle of the screen in the Android Phone. 2. Create an application with three buttons (increment, decrement and reset) and a textView aligned vertically. On clicking, increment/decrement button, the value of the textview should increment/decrement by 1 while selecting reset button, the value of textview should become zero. 3. Create an application with login module. (Check username and password). 4. Create an application to display various activity life cycle methods. 5. Create an application using explicit Intents. 6. Create an application using implicit Intents. 7. Create an application to display various fragment life cycle	25

	<p>methods.</p> <p>8. Create an application with 2 fragments, one to set the background and other to set the fore-color of the text.</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Zigurd Mednieks, Laird Dornin, G,BlakeMeike and Masumi Nakamura, Programming Android, O'Reilly Publications. • Wei-Meng Lee, Beginning Android Application Development, Wiley India Ltd. • James C.S., Android Application development for Java Programmer, CENGAGE Learning. • Pradeep Kothari, Android Application Development: Black Book, Wiley India Ltd. • Gargenta M., Nakamura M., Learning Android, O'Reilly Publications. 		

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Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Analytics with Python		
Course Code	B23-VOC-305		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)	Students must know basics of Python		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Learn basic statistics needed for data analytics 2. Use data analysis tools in the pandas library. 3. Load, clean, transform, merge and reshape data. 4. Create informative visualization and summarize data sets. <hr style="width: 50%; margin-left: 0;"/> <p>5*. Solve real world data analysis problems.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.</p>			

Unit	Topics	Contact Hours
I	Introduction to basic statistics and analysis: Fundamentals of Data Analysis, Statistical foundations for Data Analysis, Types of data, Descriptive Statistics, Python Libraries: NumPy, Pandas, Matplotlib Correlation and covariance, Linear Regression, Statistical Hypothesis Generation and Testing	10
II	Array manipulation using NumPy: NumPy array: Creating NumPy arrays, various data types of NumPy arrays, Indexing and slicing, swapping axes, transposing arrays, data processing using Numpy arrays	10
III	Data Manipulation using Pandas: Data Structures in Pandas: Series, Data Frame, Index objects, loading data into Panda's data frame, Working with Data Frames: Arithmetic, Statistics, Binning, Indexing, Reindexing, Filtering, Handling missing data, Hierarchical indexing, Data wrangling: Data cleaning, transforming, merging and reshaping	10
IV	Plotting and Visualization: Using Matplotlib to plot data: figures, subplots, markings, color and line styles, labels and legends, Plotting functions in Pandas: Lines, bar, Scatter plots, histograms, stacked bars, Heatmap	10
V*	<p>Practical List:</p> <p>Use data set of your choice from Open Data Portal (https://data.gov.in/) for the following exercises, wherever datasets are not mentioned explicitly.</p> <ol style="list-style-type: none"> 1. Make visual representations of data using library Matplotlib and apply basic principles of data graphics to create rich analytic graphs for available datasets. 2. Use boston house-prices dataset available with sklearn library to do the following for: <ol style="list-style-type: none"> i. Generate box whisker plots for price and age of the owner ii. Identify outliers, if any iii. Display 5-point summary of data distribution for all attributes iv. Find if there is any missing value in data or not v. Find pairwise correlation between attributes vi. Use scatterplot to show relationship between each feature w.r.t target class in a single panel for comparison 3. Create a CSV file having employee data records. Each employee record has three features viz. age, home city and salary. Import employee file and: <ol style="list-style-type: none"> i. Draw scatter plot for age vs salary ii. Plot histogram for features age and salary iii. Plot Pie chart for the qualitative attribute city iv. Generate box plots for salary and age 4. Import iris data using sklearn library to: <ol style="list-style-type: none"> i. Compute mean, mode, median, standard deviation, confidence interval and standard error for each feature ii. Compute correlation between length and width of sepal feature 	25

<ul style="list-style-type: none"> iii. Find covariance between length of sepal and petal iv. Build contingency table for class feature 5. Download datasets Hepatitis and automobile from UCI repository <ul style="list-style-type: none"> i. Find the number of records which are noise free ii. Clean data after removing noise iii. Normalize quantitative features in range of [0,1] iv. Compare frequency distribution for any two columns by plotting histograms for any two columns in the same plot 6. Do the following using iris CSV file (use of Pandas/NumPy/SciPy) <ul style="list-style-type: none"> i. Find total number of records and columns in a csv file ii. Find correlation and contingency table for any two variables iii. Find the coulumn with maximum variance iv. Draw scatter plot for any two columns and also write their correlation in the caption of scatter plot 7. Use car dataset from UCI repository (https://archive.ics.uci.edu/ml/machine-learning-databases/car/) <ul style="list-style-type: none"> i. Find the most popular car and draw appropriate plot to justify your answer ii. Plot barchart to compare capacity of any two cars alongwith their cost iii. Draw word cloud for car names and export to a file 	
Suggested Evaluation Methods	
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Mckinney, W. (2017). Python for Data Analysis. Second edition, O'reilly (SPD). • Grus, J. (2016). Data Science from scratch. First edition, O'reilly (SPD). • VanderPlas, J. (2016). Python Data Science Handbook: Essential Tools for Working with Data. Second edition, O'reilly (SPD). • Mode: use mode function of pandas (https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.mode.html) • Contingency table using crosstab function : use crosstab function https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.crosstab.html • Links for Examples on Word clouds: https://www.datacamp.com/community/tutorials/wordcloud-python https://www.tutorialspoint.com/create-word-cloud-using-python https://www.geeksforgeeks.org/generating-word-cloud-python/ • Links for Examples on Contingency table: 	

<https://www.geeksforgeeks.org/contingency-table-in-python/>
<https://www.tutorialspoint.com/contingency-table-in-python>

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
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Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE		
Semester	III		
Name of the Course	Data Analytics with R		
Course Code	B23-VOC-306		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	VOC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)	Students must know basics of R		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. develop an R script for data analysis and execute it. 2. install, load and deploy the required packages. 3. analyse the data stored in files in different formats. 4. identify suitable data visualization and exploration methods to answer a business question. <p style="text-align: center;">_____</p> <p>5*. interpret the results of analysis.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.</p>			

Unit	Topics	Contact Hours
I	Introduction to Programming Structures: R interpreter, Introduction to major R data structures like vectors, matrices, arrays, list and data frames, Flow control and loops, looping over list and array, user-defined functions	10
II	File Handling: Installing, loading and using packages for reading data from file Data Preprocessing and Transformation: Handling of missing data, Data cleaning and transformation	10
III	Data Exploration: Exploring data using statistical methods: mean, median, mode, quantiles. Building contingency table, correlation, co-variance.	10
IV	Plotting Data: Data visualization using Scatter plot, Line graph, Histogram, Boxplot, and other plots in R used for data visualization	10
V*	<p>Practical List:</p> <ol style="list-style-type: none"> 1. Find measures of central tendencies for the given data. 2. Draw the box plot for the given data and analyse skewness. 3. Randomly generate 30 numbers in the range of 1 to 40 and do the following a) Generate box plot b) Identify outliers, if any c) Display 5-point summary of data distribution <p>Use data set of your choice from Open Data Portal (https://data.gov.in/) for the following exercises.</p> <ul style="list-style-type: none"> • Read the all rows from the CSV file, with header. Write an R script to: a) create a subset of the data records that satisfy a condition. b) find suitable descriptive statistics for each column. c) draw boxplot for the numeric attributes and identify outliers, if any d) find correlation for each pair of numeric attributes, and draw scatter plot matrix. e) draw histograms, pie charts for categorical attributes. f) draw the probability density curve for numeric attributes. • Read the CSV file, without headers and a. Find the number of records which are noise free b. Clean data after removing noise c. Normalize quantitative features in range of [0,1] • Practical based on vectors, arrays and lists, data frames • Practical based on reading/writing data from/to files. • Practical based on data cleaning and transformation • Practical based on linear regression • Practical based on visualizing data as Scatter Plot, line graph, histogram, boxplot, line plots regression, word clouds, and exporting plots as images 	25
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 		<p>End Term Examination:</p> <p>A three hour exam for both theory and</p>

<ul style="list-style-type: none"> • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>practicum.</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Cotton, R. (2017). Learning R, A step by step function guide to data analysis. O’reilly (SPD). • Gardener, M. (2017). Beginning R, The statistical programming language. WILEY. • Teetor, P. (2017). R Cookbook (10th Edition reprint). O’reilly (SPD). • Web Resources https://jrnold.github.io/r4ds-exercise-solutions/index.html https://www.r-project.org/ https://cran.r-project.org/ 	

Kurukshetra University, Kurukshetra
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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes

Subject: Computer Applications

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted from 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: Computer Applications
According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
1	CC-1 MCC-1	B23- CAC- 101	Programming with Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	MCC-2	B23- CAC- 102	Operating Systems	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M1	B23- CAC- 103	Basics of Computer Science	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC 1	B23- CAC- 104	Fundamentals of Computer Science	2	2	15	35	75	3
			Practical	1	2	5	20	25	3
2	CC-2 MCC-3	B23- CAC- 201	Logical Organization of Computer	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	DSEC-1	B23- CAC- 202	Data Base Management Systems	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M2	B23- CAC- 203	Programming Methodologies	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC 2	B23- CAC- 204	Web Technologies Fundamentals	2	2	15	35	50	3
			Practical	1	2	5	20	25	3
3	CC-3 MCC-4	B23- CAC- 301	Object-Oriented Programming using C++	3	3	20	50	70	3

			Practical	1	2	10	20	30	3	
	MCC-5	B23-CAC-302	Foundations of Web Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MDC 3	B23-CAC-304	Programming with C	2	2	15	35	50	3	
			Practical	1	2	5	20	25	3	
4	CC-4 MCC-6	B23-CAC-401	Computer Graphics	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-7	B23-CAC-402	Concepts of Data Structures	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-8	B23-CAC-403	Java Programming	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-1	B23-CAC-404	Front-end Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CAC-405	Linux and Shell Programming	3	3	20	50	70	3	
Practical	1		2	10	20	30	3			
5	CC-5 MCC-9	B23-CAC-501	Data Analytics using SpreadSheets	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-10	B23-CAC-502	Computer Networks	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-2	B23-CAC-503	Foundations of Server-Side Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CAC-504	Cloud Computing	3	3	20	50	70	3	
	Practical		1	2	10	20	30	3		
	DSE-3	B23-CAC-	Java Based Web App Development	3	3	20	50	70	3	

6		505	Practical	1	2	10	20	30	3	
		Or								
		B23-CAC-506	Programming in R	3	3	20	50	70	3	
	Practical		1	2	10	20	30	3		
	CC-6 MCC-11	B23-CAC-601	Artificial Intelligence	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	MCC-12	B23-CAC-602	Advanced Web Development Techniques	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	DSE-4	B23-CAC-603	Developing Modern Web Applications using React	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		Or								
		B23-CAC-604	Data Storage Technologies and Networks using AWS	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
		DSE-5	B23-CAC-606	Data Analytics using Python	3	3	20	50	70	3
	Practical			1	2	10	20	30	3	
Or										
B23-CAC-607	Data Analytics using R	3	3	20	50	70	3			
	Practical	1	2	10	20	30	3			
7	CC-H1	B23-CAC-701	Mobile Computing	4	4	30	70	100	3	
	CC-H2	B23-CAC-702	Software Testing	4	4	30	70	100	3	
	CC-H3	B23-CAC-703	Data Mining and Warehousing	4	4	30	70	100	3	
	DSE-6	B23-	NoSQL Databases	4	4	30	70	100	3	

		CAC-704							
		Or							
		B23-CAC-705	Block Chain Technologies	4	4	30	70	100	3
	PC-H1	B23-CAC-707	Practical	4	8	30	70	100	6
8	CC-H4	B23-CAC-801	Information Security	4	4	30	70	100	3
	CC-H5	B23-CAC-802	Internet of Things	4	4	30	70	100	3
	CC-H6	B23-CAC-803	Software Project Management	4	4	30	70	100	3
	DSE-7	B23-CAC-804	Big Data	4	4	30	70	100	3
		Or							
		B23-CAC-805	Machine Learning	4	4	30	70	100	3
	PC-H2	B23-CAC-806	Practical	4	8	30	70	100	6
		OR							
	CC-H4	B23-CAC-801	Information Security	4	4	30	70	100	3
	CC-H5	B23-CAC-802	Internet of Things	4	4	30	70	100	3
	Research	B23-CAC-807	Project/ Dissertation	12				300	

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(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st Semester) for Under-Graduate Programmes

Subject: Computer Applications

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Programming with Python		
Course Code	B23-CAC-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Write simple programs using built-in data structures in Python. 2. Implement arrays and user defined functions in Python. 3. Solve problems in the respective domain using suitable programming constructs in Python. 4. Solve problems in the respective domain using the concepts of object oriented programming in Python. <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on various concepts of Python.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p>			

Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.
Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Introduction to Programming: Problem solving strategies; Structure of a Python program; Syntax and semantics; Executing simple programs in Python.	5
II	Creating Python Programs: Identifiers and keywords; Literals, numbers, and strings; Operators; Expressions; Input/output statements; Defining functions; Control structures (conditional statements, loop control statements, break, continue and pass, exit function), default arguments.	13
III	Built-in data structures: Mutable and immutable objects; Strings, built-in functions for string, string traversal, string operators and operations; Lists creation, traversal, slicing and splitting operations, passing list to a function; Tuples, sets, dictionaries and their operations.	14
IV	File and exception handling: File handling through libraries; Errors and exception handling.	8
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • WAP to find the roots of a quadratic equation. • WAP to accept a number 'n' and (a). Check if 'n' is prime (b). Generate all prime numbers till 'n' (c). Generate first 'n' prime numbers (d). This program may be done using functions. • WAP that accepts a character and performs the following: (a). print whether the character is a letter or numeric digit or a special character (b). if the character is a letter, print whether the letter is uppercase or lowercase (c). if the character is a numeric digit, prints its name in text (e.g., if input is 9, output is NINE) • WAP to perform the following operations on a string (a). Find the frequency of a character in a string. (b). Replace a character by another character in a string. (c). Remove the first occurrence of a character from a string. (d). Remove all occurrences of a character from a string. • WAP to swap the first n characters of two strings. • Write a function that accepts two strings and returns the indices of all the occurrences of the second string in the first string as a list. If the second string is not present in the first string, then it should return -1. • WAP to create a list of the cubes of only the even integers appearing in the input list (may have elements of other types 	25

	<p>also) using the following: (a). 'for' loop (b). list comprehension</p> <ul style="list-style-type: none"> • WAP to read a file and (a). Print the total number of characters, words and lines in the file. (b). Calculate the frequency of each character in the file. Use a variable of dictionary type to maintain the count. (c). Print the words in reverse order. (d). Copy even lines of the file to a file named 'File1' and odd lines to another file named 'File2'. • Write a function that prints a dictionary where the keys are numbers between 1 and 5 and the values are cubes of the keys. • Consider a tuple t1= (1, 2, 5, 7, 9, 2, 4, 6, 8, 10). WAP to perform following operations: (a). Print half the values of the tuple in one line and the other half in the next line. (b). Print another tuple whose values are even numbers in the given tuple. (c). Concatenate a tuple t2= (11,13,15) with t1. (d). Return maximum and minimum value from this tuple • WAP to accept a name from a user. Raise and handle appropriate exception(s) if the text entered by the user contains digits and/or special characters. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Taneja, S., Kumar, N., Python Programming- A Modular Approach, Pearson Education India, 2018. • Balaguruswamy E., Introduction to Computing and Problem Solving using Python, 2nd edition, McGraw Hill Education, 2018. • Brown, Martin C., Python: The Complete Reference, 2nd edition, McGraw Hill Education, 2018. • Guttag, J.V. Introduction to computation and programming using Python, 2 nd edition, MIT Press, 2016 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Operating Systems		
Course Code	B23-CAC-102 (Common with B23-CSE-301)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	MCC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basic concepts of operating systems and its services along with process management. 2. understand concept of process scheduling and acquire knowledge of process synchronization. 3. learn about memory management and virtual memory concepts. 4. learn to work with directory structure and security aspects. <hr style="width: 50%; margin-left: 0;"/> <p>5*. to implement the programs based on operating systems.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First</p>			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	<p>Introductory Concepts: Operating System, Functions and Characteristics, Historical Evolution of Operating Systems, Operating System Structure.</p> <p>Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing.</p> <p>Operating System Services, Operating System Interface, Service System Calls, System Programs.</p> <p>Process Management: Process Concepts, Operations on Processes, Process States and Process Control Block. Inter-Process Communication.</p>	10
II	<p>CPU Scheduling: Scheduling Criteria, Levels of Scheduling, Scheduling Algorithms, Multiple Processor Scheduling, Algorithm Evaluation.</p> <p>Synchronization: Critical Section Problem, Semaphores, Classical Problem of Synchronization, Monitors.</p> <p>Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery.</p>	10
III	<p>Memory Management Strategies: Memory Management of Single-User and Multiuser Operating System, Partitioning, Swapping, Contiguous Memory Allocation, Paging and Segmentation;</p> <p>Virtual Memory Management: Demand Paging, Page Replacement Algorithms, Thrashing.</p>	10
IV	<p>Implementing File System: File System Structure, File System Implantation, file operations, Type of Files, Directory Implementation, Allocation Methods, and Free Space Management.</p> <p>Disk Scheduling algorithm- SSTF, Scan, C- Scan, Look, C-Look.</p> <p>SSD Management.</p>	10
V*	<p>Practicum:</p> <p>Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <ul style="list-style-type: none"> • Working with various operating systems, and performing different operations using operating system. • Write a program to print file details including owner access permissions, file access time, where file name is given as argument. • Write a program to copy files using system calls. • Write a program to implement FCFS scheduling algorithm. • Write a program to implement Round Robin scheduling algorithm. • Write a program to implement SJF scheduling algorithm. • Write a program to implement non-preemptive priority based 	25

	<p>scheduling algorithm.</p> <ul style="list-style-type: none"> • Write a program to implement preemptive priority based scheduling algorithm. • Write a program to implement SRJF scheduling algorithm. • Write a program to calculate sum of n numbers using thread library. • Write a program to implement first-fit, best-fit and worst-fit allocation strategies. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Silberschatz A., Galvin P.B., and Gagne G., Operating System Concepts, John Wiley & Sons. • Godbole, A.S., Operating Systems, Tata McGraw-Hill Publishing Company, New Delhi. • Deitel, H.M., Operating Systems, Addison- Wesley Publishing Company, New York. • Tanenbaum, A.S., Operating System- Design and Implementation, Prentice Hall of India, New Delhi. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE/ COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Basics of Computer Science		
Course Code	B23-CAC-103 (Common with B23-CSE-103)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. To introduce to the students, the basic understanding of the working of a computer system. 2. To familiarize the students with the concept of algorithms and flowchart. 3. To familiarize the students with the various types of software. 4. To make the students familiar with the basic internet technology and concepts. 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50(30(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:15(10(T)+5(P))			
End Term Exam Marks:35(20(T)+15(P))			
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics		Contact Hours
I	Introduction to Computers: Definition of Computers, History and Generations of Computers, Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit.		4

II	Software: Definition of Software, Types of Software-System software, Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler.	4
III	Introduction to Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar, Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming.	4
IV	Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	4
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • Dismantling the system unit, recognize all major components inside a PC, describe function of each component and define the relationship of internal components • Explore and describe some system utility like regedit, memory partitioning, control panel, window tools. • Understanding control panel • Date and Time setting. • Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming. 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: A three hour exam for both theory and practicum.
Part C-Learning Resources		
Text /Reference Books: <ul style="list-style-type: none"> • Fundamentals of Computers, V. Rajaraman 6th edition PHI Learning Private Limited 2014 • Peter Norton: Computing Fundamentals. 6th Edition, McGraw Hill-Osborne,2007 • Alexis Leon and Marthews Leon: Introduction to Computers, Leon Vikas,1999. • Internet Basics. E. Douglas Commer PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	COMPUTER SCIENCE/ COMPUTER APPLICATIONS		
Semester	I		
Name of the Course	Fundamentals of Computer Science		
Course Code	B23-CAC-104 (Common with B23-CSE-104)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	MDC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the basic concepts of operating systems 2. do the basic editing and formatting in a document 3. create basic spread-sheets for different purposes 4. create basic presentations for different applications <hr style="width: 50%; margin-left: 0;"/> 5*. to understand the working of operating system and various office tools practically.		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75(50(T)+25(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:20(15(T)+5(P))			
End Term Exam Marks: 55(35(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory. Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.			
Unit	Topics		Contact

		Hours
I	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	7
II	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	7
III	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	5
IV	The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	6
V*	Operating System: <ul style="list-style-type: none"> Starting with basics of Operating Systems and its functionalities Computer Basics: <ul style="list-style-type: none"> Identify the various computer hardware Understanding the working of computer Understanding various types of software Internet and E-mail: <ul style="list-style-type: none"> Using Internet for various tasks Creating and using e-mail. 	25
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> Class Participation: 4 Seminar/presentation/assignment/quiz/class test etc.:4 Mid-Term Exam: 7 ➤ Practicum <ul style="list-style-type: none"> Class Participation: 2 Seminar/Demonstration/Viva-voce/Lab records etc.:3 		End Term Examination: A three hour exam for both theory and practicum.

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|---------------------|--|
| • Mid-Term Exam: NA | |
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Part C-Learning Resources	
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Recommended Books/e-resources/LMS:	
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|--|--|
| <ul style="list-style-type: none">• Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB.• Dromey, R.G., How to Solve it By Computer, PHI.• Norton, Peter, Introduction to Computer, McGraw-Hill.• Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World.• Rajaraman, V., Fundamentals of Computers, PHI. | |
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*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
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॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes

Bachelor of Vocation (Software Development)

B.Voc. (Software Development): SCHEME D

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted from 2023-2024)

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: B.Voc.(Software Development)
According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
1	CC-A1	B23-CSD-101	Problem Solving through C	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B2	B23-CSD-102	Foundations of Computer Science	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C3	B23-CSD-103	Logical Organization of Computer	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M1	B23-CSD-104	Mathematical Foundations for Computer Science-I	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC1	To be taken from other department							
	SEC1	To be taken from SEC Pool							
VAC1	To be taken from VAC Pool								
AEC1	To be taken from AEC Pool								
2	CC-A2	B23-CSD-201	Object Oriented Programming using C++	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

CC-B2	B23-CSD-202	Introduction to Web Technologies	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-C2	B23-CSD-203	Concepts of Operating Systems	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-M2	B23-CSD-204	Mathematical Foundations for Computer Science-II	1	1	10	20	30	3	
		Practical	1	2	5	15	20	3	
MDC-2	To be taken from other department								
SEC-2	To be taken from SEC Pool								
VAC-2	To be taken from VAC Pool								
AEC-2	To be taken from AEC Pool								
3	CC-A3	B23-CSD-301	Java OOP Foundations	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
CC-B3	B23-CSD-302	Linux and Shell programming	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-C3	B23-CSD-303	Data Base Technologies	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
CC-M3	B23-CSD-304	Quantitative Foundations of Computer Science	3	3	20	50	70	3	
		Practical	1	2	10	20	30	3	
MDC-3	To be taken from other								

		department							
	SEC-3	To be taken from SEC Pool							
	AEC-3	To be taken from AEC Pool							
4	CC-A4	B23-CSD-401	Data Structures and Applications	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B4	B23-CSD-402	Front-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C4	B23-CSD-403	Computer Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	AEC-4	To be taken from AEC Pool							
	VAC-3	To be taken from VAC Pool							
	CC-M4(V)	B23-CSD-404	Introduction to Cloud Computing	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
5	CC-A5	B23-CSD-501	Software Engineering	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B5	B23-CSD-502	Back-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C6	B23-CSD-503	Network Infrastructure and Data Communication Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M5(V)	B23-CSD-504	Introduction to Internet of Things	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

	SEC-4	Internship @ 4 Credits								
6	CC-A6	B23-CSD-601	Programming using Python	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-B6	B23-CSD-602	Advanced Web Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-C6	B23-CSD-603	Artificial Intelligence	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC-M6	B23-CSD-604	Introduction to Block Chain	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	CC- M7(V)	B23-CSD-605	Mobile App Development	3	3	20	50	70	3	
			Practical	1	2	10	20	30	3	
	7	CC-H1	B23-CSD-701	Software Testing	4	4	30	70	100	3
		CC-H2	B23-CSD-702	Data Mining & Warehousing	4	4	30	70	100	3
CC-H3		B23-CSD-703	Design and Analysis of Algorithms	4	4	30	70	100	3	
DSE-H1		B23-CSD-704	NoSQL Databases	4	4	30	70	100	3	
		Or								
			B23-CSD-705	Machine Learning	4	4	30	70	100	3
PC-H1		B23-CSD-706	Practical	4	8	30	70	100	6	
CC-HM1	B23-CSD-707	Data Analytics using Python	4	4	30	70	100	3		
8	CC-H4	B23-CSD-801	Software Project Management	4	4	30	70	100	3	
	CC-H5	B23-CSD-802	Digital Image Processing	4	4	30	70	100	3	
	CC-H6	B23-CSD-803	Open Source Software	4	4	30	70	100	3	
	DSE-H2	B23-CSD-804	Emerging Trends in Software	4	4	30	70	100	3	

		Development							
	Or								
	B23-CSD-805	Information Security	4	4	30	70	100	3	
PC-H2	B23-CSD-806	Practical	4	8	30	70	100	6	
CC-HM2	B23-CSD-807	DevOps	4	4	30	70	100	3	
	OR								
CC-H4	B23-CSD-801	Software Project Management	4	4	30	70	100	3	
CC-H5	B23-CSD-802	Digital Image Processing	4	4	30	70	100	3	
CC-HM2	B23-CSD-807	DevOps	4	4	30	70	100	3	
Research	B23-CSD-808	Project/ Dissertation	12				300		

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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st Semester) for Under-Graduate Programmes
Bachelor of Vocation (Software Development)
B.Voc. (Software Development)
according to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Voc. (Software Development)		
Semester	I		
Name of the Course	Problem Solving through C		
Course Code	B23-CSD-101 (Common with B23-CAP-101, B23-CAI-101, B23-CTS-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. learn the basics of C program, data types and input/output statements. 2. understand different types of operators, their hierarchies and also control statements of C. 3. implement programs using arrays and strings. 4. get familiar with advanced concepts like structures, union etc. in C language. <hr/> <p>5*. to implement the programs based on various concepts of C.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus. Candidate will have to attempt five questions in all, selecting one question from each unit. First</p>			

question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	10
II	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.	10
III	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring.	10
IV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays. User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; difference between Structure and Union.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: <ul style="list-style-type: none"> • To read radius of a circle and to find area and circumference • To read three numbers and find the biggest of three • To check whether the number is prime or not • To read a number, find the sum of the digits, reverse the number and check it for palindrome • To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • To read percentage of marks and to display appropriate message (Demonstration of else-if ladder) • To find the roots of quadratic equation • To read marks scored by n students and find the average of 	25

	<p>marks (Demonstration of single dimensional array)</p> <ul style="list-style-type: none"> • To remove Duplicate Element in a single dimensional Array • To perform addition and subtraction of Matrices • To find factorial of a number • To generate Fibonacci series • To remove Duplicate Element in a single dimensional Array • To find the length of a string without using built in function • To demonstrate string functions • To read, display and add two m x n matrices using functions • To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters • To Swap Two Numbers using Pointers • To demonstrate student structure to read & display records of n students • To demonstrate the difference between structure & union. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley. • Yashwant Kanetker, Let us C, BPB. • Rajaraman, V., Computer Programming in C, PHI. • Yashwant Kanetker, Working with C, BPB. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Voc. (Software Development)		
Semester	I		
Name of the Course	Foundations of Computer Science		
Course Code	B23-CSD-102 (Common with B23-CAP-102, B23-CAI-102, B23-CTS-102)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand the basics of computer 2. learn about I/O devices and operating systems 3. understand internet and its services 4. learn about the threats and security concepts on computers <hr style="width: 50%; margin-left: 0;"/> <p>5*. to understand the working of operating system, internet and security related concepts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.</p> <p>Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.</p> <p>Practicum will be evaluated by an external and an internal examiner. Examination will be of</p>			

three-hour duration.		
Unit	Topics	Contact Hours
I	<p>Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software.</p> <p>Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.</p>	10
II	<p>I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.</p> <p>Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.</p>	10
III	<p>The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet.</p> <p>Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.</p>	10
IV	<p>Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking.</p> <p>Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.</p>	10
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <p>Operating System:</p> <ul style="list-style-type: none"> • Starting with basics of Operating Systems and its functionalities <p>Computer Basics:</p> <ul style="list-style-type: none"> • Identify the various computer hardware • Understanding the working of computer • Understanding various types of software 	25

	<p>Internet and E-mail:</p> <ul style="list-style-type: none"> • Using Internet for various tasks • Creating and using e-mail. <p>Security:</p> <ul style="list-style-type: none"> • Understanding various threats • How to be safe from virus threats • Various software to get safe from virus attacks. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB. • Dromey, R.G., How to Solve it By Computer, PHI. • Norton, Peter, Introduction to Computer, McGraw-Hill. • Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World. • Rajaraman, V., Fundamentals of Computers, PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Voc. (Software Development)		
Semester	I		
Name of the Course	Logical Organization of Computer		
Course Code	B23-CSD-103 (Common with B23-CAP-103, B23-CAI-103, B23-CTS-103)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of Mathematics (10 th Level)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand number systems, error detecting correcting code and representations of numbers in a computer system. 2. understand computer arithmetic and Boolean algebra and simplification of Boolean expressions. 3. understand working of logic gates and design various combinational circuits using these logic gates. 4. understand working of different types of flip-flops and design different types of registers. <hr style="width: 20%; margin-left: 0;"/> <p>5*. to understand the practical aspects of logical organization of computer.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question</p>			

will comprise of short answer type questions covering entire syllabus.
 Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.
 Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another, BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations.	10
II	Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Complement representations, Addition and subtraction with BCD representations. Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates & Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions.	10
III	Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions. Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters.	10
IV	Sequential Circuits: Basic Flip-Flops and their working. Synchronous and Asynchronous Flip-Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Number System: <ul style="list-style-type: none"> • Problems based on Number System and their conversion. • Programs based on Number System conversion. Binary Arithmetic <ul style="list-style-type: none"> • Problems based on Binary Arithmetic. 	25

	<ul style="list-style-type: none"> • Programs based on Binary Arithmetic. • Problems based on Boolean Expression and their simplification <p>Logic Gates</p> <ul style="list-style-type: none"> • Understanding working of logic Gates. <p>Combinatorial Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various combinational circuits. <p>Sequential Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various sequential circuits. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd. • V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall. • Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd. • Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Voc. (Software Development)		
Semester	I		
Name of the Course	Mathematical Foundations for Computer Science-I		
Course Code	B23-CSD-104 (Common with B23-CAP-104, B23-CAI-104, B23-CTS-104)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. Gain the knowledge of set theory, types of sets and operations on sets. Understand various concepts of matrices and determinants, and acquire the cognitive skills to apply different operations on matrices and determinants. 2. Have the knowledge of the basic concepts of complex numbers and acquire skills to solve linear quadratic equations. 3. Gain the knowledge of the concepts of Arithmetic progression, Geometric progression and Harmonic progression, and find A.M., G.M. and H.M. of given numbers. 4. Understand the concept of differentiation 5. * Attain the skills to make use of the learnt concepts of Introductory Mathematics in multidisciplinary learning contexts and to know their applications 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50(30(T)+20(P)) Internal Assessment Marks:15(10(T)+5(P)) End Term Exam Marks:35(20(T)+15(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B-Contents of the Course			

<u>Instructions for Paper- Setter</u>		
Unit	Topics	Contact Hours
I	Sets and their representations, Empty set, Finite and infinite sets, Subsets, Equal sets, Power sets, Universal set, Union and intersection of sets, Difference of two sets, Complement of a set, Venn diagram, De-Morgan's laws and their applications.	4
II	An introduction to matrices and their types, Operations on matrices, Symmetric and skew-symmetric matrices, Minors, Co-factors. Determinant of a square matrix, Adjoint and inverse of a square matrix, Solutions of a system of linear equations up to order 3.	4
III	Quadratic equations, Solution of quadratic equations. Arithmetic progression, Geometric progression, Harmonic progression, Arithmetic mean (A.M.), Geometric mean (G.M.), Harmonic mean (H.M.), Relation between A.M., G.M. and H.M.	4
IV	The concept of differentiation, differentiation of simple functions, Use of differentiation for solving problems related to real-life situations. Differentiation of simple algebraic, trigonometric and exponential functions.	4
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Problem Solving- Questions related to the practical problems based on following topics will be worked out and record of those will be maintained in the Practical Note Book:</p> <ul style="list-style-type: none"> • Problems related to union, intersection, difference and complement of sets. • Problems based on De Morgan's Laws. • Problems related to Venn diagrams. • Problems to find inverse of a matrix. • Problems to find determinant of a square matrix of order 3. • Problems to find nth term of A.P., G.P. and H.P. • Problems to find sum of n terms of A.P., G.P. and H.P. • Problems to find A.M., G.M. and H.M. of given numbers. • Problems involving formulation and solution of quadratic equations in one variable. • Problems to find first derivatives of functions. 	25
Suggested Evaluation Methods		
Internal Assessment: > Theory • Class Participation: 4		End Term Examination: A three hour exam

<ul style="list-style-type: none"> • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>for both theory and practicum.</p>
<p>Part C-Learning Resources</p>	
<p>Text /Reference Books:</p> <ul style="list-style-type: none"> • C. Y. Young (2021). <i>Algebra and Trigonometry</i>. Wiley. • S.L. Loney (2016). <i>The Elements of Coordinate Geometry (Cartesian Coordinates)</i> (2nd Edition). G.K. Publication Private Limited. • Seymour Lipschutz and Marc Lars Lipson (2013). <i>Linear Algebra</i>. (4th Edition) Schaum’s Outline Series, McGraw-Hill. • C.C. Pinter (2014). <i>A Book of Set Theory</i>. Dover Publications. • J. V. Dyke, J. Rogers and H. Adams (2011). <i>Fundamentals of Mathematics</i> (10th Edition), Brooks/Cole. • A.Tussy, R. Gustafson and D. Koenig (2010). <i>Basic Mathematics for College Students</i> (4th Edition). Brooks Cole 	

*Applicable for courses having practical component.

Kurukshetra University, Kurukshetra
(Established by the State Legislature Act XII of 1956)
(‘A+’ Grade, NAAC Accredited)

॥ योगस्थः कुरु कर्माणि ॥
समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Scheme of Examination for Under-Graduate Programmes
Bachelor of Science (Artificial Intelligence)
B.Sc. (AI): SCHEME - D
according to
Curriculum Framework for Under-Graduate Programmes
As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)
DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
(For the Batches Admitted From 2023-2024)

Kurukshetra University Kurukshetra

ELIGIBILITY of Examination for Undergraduate programmes

Subject: B.Sc. (Artificial Intelligence)

ELIGIBILITY OF B.Sc. (ARTIFICIAL INTELLIGENCE) WILL BE AS UNDER

“CANDIDATE MUST PASS 10+2 LEVEL WITH MATHEMATICS/ COMPUTER SCIENCE AS ONE OF THE MAJOR SUBJECT”

Kurukshetra University Kurukshetra
Scheme of Examination for Undergraduate programmes
Subject: B.Sc. (Artificial Intelligence)

According to
Curriculum Framework for Undergraduate Programmes
as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
1	CC-A1	B23-CAI-101	Problem Solving through C	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B1	B23-CAI-102	Foundations of Computer Science	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C1	B23-CAI-103	Logical Organization of Computer	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M1	B23-CAI-104	Mathematical Foundations for Computer Science-I	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC1	To be taken from other department							
	SEC1	To be taken from SEC Pool							
VAC1	To be taken from VAC Pool								
AEC1	To be taken from AEC Pool								
2	CC-A2	B23-CAI-201	Object Oriented	3	3	20	50	70	3

			Programming using C++						
			Practical	1	2	10	20	30	3
	CC-B2	B23-CAI-202	Introduction to Web Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C2	B23-CAI-203	Concepts of Operating Systems	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M2	B23-CAI-204	Mathematical Foundations for Computer Science-II	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC-2	To be taken from other department							
	SEC-2	To be taken from SEC Pool							
	VAC-2	To be taken from VAC Pool							
	AEC-2	To be taken from AEC Pool							
3	CC-A3	B23-CAI-301	Java OOP Foundations	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B3	B23-CAI-302	Linux and Shell programming	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C3	B23-CAI-303	Data Base Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

	CC-M3	B23-CAI-304	Quantitative Foundations of Computer Science	3	3	20	50	70	3
			Practical	1	3	10	20	30	3
	MDC-3	To be taken from other department							
	SEC-3	To be taken from SEC Pool							
	AEC-3	To be taken from AEC Pool							
4	CC-A4	B23-CAI-401	Data Structures and Applications	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B4	B23-CAI-402	Front-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C4	B23-CAI-403	Computer Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	AEC-4	To be taken from AEC Pool							
	VAC-3	To be taken from VAC Pool							
	CC-M4(V)	B23-CAI-404	Introduction to Data Science & Data Analytics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
5	CC-A5	B23-CAI-501	Software Engineering	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B5	B23-CAI-502	Back-end Development	3	3	20	50	70	3

			Practical	1	2	10	20	30	3
	CC-C5	B23-CAI-503	Network Infrastructure and Data Communication Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M5(V)	B23-CAI-504	Introduction to Internet of Things	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	SEC-4	Internship @ 4 Credits							
6	CC-A6	B23-CAI-601	Programming using Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B6	B23-CAI-602	Advanced Web Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C7	B23-CAI-603	Artificial Intelligence	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M6	B23-CAI-604	Data Analytics and Visualization using Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M7(V)	B23-CAI-605	Machine Learning	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
7	CC-H1	B23-CAI-701	Cloud Computing	4	4	30	70	100	3
	CC-H2	B23-CAI-702	Data Mining & Warehousing	4	4	30	70	100	3
	CC-H3	B23-CAI-703	Digital Image Processing	4	4	30	70	100	3
	DSE-H1	B23-CAI-704	Natural Language Processing	4	4	30	70	100	3
		Or							

		B23-CAI-705	Computer Vision	4	4	30	70	100	3	
	PC-H1	B23-CAI-706	Practical	4	8	30	70	100	6	
	CC-HM1	B23-CAI-707	NoSQL Databases	4	4	30	70	100	3	
8	CC-H4	B23-CAI-801	Artificial Neural Networks and Deep Learning	4	4	30	70	100	3	
	CC-H5	B23-CAI-802	Human-Computer Interface	4	4	30	70	100	3	
	CC-H6	B23-CAI-803	Big Data Analytics	4	4	30	70	100	3	
	DSE-H2	B23-CAI-804	Block Chain Technologies	4	4	30	70	100	3	
		Or								
		B23-CAI-805	Robotics	4	4	30	70	100	3	
	PC-H2	B23-CAI-806	Practical	4	8	30	70	100	6	
	CC-HM2	B23-CAI-807	Hadoop and Spark	4	4	30	70	100	3	
	OR									
		CC-H4	B23-CAI-801	Artificial Neural Networks and Deep Learning	4	4	30	70	100	3
		CC-H5	B23-CAI-802	Human-Computer Interface	4	4	30	70	100	3
		CC-HM2	B23-CAI-807	Hadoop and Spark	4	4	30	70	100	3
		Research	B23-CAI-808	Project/ Dissertation	12				300	

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समबुद्धि व योग युक्त होकर कर्म करो
(Perform Actions while Stead fasting in the State of Yoga)



Syllabus of Examination (1st Semester) for Under-Graduate Programmes
Bachelor of Science (Artificial Intelligence)

B.Sc. (AI)

according to

Curriculum Framework for Under-Graduate Programmes

As per NEP-2020 (Multiple Entry-Exit, Internships and Choice Based
Credit System)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

(For the Batches Admitted From 2023-2024)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Sc. (AI)		
Semester	I		
Name of the Course	Problem Solving through C		
Course Code	B23-CAI-101 (Common with B23-CAP-101, B23-CTS-101, B23-CSD-101)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. learn the basics of C program, data types and input/output statements. 2. understand different types of operators, their hierarchies and also control statements of C. 3. implement programs using arrays and strings. 4. get familiar with advanced concepts like structures, union etc. in C language. <hr style="width: 30%; margin-left: 0;"/> <p>5*. to implement the programs based on various concepts of C.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter

Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.

Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	10
II	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.	10
III	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring.	10
IV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers and Arrays. User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; difference between Structure and Union.	10
V*	Practicum: Students are advised to do laboratory/practical practice not limited	25

	<p>to, but including the following types of problems:</p> <ul style="list-style-type: none"> • To read radius of a circle and to find area and circumference • To read three numbers and find the biggest of three • To check whether the number is prime or not • To read a number, find the sum of the digits, reverse the number and check it for palindrome • To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers • To read percentage of marks and to display appropriate message (Demonstration of else-if ladder) • To find the roots of quadratic equation • To read marks scored by n students and find the average of marks (Demonstration of single dimensional array) • To remove Duplicate Element in a single dimensional Array • To perform addition and subtraction of Matrices • To find factorial of a number • To generate Fibonacci series • To remove Duplicate Element in a single dimensional Array • To find the length of a string without using built in function • To demonstrate string functions • To read, display and add two m x n matrices using functions • To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters • To Swap Two Numbers using Pointers • To demonstrate student structure to read & display records of n students • To demonstrate the difference between structure & union. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination: A three hour exam for both theory and practicum.</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Gottfried, Byron S., Programming with C, Tata McGraw Hill. • Balagurusamy, E., Programming in ANSI C, Tata McGraw-Hill. • Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison 		

Wesley.

- Yashwant Kanetker, Let us C, BPB.
- Rajaraman, V., Computer Programming in C, PHI.
- Yashwant Kanetker, Working with C, BPB.

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Sc.(AI)		
Semester	I		
Name of the Course	Foundations of Computer Science		
Course Code	B23-CAI-102 (Common with B23-CAP-102, B23-CTS-102, B23-CSD-102)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. understand the basics of computer 2. learn about I/O devices and operating systems 3. understand internet and its services 4. learn about the threats and security concepts on computers <hr style="width: 20%; margin-left: 0;"/> 5*. to understand the working of operating system, internet and security related concepts.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P)) Internal Assessment Marks:30(20(T)+10(P)) End Term Exam Marks: 70(50(T)+20(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Examiner will set a total of nine questions. Out of which first question will be compulsory.			

Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.

Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	<p>Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software, Shareware, Freeware, Firmware, Free Software.</p> <p>Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory.</p>	10
II	<p>I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.</p> <p>Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.</p>	10
III	<p>The Internet: Introduction to networks and internet, history, Internet, Intranet & Extranet, Working of Internet, Modes of Connecting to Internet.</p> <p>Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.</p>	10
IV	<p>Threats: Physical & non-physical threats, Virus, Worm, Trojan, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking.</p> <p>Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup</p>	10

	& recovery.	
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <p>Operating System:</p> <ul style="list-style-type: none"> Starting with basics of Operating Systems and its functionalities <p>Computer Basics:</p> <ul style="list-style-type: none"> Identify the various computer hardware Understanding the working of computer Understanding various types of software <p>Internet and E-mail:</p> <ul style="list-style-type: none"> Using Internet for various tasks Creating and using e-mail. <p>Security:</p> <ul style="list-style-type: none"> Understanding various threats How to be safe from virus threats Various software to get safe from virus attacks. 	25
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> Class Participation: 5 Seminar/presentation/assignment/quiz/class test etc.: 5 Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> Class Participation: 5 Seminar/Demonstration/Viva-voce/Lab records etc.: 5 Mid-Term Exam: NA 		<p>End Term Examination: A three hour exam for both theory and practicum.</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB. Dromey, R.G., How to Solve it By Computer, PHI. Norton, Peter, Introduction to Computer, McGraw-Hill. Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World. Rajaraman, V., Fundamentals of Computers, PHI. 		

*Applicable for courses having practical component.

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA**

Session: 2023-24			
Part A - Introduction			
Subject	B.Sc.(AI)		
Semester	I		
Name of the Course	Logical Organization of Computer		
Course Code	B23-CAI-103 (Common with B23-CAP-103, B23-CTS-103, B23-CSD-103)		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/ VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Basic Knowledge of Mathematics (10 th Level)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. understand number systems, error detecting correcting code and representations of numbers in a computer system. 2. understand computer arithmetic and Boolean algebra and simplification of Boolean expressions. 3. understand working of logic gates and design various combinational circuits using these logic gates. 4. understand working of different types of flip-flops and design different types of registers. <hr/> <p>5*. to understand the practical aspects of logical organization of computer.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100(70(T)+30(P))		Time: 3 Hrs.(T), 3Hrs.(P)	
Internal Assessment Marks:30(20(T)+10(P))			
End Term Exam Marks: 70(50(T)+20(P))			

Part B- Contents of the Course

Instructions for Paper- Setter

Examiner will set a total of nine questions. Out of which first question will be compulsory. Remaining eight questions will be set from four unit selecting two questions from each unit. Examination will be of three-hour duration. All questions will carry equal marks. First question will comprise of short answer type questions covering entire syllabus.

Candidate will have to attempt five questions in all, selecting one question from each unit. First question will be compulsory.

Practicum will be evaluated by an external and an internal examiner. Examination will be of three-hour duration.

Unit	Topics	Contact Hours
I	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another, BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations.	10
II	Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Compliment representations, Addition and subtraction with BCD representations. Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates & Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions.	10
III	Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions. Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters.	10
IV	Sequential Circuits: Basic Flip- Flops and their working. Synchronous and Asynchronous Flip –Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables.	10

	Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers.	
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems:</p> <p>Number System:</p> <ul style="list-style-type: none"> • Problems based on Number System and their conversion. • Programs based on Number System conversion. <p>Binary Arithmetic</p> <ul style="list-style-type: none"> • Problems based on Binary Arithmetic. • Programs based on Binary Arithmetic. • Problems based on Boolean Expression and their simplification <p>Logic Gates</p> <ul style="list-style-type: none"> • Understanding working of logic Gates. <p>Combinatorial Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various combinational circuits. <p>Sequential Circuits:</p> <ul style="list-style-type: none"> • Designing and understanding various sequential circuits. 	25
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		<p>End Term Examination: A three hour exam for both theory and practicum.</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd. • V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall. • Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd. • Nicholas Carter, Schaum’s Outlines Computer Architecture, Tata McGraw-Hill. 		

*Applicable for courses having practical component.

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS
KURUKSHETRA UNIVERSITY, KURUKSHETRA

Session: 2023-24			
Part A - Introduction			
Subject	B.Sc.(AI)		
Semester	I		
Name of the Course	Mathematical Foundations for Computer Science-I		
Course Code	B23-CAI-104 (Common with B23-CAP-104, B23-CTS-104, B23-CSD-104)		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes (CLO):	<p>After learning this course student will be able:</p> <ol style="list-style-type: none"> 1. Gain the knowledge of set theory, types of sets and operations on sets. Understand various concepts of matrices and determinants, and acquire the cognitive skills to apply different operations on matrices and determinants. 2. Have the knowledge of the basic concepts of complex numbers and acquire skills to solve linear quadratic equations. 3. Gain the knowledge of the concepts of Arithmetic progression, Geometric progression and Harmonic progression, and find A.M., G.M. and H.M. of given numbers. 4. Understand the concept of differentiation 5. * Attain the skills to make use of the learnt concepts of Introductory Mathematics in multidisciplinary learning contexts and to know their applications 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3

Max. Marks:50(30(T)+20(P))
Internal Assessment Marks:15(10(T)+5(P))
End Term Exam Marks:35(20(T)+15(P))

Time: 3 Hrs.(T), 3Hrs.(P)

Part B-Contents of the Course

Instructions for Paper- Setter

Unit	Topics	Contact Hours
I	Sets and their representations, Empty set, Finite and infinite sets, Subsets, Equal sets, Power sets, Universal set, Union and intersection of sets, Difference of two sets, Complement of a set, Venn diagram, De-Morgan's laws and their applications.	4
II	An introduction to matrices and their types, Operations on matrices, Symmetric and skew-symmetric matrices, Minors, Co-factors. Determinant of a square matrix, Adjoint and inverse of a square matrix, Solutions of a system of linear equations up to order 3.	4
III	Quadratic equations, Solution of quadratic equations. Arithmetic progression, Geometric progression, Harmonic progression, Arithmetic mean (A.M.), Geometric mean (G.M.), Harmonic mean (H.M.), Relation between A.M., G.M. and H.M.	4
IV	The concept of differentiation, differentiation of simple functions, Use of differentiation for solving problems related to real-life situations. Differentiation of simple algebraic, trigonometric and exponential functions.	4
V*	<p>Practicum: Students are advised to do laboratory/practical practice not limited to, but including the following types of problems: Problem Solving- Questions related to the practical problems based on following topics will be worked out and record of those will be maintained in the Practical Note Book:</p> <ul style="list-style-type: none"> • Problems related to union, intersection, difference and complement of sets. • Problems based on De Morgan's Laws. • Problems related to Venn diagrams. • Problems to find inverse of a matrix. • Problems to find determinant of a square matrix of order 3. • Problems to find nth term of A.P., G.P. and H.P. • Problems to find sum of n terms of A.P., G.P. and H.P. 	25

	<ul style="list-style-type: none"> • Problems to find A.M., G.M. and H.M. of given numbers. • Problems involving formulation and solution of quadratic equations in one variable. • Problems to find first derivatives of functions. 	
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	End Term Examination: A three hour exam for both theory and practicum.	
Part C-Learning Resources		
Text /Reference Books: <ul style="list-style-type: none"> • C. Y. Young (2021). <i>Algebra and Trigonometry</i>. Wiley. • S.L. Loney (2016). <i>The Elements of Coordinate Geometry (Cartesian Coordinates)</i> (2nd Edition). G.K. Publication Private Limited. • Seymour Lipschutz and Marc Lars Lipson (2013). <i>Linear Algebra</i>. (4th Edition) Schaum's Outline Series, McGraw-Hill. • C.C. Pinter (2014). <i>A Book of Set Theory</i>. Dover Publications. • J. V. Dyke, J. Rogers and H. Adams (2011). <i>Fundamentals of Mathematics</i> (10th Edition), Brooks/Cole. • A.Tussy, R. Gustafson and D. Koenig (2010). <i>Basic Mathematics for College Students</i> (4th Edition). Brooks Cole 		

*Applicable for courses having practical component.

KURUKSHETRA UNIVERSITY, KURUKSHETRA

NAME OF THE PROGRAMME : BACHELOR OF COMPUTER APPLICATIONS - CLOUD TECHNOLOGY AND INFORMATION SECURITY (BCA- CTIS)
(TO BE IMPLEMENTED W.E.F. 2023-24)

DURATION : THREE YEARS

Semester	Course	Paper Code	Nomenclature of Paper	Work load/ hour/ week	Exam Time (Hrs)	Internal Marks		External Marks		Total Marks	
						Max	Pass	Max	Pass		
5	DSE- 1	BCA-CTIS-501	ELECTIVE – III	3	3	15	6	60	24	75	
		BCA-CTIS-502	ELECTIVE – IV	3	3	15	6	60	24	75	
		BCA-CTIS-503	S/W LAB – I BASED ON BCA-502	4	3	10	4	40	16	50	
	DSE- 2	BCA-CTIS-504	ELECTIVE – V	3	3	15	6	60	24	75	
		BCA-CTIS-505	ELECTIVE – VI	3	3	15	6	60	24	75	
		BCA-CTIS-506	S/W LAB – II BASED ON BCA-505	4	3	10	4	40	16	50	
	DSE- 3	BCA-CTIS-507	ELECTIVE –VII	3	3	15	6	60	24	75	
		BCA-CTIS-508	ELECTIVE –VIII	3	3	15	6	60	24	75	
		BCA-CTIS-509	S/W LAB – III BASED ON BCA-508	4	3	10	4	40	16	50	
	SEC-CTIS- 3	SEC-CTIS-510	ELECTIVE – IX	2	3	10	4	40	16	50	
		TOTAL			32	30	130	52	520	208	650
	ELECTIVE-III										
		BCA-CTIS-501(I)		Cloud Web Services	3	3	15	6	60	24	75
	BCA-CTIS-501(II)		Infrastructure Solutions on Cloud	3	3	15	6	60	24	75	
ELECTIVE-IV											
	BCA-CTIS-502(I)		Network Administration	3	3	15	6	60	24	75	
	BCA-CTIS-502(II)		Linux Administration	3	3	15	6	60	24	75	
ELECTIVE-V											

	BCA-CTIS-504(I)	Cloud Security	3	3	15	6	60	24	75	
	BCA-CTIS-504(II)	Cyber Security Incident Response Management	3	3	15	6	60	24	75	
ELECTIVE-VI										
	BCA-CTIS-505(I)	Mobile Application Development	3	3	15	6	60	24	75	
	BCA-CTIS-505(II)	Programming with Python	3	3	15	6	60	24	75	
ELECTIVE-VII										
	BCA-CTIS-507(I)	Data Warehousing & Mining	3	3	15	6	60	24	75	
	BCA-CTIS-507(II)	E-Commerce	3	3	15	6	60	24	75	
ELECTIVE-VIII										
	BCA-CTIS-508(I)	Artificial Intelligence	3	3	15	6	60	24	75	
	BCA-CTIS-508(II)	Data Base Security	3	3	15	6	60	24	75	
ELECTIVE-IX										
	SEC -510(II)	Entrepreneurship	2	3	10	4	40	16	50	
	BCA-510(II)	MOOCs *	2	3	15	6	60	24	75	
6	CC-BCA- CTIS-6	BCA-CTIS-601	Major Project/Internship	28	24	100	40	400	160	500
		BCA-CTIS-602	MOOCs*	2	3	15	6	60	24	75
		BCA-CTIS-603	Seminar	2	3	15	6	60	24	75
		TOTAL		32	30	130	52	520	208	650
	GRAND TOTAL			192	180	780	312	3120	1248	3900

BCA-CTIS-501(I) Cloud Web Services

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: Cloud services facilitate access to server infrastructure managed by the provider, including data storage and access, security and scalability, and updates. Cloud Providers are organizations that offer these services to clients and it is the most preferred method for medium and small organizations to opt for these services in order to avoid the cost overhead and operational costs. This course aims to provide the students an insight into cloud operations and introduce them to Amazon Web Services (AWS) cloud services.

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS -501 (I).1. Understand Cloud delivery and deployment models.
BCA-CTIS -501 (I).2. Understand AWS cloud services and pricing policies.
BCA-CTIS -501 (I).3. Get the students familiar with AWS console and security services.
BCA-CTIS -501 (I).4. Understand AWS storage and networking.
BCA-CTIS-501 (I).5. Understand various services presented in the AWS environment.

UNIT: I

Introduction to AWS: Definition of Cloud Computing, IAAS PAAS, SAAS, Private; Public Cloud, AWS Business hierarchy, The AWS Infrastructure, AWS Strategy, AWS Ecosystem, AWS Benefits, AWS Competitors.

AWS and Applications on Cloud AWS Costs: Salient Features of AWS, Cloud Application Designing Principles, AWS Costing, Advantages of Cost Utilization Tracking, Working Principles, Managing AWS Costs, Case Studies.

UNIT: II

AWS Management Console and Security: AWS Management Console: Setting up AWS Account, Accessing AWS Services, S3 Bucket, Case Studies. Boundaries of Cloud, Security, AWS Security Groups, Security groups for Application Partitioning – Concept, Amazon Virtual Private Cloud.

UNIT: III

AWS Storage, Elasticity and AWS Networking: Amazon Storage, S3 Storage Basics, Managing Voluminous Information with EBS, Glacier Storage Service, AWS Networking: Networking Basics, VLAN Basics, Basics of AWS VLANs, AWS Network IP Addressing and Mapping. Case Studies.

UNIT: IV

AWS Services: CloudFront, Relational Database Service, AWS Service Integration, AWS Platform Services: Cloud Search, Simple Queue Service, Simple Notification Service, Simple Email Services, Simple Workflow Service, AWS Management Services: Managing AWS Applications, Monitoring with Cloud watch, Auto-Scaling in AWS, AWS Cloud Formation, Case Studies

TEXTBOOKS:

- Cloud Computing: Principles and Paradigms, Rajkumar Buyya, James Broberg, Andrzej M. Goscinski., John Wiley and Sons Publications, 2011
- Amazon Web Services for Dummies, Bernald Golden, John Wiley & Sons, 2013

Reference Book

- Brief Guide to Cloud Computing, Christopher Barnett, Constable & Robinson Limited, 2010

BCA-CTIS-501(II): Infrastructure Solutions on Cloud

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter for End Semester Exam: Examiner will be required to set NINE questions. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner must set EIGHT more questions selecting TWO from each UNIT. Students will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory questions, students will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to provide an understanding of the cloud computing platform and infrastructure of Windows Azure Building, deploying, and managing applications and services through a global network of Microsoft-managed data centres. The Services mainly into computing storage & web application

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS -501(II).1. Learn the basics of cloud technology in Windows Azure services like computer service.
BCA-CTIS -501(II).2. Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms.
BCA-CTIS -501(II).3. Assess cloud Storage systems and Cloud security, the risks involved, their impact and develop cloud applications.
BCA-CTIS -501(II).4 Understand network, data, and app services.

UNIT-I

Introduction: Introduction to MS. Azure, Virtual Machines: Creating Virtual Machines, Difference Between Basic and Standard VMs, Logging in to a VM and Working, Attaching an empty Hard Disk to VM, Hosting a Website in VM , Configuring Endpoints, Scaling up and Down, Creating a custom Image from VM, Creating a VM from a custom Image, Shut down VM without Getting Billed, VM Pricing

UNIT-II

Managing Infrastructure in Azure: Azure Virtual Networks, Highly Available Azure Virtual Machines, Virtual Machine Configuration Management, Customizing Azure Virtual Machine Networking
Load Balancing: Creating Cloud Services, Adding Virtual Machines to a Cluster, Configuring Load Balancer

UNIT-III

Azure Active Directory: Introduction to Active Directory (AD), Identity and Authentication in Public Cloud – Introduction to Azure AD – Extending Active Directory into Azure – Azure AD and applications – Reporting and Monitoring Azure AD.
Windows Azure Storage: What is a Storage Account, Advantages, Tables, blobs, queues and drives, Azure Appfabric: Connectivity and Access control Automation: Introduction Windows PowerShell, Creation of Runbooks, uploading a Shell Script, Authoring a Shell Script

UNIT-IV

SQL Azure: Creating a SQL Server, creating a SQL DB, Creating Tables, Adding Data to the Tables, View Connection Strings, Security Configurations, Migrating on premise DB to SQL Azure.
Websites: Creating a Website, Setting deployment credentials, Choosing a platform, Setting up Default page for the website, Scaling, Auto Scaling by Time, Auto Scaling by Metric, Difference between Free, Shared, Basic and Standard websites, Creating a website using Visual studio.

Text Books:

1. Cloud Computing Bible, Barrie Sosinsky, Wiley-India, 2010
2. Cloud Computing: Principles and Paradigms, Editors: Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, Wiley, 2011
3. Windows Azure Step By step by Roberto Brunetti.

Reference Books:

1. Michael W, "Implementing Microsoft Azure Infrastructure Solutions", Phi Learning Pvt Ltd, 2009

BCA-CTIS-502(I): NETWORK ADMINISTRATION

Type: Core Course (CC) Contact
Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15 Total
Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter for End Semester Exam: Examiner will be required to set NINE questions. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner must set EIGHT more questions selecting TWO from each UNIT. Students will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory questions, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to introduce the basic terminology on the design, installation, configuration, and operation of local area networks. This course provides students with the knowledge and skills necessary to install and configure a stand-alone and client computer that are part of a workgroup or domain.

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS -502.1. To expose students to introductory networking concepts in the information technology industry.
BCA-CTIS -502.2. To expose students to the impact of network user and Groups.
BCA-CTIS -502.3. To give students hands-on experience installing, configuring, and managing File System.
BCA-CTIS -502.4. Learn All types of Device Networking and basics of Network Plan in Business.

UNIT-I

Overview of Computer Network: Basics of Computer Networking, Types of Networks, Installing or Upgrading a Network Operating System, Preparing for installation. Installing from different installation mediums, Upgrade process, identifying setup errors, Managing Hardware Devices, understanding device drivers, Adding new devices. Networking and its use in IT Industry.

UNIT-II

Creating and Managing Accounts on Network: User Account, User authentication, User profiles, Creating, managing, and troubleshooting user accounts.
Implementing Group and Computer Accounts: Creating group objects, Group types and scopes, Build-in groups, Creating and managing computer accounts.

UNIT-III

Managing File Access: Introduction to file systems, Creating and managing shared folders, Managing shared folder permissions and NTFS permissions
Managing Disks and Storage Devices: Disk management concepts, Managing partitions and volumes, Fault tolerant disk strategies, Monitoring disk health, Disk utilities.
Advanced File System Management: File and folder attributes, Advanced attributes, Disk quotas, The distributed file system

UNIT-IV

Implementing and Managing Printers: Installing and sharing printers, Configuring, and managing printer resources
Using Group Policy: Creating and editing group policy objects, Group policy inheritance.
Server Administration: Procedures and standards, Terminal services and remote administration, Delegating administrative authority, Software update services.

Text Books:

1. The Complete Guide to enter a Career in Tech: Advice on How to break into Network Administration: Basic Technique of the IT world by Kennisth Odoms.
2. Computer Networking With Internet Protocols and Technology By W. Stalling

Reference Books:

1. The Practice of system & Network Administration 2nd edition by Thomas Limoncelli
2. Computer Network Administration A Clear and Concise Reference, Gerardus Blokdyk.

BCA-CTIS-502(II) LINUX ADMINISTRATION

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to introduce the duties of system administrator, system configuration files, tcp/ip networking, network file system, basics of samba server, internet services used in Linux

Course Outcomes: At the end of this course, the student will be able to:

BCA-CTIS -502 (II).1. Understand the basic duties of system administrator, booting and shutting down process, and file system in Linux.

BCA-CTIS -502 (II).2. Develop basic system administration scripts to automate system tasks and understand basics of TCP/IP Networking

BCA-CTIS -502 (III).3. Understand the installation of Samba server and its connectivity with Windows PC

BCA-CTIS -502 (II).4. Understand Internet Services provided by Linux and configuration files for Domain Name System.

UNIT: I

Introduction: Introduction to UNIX, Linux, GNU and Linux distributions

Duties of the System Administrator: The Linux System Administrator, Installing and Configuring Servers, Installing and Configuring Application Software, Creating and Maintaining User Accounts, Backing Up and Restoring Files, Monitoring and Tuning Performance, configuring a Secure System, Using Tools to Monitor Security

Booting and shutting down: Boot loaders-GRUB, LILO, Bootstrapping, Init process, rc scripts, Enabling and disabling services. **The File System:** Understanding the File System Structure, Working with Linux-Supported File Systems, Memory and Virtual File Systems, Linux Disk Management

UNIT: II

System Configuration Files: System wide Shell Configuration Scripts, System Environmental Settings, Network Configuration Files, Managing the init Scripts, Configuration Tool, and Editing Your Network Configuration

TCP/IP Networking: Understanding Network Classes, Setting Up a Network Interface Card (NIC), Understanding Subnetting, Working with Gateways and Routers, Configuring Dynamic Host Configuration Protocol, Configuring the Network Using the Network

UNIT: III

The Network File System: NFS Overview, planning an NFS Installation, configuring an NFS Server, configuring an NFS Client, Using Automount Services, Examining NFS Security

Connecting to Microsoft Networks: Installing Samba, Configuring the Samba Server, Creating Samba Users 3, Starting the Samba Server, Connecting to a Samba Client, Connecting from a Windows PC to the Samba Server

UNIT: IV

Additional Network Services: Configuring a Time Server, providing a Caching Proxy Server, Optimizing Network Services. **Internet Services:** Secure Services, SSH, scp, sftp Less Secure Services (Telnet, FTP, sync, rsh, rlogin, finger, talk and talk), Linux Machine as a Server, Configuring the xinetd Server, comparing xinetd and Standalone, Configuring Linux Firewall Packages

Domain Name System: Understanding DNS, Understanding Types of Domains Servers, Examining Server Configuration Files, configuring a Caching DNS Server, configuring a Secondary Master DNS Server, configuring a Primary Master Server, Checking Configuration.

TEXTBOOKS:

- Beginning Linux by Neil Mathew 4th Edition
- Red hat Linux Networking and System Administration by Terry Collings

REFERENCES:

- UNIX: Concepts and techniques, S. Das, Tata McGraw-Hill,
- Linux Administration: A Beginner's Guide, Fifth Edition, Wale Soyinka, Tata McGraw-Hill
- Linux: Complete Reference, 6th Edition, Richard Petersen, Tata McGraw-Hill

BCA-CTIS-504(I) CLOUD SECURITY

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to provide fundamental knowledge of the cloud landscape, architectural principles, methods, and design patterns, and understanding of the critical security and privacy issues in cloud computing and their challenges, as well as how to create safe cloud-based services.

Course Outcomes: At the end of this course, the student will be able to:

BCA-CTIS -504 (I).1. Learn about Cloud principles.

BCA-CTIS -504 (I).2. Learn about Challenges in Cloud Computing.

BCA-CTIS -504 (I).3. Understand the risk assessment and management.

BCA-CTIS -504(I).4. Learn about various security mechanisms to create a secure cloud environment.

UNIT: I

Cloud Computing: Definition, Evolution, Characteristics, Various Cloud Deployment Models, Cloud Service Models, Advantages, Cloud Architecture, Virtualization in Cloud, SLA, Cloud Applications.

UNIT: II

Cloud Security issues, Security Objectives, Secure Cloud Software Requirements, Security Services, Infrastructure Security, Data Security and Storage, Data Privacy and Integrity in Cloud. Cloud Service Providers.

UNIT: III

Security Threats and Vulnerabilities to Infrastructure, Data, and Access Control; Risk Assessment and Management, Cloud Service Provider Risks, Virtualization Security Management in the Cloud, Trusted Cloud Computing.

UNIT: IV

Cloud Computing: Planning/Disaster Recovery, Standards for Security: OpenID, SSL/TLS, Encrypting, Decrypting Data and Key Management, Creating a Cloud Security Strategy, The Future of Security in Cloud Computing.

TEXTBOOKS:

- Ronald L. Krutz, Russell Dean Vines, Cloud Security: A Comprehensive Guide to Secure Cloud Computing, Wiley Publishing, 2010.
- Tim Mather, Subra Kumaraswamy, and Shahed Latif, "Cloud Security and Privacy", Published by O'Reilly Media, Inc., 2009.

BCA-CTIS-504(II) Cyber Security Incident Response Management

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: The course has been designed to give students an extensive overview of cyber security Incident response management issues, tools and techniques critical in solving cyber security domains.

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS -504 (II).1. Able to understand the cyber security concept and its associated challenges.
BCA-CTIS -504 (II).2. Able to understand the cybercrimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures.
BCA-CTIS -504 (II).3. Able to understand the Management and Incidents of Cyber Security, risk analysis and security planning.
BCA-CTIS -504(II).4. Able to understand the legal issues and ethics related to cyber security

UNIT: I

Introduction to Cyber Security: Overview of Cyber Security, Cyber Threats, Cyber Warfare, Cyber Crime, Cyber terrorism, Cyber Espionage, Need for a Comprehensive Cyber Security Policy, Regulation of cyberspace, Architecture of cyberspace, Concept of cyber security, Issues and challenges of cyber security.

UNIT: II

Cybercrime and Cyber law; Classification of cybercrimes, Common cybercrimes- cybercrime targeting computers and mobiles, cybercrime against women and children, financial frauds, social engineering attacks, malware and ransomware attacks, zero day and zero click attacks, Reporting of cybercrimes, Legal perspective of cybercrime, IT Act 2000 and its amendments, Cybercrime and offences, Organisations dealing with Cybercrime and Cyber security in India.

UNIT: III

Management and Incidents: Security Planning, Organizations and security plan, Contents, Security Planning Team Members, Commitment to Security Plan, Business continuity Planning; Assess Business Impact, develop strategy and develop the plan, Handling Incident, Risk Analysis, Dealing with disaster; Natural Disasters, Power loss, Human Vandals, Interception of sensitive Information, Contingency planning, Physical Security Recap.

UNIT: IV

Legal Issues and Ethics: Protecting Programs and Data, Copyrights, Patents, Trade Secrets, Special Cases. Information and the Law: Information as an object, Legal issues, The Legal Systems. Rights of Employees and Employers. Redress of Software Failures, Computer Crime, Ethical Issues in Computer Security, Incident Analysis with Ethics

TEXTBOOKS:

1. Marjje T. Britz, Computer Forensics and Cyber Crime: An Introduction, Pearson Education
2. Nina Godbole, Sunit Belapure, Cyber Security (Understanding Cyber Crimes, Computer Forensics and Legal Perspectives), Wiley
3. Bill Nelson, Amelia Phillips, Christopher Steuart, Guide to Computer Forensics and Investigations, Cengage Learning
4. Charles P. Pfleeger, Shari Lawrence, Jonathan Maargulie, Security in Computing

BCA-CTIS-505(I) MOBILE APPLICATION DEVELOPMENT

Type: Core Course (CC) Contact Hours: 03 hours/week. Examination Duration: 3 Hours Mode: Lecture External Maximum Marks: 60 External Pass Marks: 24 (i.e. 40%) Internal Maximum Marks: 15 Total Max. Marks: 75 Total Pass Marks: 30 (i.e. 40%)	Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.
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Course Objectives: This course aims to provide in-depth coverage of various concepts of mobile application development, especially Android-based applications. This course will help students develop and publish their mobile applications.

Course Outcomes: At the end of this course, the student will be able to:

- BCA-CTIS -505 (I).1. Understand the Android Platform, its architecture and features.
- BCA-CTIS -505 (I).2. Design and implement user interface, database application and content providers.
- BCA-CTIS -505 (I).3. Understand and apply hardware components and security issues in Android.
- BCA-CTIS -505(I).4. Evaluate multimedia, camera and location-based services in Android application.
- BCA-CTIS-505(I).5. Create and implement test cases to analyse performance of Android application.

UNIT: I

Introduction: Mobile Applications, Characteristics and Benefits, Application Model, Infrastructure and Managing Resources, Mobile Software Engineering, Frameworks and Tools, Mobile devices Profiles. Application Design: Memory Management, Design patterns for limited memory, Work flow for Application Development, Techniques for composing Applications, Dynamic Linking, Plug-ins and rules of thumb for using DLLs, Concurrency and Resource Management.

UNIT: II

Development: Intents and Services, Storing and Retrieving data, Communication via the Web, Notification and Alarms, Graphics and Multimedia, Telephony, Location based services, Packaging and Deployment, Security and Hacking. Google Android: Introduction, JDK & ADK, Android Application Architecture, Traditional Programming Model and Android, Activities, Intents, Tasks, Services; Runtime Environment for Applications, Callbacks and Override in application, Concurrency, Serialization, Application Signing, Publishing your application, API keys for Google Maps.

UNIT: III

Android Framework: GUI and MVC Architecture, Fragments and Multi-platform development, Creating Widgets: Layouts, Canvas Drawing, Shadows, Gradients; Applications with multiple screens; Handling database in Android: Android Database class, Using the Database API.

UNIT: IV

Android Applications: Working with Eclipse and Android, Various life cycles for applications, building a User Interface: Blank UI, Folding and Unfolding a scalable UI, Making Activity, Fragment, Multiple layouts; Content Provider, Location and Mapping: location based services, Mapping, Google Maps activity, working with MapView and MapActivity; Playing and Recording of Audio and Video in application; Sensors and Near Field Communication; Native libraries and headers, Building client server applications.

TEXTBOOKS:

1. Zigurd Mednieks, Laird Dornin, G,Blake Meike and Masumi Nakamura “Programming Android”, O’Reilly Publications.
2. Wei-Meng Lee, “Beginning iPhone SDK Programming with Objective-C”, Wiley India Ltd.
3. James C.S. “Android Application development”, CENGAGE Learning.
4. Gargenta M., Nakamura M., “Learning Android”, O’Reilly Publications.V S Janakiraman, “Foundation of Artificial Intelligence and Expert Systems”

BCA-CTIS-505(II): PROGRAMMING WITH PYTHON

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: The course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel. After completing this course, student will be able to gain Problem solving skills and programming capability.

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS-505(II).1. Understand the basics of Python programming
BCA-CTIS-505(II).2. Use various sequences and mapping in Python
BCA-CTIS-505(II).3. Import Modules and Create user defined functions in python
BCA-CTIS-505(II).4. Understand different types of files and File Handling in python

UNIT-I

Introduction to Python, features, Character set, tokens (keyword, identifier, literal, operator, punctuator), variables, use of comments, **Data types**: number (integer, floating point, complex), boolean, sequence (string, list, tuple), None, mapping (dictionary), mutable and immutable data types.

Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in), precedence of operators, **Expressions**, evaluation of expression, type conversion (explicit & implicit conversion).

UNIT-II

Lists: introduction, indexing, list operations, traversing a list using loops, built-in functions. **Tuples**: introduction, indexing, tuple operations, built-in functions. **Dictionary**: introduction, accessing items in a dictionary using keys, mutability of dictionary, traversing a dictionary, built-in functions. **Strings**: introduction, indexing, string operations, traversing a string using loops, built-in functions. **Conditional statements**: if, if-else, if-elif-else. **Iterative statements**: for loop, range function, while loop, break and continue statements, nested loops.

Unit – III

Introduction to Python modules: Importing module using 'import <module>' and using from statement, importing math module, random module. **Functions**: types of function (built-in functions, functions defined in module, user defined functions), creating user-defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), scope of a variable (global scope, local scope)

Unit – IV

Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths, file modes, **Text file**: open, close, reading, writing/appending data to a text file, seek and tell methods. **Binary file**: open, close, read, write/create, search, append and update operations in a binary file, **CSV file**: open / close read and write into a csv file

Text Books:

1. Python: The Complete Reference - Mc Graw Hill Edition - by Martin C Brown
2. Introduction to programming using python - Pearson - by Y. Daniel Liang

BCA-CTIS-507(I) Data Warehousing & Mining	
Type: Core Course (CC) Contact Hours: 03 hours/week. Examination Duration: 3 Hours Mode: Lecture External Maximum Marks: 60 External Pass Marks: 24 (i.e. 40%) Internal Maximum Marks: 15 Total Max. Marks: 75 Total Pass Marks: 30 (i.e. 40%)	Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.
Course Objectives: To familiarize the students with the basics of DWDM	
Course Outcomes: At the end of this course, the student will be able to: BCA-CTIS -507 (I).1. To understand the basic principles, concepts, and applications of data warehousing and to differentiate between OLTP and OLAP BCA-CTIS -507 (I).2. To understand the task of data mining as an important phase of the knowledge discovery process. BCA-CTIS -507 (I).3. To analyse various tools of Data Mining and their techniques to solve the real time problems. BCA-CTIS -507(I).4. To develop further interest in research and design by understanding classification techniques.	
UNIT: I	
Data Warehouse: Basic concepts, The Data Warehouse - A Brief History, Characteristics, Difference between Operational Database Systems and Data Warehouse, Architecture for a Data Warehouse, Fact and Dimension Tables, Data Warehouse Schemas, Data Cube: A Multidimensional Data Model, Data Cube Computation Methods, Typical OLAP Operations, Data Warehouse Design and Usage.	
UNIT: II	
Data Mining: Introduction: Motivation, Importance, Knowledge Discovery Process, Data Mining Functionalities, Interesting Patterns, Classification of Data Mining Systems, Major issues, Data Objects and Attribute Types. Data Preprocessing: Overview, Data Cleaning, Data Integration, Data Reduction, Data Transformation and Data Discretization. Data Visualization,	
UNIT: III	
Association Rule Mining- Market Basket Analysis, Frequent Itemset Mining using Apriori Algorithm, Improving the Efficiency of Apriori, Neural Network- Bayesian Belief Networks, Classification by Backpropagation. Data Mining Applications, Data Mining Trends and Tools.	
UNIT: IV	
Clustering- Requirement for Cluster Analysis, Clustering Methods- Partitioning Methods, Hierarchical Methods, Density-Based Methods, Grid-Based Methods, Evaluation of Clustering. Outliers, Types of Outliers and Challenges of Outlier Detection. Nearest Neighbour Classification: Performance of Nearest Neighbour Classifiers.	
TEXTBOOKS: 1 J Hanes, M. Kamber, Data Mining Concepts and Techniques, Elsevier India. 2. Ronald K. Pearson, Exploratory Data Analysis Using R, CRC Press.	
Reference Books: 1.G.S. Linoff, M.J.A. Berry, Data Mining Techniques, Wiley India Pvt. Ltd. 2. Berson, S.J. Smith, Data Warehousing, Data Mining & OLAP, Tata McGraw-Hill. 3. Jared P. Lander, R For Everyone, Perason India Education Services Pvt. Ltd.	

BCA-CTIS-507(II) E-Commerce

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: Analysis and evaluate the commerce model along with the concepts of Governance and Emerging Technologies in E-Commerce

Course Outcomes: At the end of this course, the student will be able to:

BCA-CTIS -507 (II).1. Understand and deploy the importance of the Internet, web apps, features, and elements in E-Commerce to boost up the traditional venture across the globe.

BCA-CTIS -507 (II).2. Understand various types of E-commerce in the market i.e., B2B, B2C, C2C, C2B.

BCA-CTIS -507 (II).3. Analyze the difference between Governance and E-governance.

BCA-CTIS -507(II).4. Understand the way to explore various sectors i.e. Tourism, Share market, E-Banking, and etc.

BCA-CTIS-507(II).5. Understand the emerging E-Commerce scenario in India

UNIT: I

Introduction to E-Commerce: -Business operations; E-commerce practices vs. traditional business practices; concepts of B2B, B2C, C2C, B2G, G2H, G2C; Features of E-Commerce, Types of Ecommerce Systems, Elements of E-Commerce, principles of E-Commerce, Benefits and Limitations of E-Commerce.

Management Issues relating to e-commerce. Operations of E-commerce: Credit card transaction; Secure Hypertext Transfer Protocol (SHTTP); Electronic payment systems; Secure electronic transaction (SET); SET's encryption; Process; Cybercash; Smart cards; Indian payment models.

UNIT: II

Applications in governance: EDI in governance; E-government; E-Governance applications of Internet; concept of government-to-business, business-to-government and citizen-to-government; E-governance models; Private sector interface in E-governance. Applications in B2C: Consumers shopping procedure on the Internet; Impact on disintermediation and re-intermediation; Global market; Strategy of traditional department stores.

UNIT: III

Products in b2c model; success factors of e-brokers; Broker-based services on-line; On-line travel tourism services; Benefits and impact of e-commerce on travel industry; Deal estate market; online stock trading and its benefits; Online banking and its benefits; On-line financial services and their future; E-auctions – benefits, implementation and impact

UNIT: IV

Applications in B2B: Key technologies for b2b; architectural models of b2b, characteristics of the supplier-oriented marketplace, buyer-oriented marketplace and intermediary-oriented marketplace; Just In Time delivery in b2b; Internet-based EDI from traditional EDI; Marketing Issues in b2b.

Emerging Business models: Retail model; Media model; advisory model, made-to-order manufacturing model; Do-it-yourself model; Information service model; Emerging hybrid models; Emerging models in India, Internet & E-Commerce scenario in India; Internet security Issues; Legal aspects of E-commerce

TEXTBOOKS:

1. Turban E., Lee J., King D. and Chung H.M: "Electronic commerce-a Managerial Perspective", Prentice-Hall International, Inc.
2. Bhatia V., "E-Commerce", Khanna Book Pub. Co.(P) Ltd., Delhi.

BCA-CTIS-508(I): ARTIFICIAL INTELLIGENCE

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to introduce the duties of system administrator, system configuration files, tcp/ip networking, network file system, basics of samba server, internet services used in Linux

Course Outcomes: At the end of this course, the student will be able to:

- BCA-CTIS -508 (I).1. Understand the fundamentals of Artificial intelligence and problem-solving using resolution.
- BCA-CTIS -508 (I).2. Understand architecture, components and knowledge representation strategies in Expert system.
- BCA-CTIS -508 (I).3. Understand and analyze different search strategies and their properties
- BCA-CTIS -508 (I).4. Understand the purpose and applicability of NLP and Robotics.

UNIT – I

Artificial Intelligence: Intelligence, AI Concepts, Various definitions of AI, Knowledge, Knowledge Pyramid, People and Computers: What computers can do better than people, what people can do better than computers; Characteristics of AI Problems, Problem Representation in AI, Components of AI, AI Evolution, Application Areas of AI, History of AI, The Turing Test, The Revised Turing Test.

The predicate calculus: Syntax and semantic for propositional logic and FOPL, Clausal form, inference rules, resolution and unification.

UNIT – II

Expert System: Components of Expert System: Knowledge Base, Inference Engine, User Interface, Features of Expert System, Expert System Life Cycle, Categories of Expert System, Rule Based vs. Model Based Expert Systems, Advantages/Limitations of Expert System, Developing an Expert System: Identification, Conceptualization, Formalization, Implementation, Testing, Using an Expert System, Application Areas of Expert System

UNIT-III

Search strategies: Strategies for state space search-data driven and goal driven search; Search algorithms- uninformed search (depth first, breadth first, depth first with iterative deepening) and informed search (Hill climbing, best first, A* algorithm, mini-max etc.), computational complexity, Properties of search algorithms - Admissibility, Monotonicity, Optimality, Dominance.

UNIT – IV

Natural Language Processing: Introduction, Need, Goal, Fundamental Problems in Natural Language Understanding, How People overcome Natural Language Problems, Speech Recognition: Introduction, Advantages and Approaches, Introduction to Robotics: Parts of a Robot, Controlling a Robot, Intelligent Robots, Mobile Robots

TEXTBOOKS:

- Henry C. Mishkoff, "Understanding Artificial Intelligence"
- V S Janakiraman, "Foundation of Artificial Intelligence and Expert Systems"

REFERENCES:

- Dan W. Patterson, "Introduction to Artificial Intelligence and Expert Systems"

BCA-CTIS-508(II): DATABASE SECURITY

Type: Core Course (CC)
Contact Hours: 03 hours/week.
Examination Duration: 3 Hours
Mode: Lecture
External Maximum Marks: 60
External Pass Marks: 24 (i.e. 40%)
Internal Maximum Marks: 15
Total Max. Marks: 75
Total Pass Marks: 30 (i.e. 40%)

Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.

Course Objectives: This course aims to understand the various database security models and their advantages and disadvantages.

Course Outcomes: At the end of this course, the student will be able to:
BCA-CTIS -508 (II).1. Understand basic concepts of database security.
BCA-CTIS -508 (II).2. Understand Access Control and SQL injection methods.
BCA-CTIS -508 (II).3. Understand Database Security Models.
BCA-CTIS -508 (II).4. Understand Security Mechanism and Security Software Design.

UNIT – I

Database Security: - Introduction to Database Security issues and DBA, Access Control, User Accounts and Database Audits, Relationship between Information Security and Information Privacy, Objectives, Need of Database Security, Types of Database Security, Threats to the Database, Types of Threats, Principles of Database Security, Authentication and Authorisation

UNIT-II

Access Control Methods: - Discretionary Access Control, Mandatory Access Control, Role-Based Access Control.
SQL Injection Methods, Risks associated with SQL Injection Methods, Projection Techniques, Flow Control, Encryption, Digital Signature, Digital Certificates

UNIT-III

Challenges in maintaining Database Security
Security Models:- Access Matrix Model Take-Grant Model, Acten Model, PN Model, Hartson and Hsiao's Model, Fernandez's Model, Bussolati and Martella's Model for Distributed Databases, Bell and LaPadula's Model , Biba's Model, Dion's Model, Sea View Model, Jajodia and Sandhu's Model, The Lattice Model for the Flow Control

UNIT – IV

Security Mechanism: - Introduction, User Identification/Authentication, Memory protection, Resource Protection, Control Flow Mechanisms
Security Software Design Introduction: A methodological approach to Security Software Design, Secure Operating System Design, Secure DBMS Design, Security Packages, Database Security Design, Statistical Database Protection & Intrusion Detection Systems, Introduction Statistical Concepts and Definitions, Types of Attacks, Inference Controls, Evaluation criteria for Control comparison, Introduction to IDES System, RETISS System, ASES System Discovery

TEXTBOOKS:

- Fundamentals of Database Systems Ramez Elmasri, Shamkant B. Navathe
- Handbook on Database Security Applications and Trends Michael Gertz, Sushil Jajodia V S Janakiraman, "Foundation of Artificial Intelligence and Expert Systems"

REFERENCES:

- Fundamentals of Database Systems Ramez Elmasri, Shamkant B. Navathe
- Implementing Database Security and Auditing Ron Ben Natan
- Database Security by Silvana Castano, Maria Grazia Fugini, Giancarlo Martella

BCA–CTIS-510(II) : Entrepreneurship	
Type: Core Course (CC) Contact Hours: 02 hours/week. Examination Duration: 3 Hours Mode: Lecture External Maximum Marks: 40 External Pass Marks: 16 (i.e. 40%) Internal Maximum Marks: 10 Total Max. Marks: 50 Total Pass Marks: 20 (i.e. 40%)	Instructions To Paper Setter For End Semester Exam: Examiner will be required to set NINE questions in all. Question No.1 will consist of objective type / short-answer type questions covering the entire syllabus. In addition to Question no. 1, the examiner is required to set EIGHT more questions selecting TWO from each UNIT. Student will be required to attempt FIVE questions in all. Question No.1 will be compulsory. In addition to compulsory question, student will have to attempt FOUR more questions selecting ONE question from each UNIT. All questions will carry equal marks.
Course Objectives: The purpose of this course is to introduce students the basics of Entrepreneurship.	
Course Outcomes: At the end of this course, the student will be able to: BCA–CTIS-510(II).1. To be able understand who the entrepreneurs are and what competences needed to become an entrepreneur. BCA–CTIS-510(II).2 To be able understand insights into the management, opportunity search, identification of a Product; market feasibility studies; project finalization etc. required for small business enterprises. BCA–CTIS-510(II).3 To be able to write a report and do oral presentation on the topics such as product identification, business idea, export marketing etc. BCA–CTIS-510(II).4. To be able to know the different financial and other assistance available for the establishing small industrial units	
UNIT-I	
Entrepreneurship: Concept and Definitions; Entrepreneurship and Economic Development; Classification and Types of Entrepreneurs; Entrepreneurial Competencies; Factor Affecting Entrepreneurial Growth – Economic, Non-Economic Factors; EDP Programmes; Entrepreneurial Training; Traits/Qualities of an Entrepreneurs; Entrepreneur; Manager Vs. Entrepreneur. types of entrepreneurs, Entrepreneurial myths.	
UNIT-II	
Opportunity / Identification and Product Selection: Entrepreneurial Opportunity Search and Identification; Criteria to Select a Product; Conducting Feasibility Studies; Sources of business ideas, launching a new product; export marketing, project finalization, Project Report Preparation; Project Planning and Scheduling. Sources of finance for entrepreneurs.	
UNIT-III	
Small Enterprises and Enterprise Launching Formalities : Definition of Small Scale; Rationale; Objective; Scope; SSI; Registration; NOC from Pollution Board; Machinery and Equipment Selection , Role of SSI in Economic Development of India; major problem faced by SSI,MSMEs – Definition and Significance in Indian Economy; MSME Schemes, Challenges and Difficulties in availing MSME Schemes.	
UNIT-IV	
Role of Support Institutions and Management of Small Business: Director of Industries; DIC; SIDO; SIDBI; Small Industries Development Corporation (SIDC); SISI; NSIC; NISBUD; State Financial Corporation SIC; Marketing Management; Production Management; Finance Management; Human Resource Management; Export Marketing, Venture Capital: Concept, venture capital financing schemes offered by various financial institutions in India requirements for formation of a Private/Public Limited Company. Case Studies-At least one in whole course.	
Text Books: <ol style="list-style-type: none"> 1. “Entrepreneurship development small business enterprises”, Pearson, Poornima M Charantimath,2013. 2. Roy Rajiv, “Entrepreneurship”, Oxford University Press, 2011. 3. “Innovation and Entrepreneurship”, Harper business- Drucker F, Peter, 2006. 	

4. "Entrepreneurship", Tata Mc-graw Hill Publishing Co. ltd new Delhi- Robert D. Hisrich, Mathew J. Manimala, Michael P Peters and Dean A. Shepherd, 8th Edition, 2012
5. Entrepreneurship Development- S.Chand & Co.,Delhi- S.S.Khanka 1999
6. Small-Scale Industries and Entrepreneurship. Himalaya Publishing House, Delhi -Desai, Vasant, 2003.
7. Entrepreneurship Management -Cynthia, Kaulgud, Aruna, Vikas Publishing House, Delhi, 2003.

Reference Books:

1. Badhai, B 'Entrepreneurship for Engineers', Dhanpat Rai & co. (p) Ltd.
2. Desai, Vasant, 'Project Management and Entrepreneurship', Himalayan Publishing House, Mumbai, 2002.
3. Gupta and Srinivasan, 'Entrepreneurial Development', S Chand & Sons, New Delhi

**KURUKSHETRA UNIVERSITY
KURUKSHETRA**

**Scheme of Examination and Syllabus for
M.Sc. (5-Year Integrated) Forensic Science**

**Under Multiple Entry-Exit, Internship and
CBCS-LOCF in accordance to NEP-2020
w.e.f. 2023-24 (in phased manner)**

DEPARTMENT OF ZOOLOGY, KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for M.Sc. (5-Year Integrated) Forensic Science
Under Multiple Entry-Exit, Internship and CBCS-LOCF in accordance to NEP-2020
w.e.f. 2023-24 (in phased manner)

SEMESTER-1								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-1 MCC-1 4 credit (Scheme A&C)	B23-FSC-101	Basics of Forensic Science	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MCC-2 4 credit (Scheme C)	B23-FSC-102	Criminology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-MI 2 credit (Scheme A)	B23-FSC-103	Introduction to Forensic Science	1	1	10	20	30	3 hrs.
			1	2	5	15	20	4 hrs.
MDC-1 3 credit (Scheme A&C)	B23-FSC-104	Basic Forensic-I	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
SEMESTER-2								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-2 MCC-3 4 credit (Scheme A&C)	B23-FSC-201	Forensic & Law	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSEC-1 4 credit (Scheme C)	B23-FSC-202	Crime Scene Management	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M2 2 credit (Scheme A)	B23-FSC-203	Crime Scene & Evidences	1	1	10	20	30	3 hrs.
			1	2	5	15	20	4 hrs.
MDC-2 3 credit (Scheme A&C)	B23-FSC-204	Basic Forensic-II	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
SEMESTER-3								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-3 MCC-4 4 credit (Scheme A,B&C)	B23-FSC-301	Questioned Documents and Report Writing	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MCC-5 4 credit (Scheme B&C)	B23-FSC-302	Analytical Techniques used in Forensic Science-I	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MDC-3 3 credit (Scheme A,B&C)	B23-FSC-303	Basic Forensic-III	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
SEMESTER-4								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-4 MCC-6 4 credit (Scheme A,B&C)	B23-FSC-401	Forensic Medicine	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

MCC-7 4 credit (Scheme B&C)	B23-FSC-402	Forensic Chemistry and Toxicology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MCC-8 4 credit (Scheme B&C)	B23-FSC-403	Forensic Psychology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSE-1 4 credit Select one option (Scheme B&C)	B23-FSC-404	Basics of Forensic Anthropology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
	B23-FSC-405	Digital Forensics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
SEMESTER-5								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-5 MCC-9 4 credit (Scheme A,B&C)	B23-FSC-501	Fingerprints and Impressions	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MCC-10 4 credit (Scheme B&C)	B23-FSC-502	Analytical Techniques used in Forensic Science-II	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSE-2 4 credit Select one Option (Scheme B&C)	B23-FSC-503	Forensic Biology and Wildlife Forensics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
	B23-FSC-504	Basics of Forensic Ballistics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSE-3 4 credit Select one Option (Scheme B&C)	B23-FSC-505	Basics of Immunology and Serology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
	B23-FSC-506	Advance Digital Forensics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
SEMESTER-6								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-6 MCC-11 4 credit (Scheme A, B&C)	B23-FSC-601	Computer Forensics and Biometrics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MCC-12 4 credit (Scheme B&C)	B23-FSC-602	Serology and DNA Forensics	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSE-4 4 credit Select one Option (Scheme B&C)	B23-FSC-603	Victimology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
	B23-FSC-604	Forensic Photography	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
DSE-5 4 credit Select one Option (Scheme B&C)	B23-FSC-605	Forensic Pharmacology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
	B23-FSC-606	Quality Management System	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

SEMESTER-7 (FOR HONOURS/HONOURS WITH RESEARCH IN FORENSIC SCIENCE)								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-H1 4 credit	B23-FSC-701	General Forensic Science	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-FSC-702	Instrumental Analysis-I	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-FSC-703	Biological Forensic Evidences	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23-FSC-704	Advances in Forensic Biology	4	4	30	70	100	3 hrs.
	B23-FSC-705	Advances in Forensic Chemistry	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-FSC-706	Practical	4	8	30	70	100	6 hrs.
SEMESTER-8 (FOR HONOURS IN FORENSIC SCIENCE)								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-H4 4 credit	B23-FSC-801	Forensic Toxicology	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FSC-802	Questioned Document Examination	4	4	30	70	100	3 hrs.
CC-H6 4 credit	B23-FSC-803	Instrumental Analysis-II	4	4	30	70	100	3 hrs.
DSE-H2 4 credit Select one option	B23-FSC-804	DNA Profiling	4	4	30	70	100	3 hrs.
	B23-FSC-805	Cyber Crime and Cyber Law	4	4	30	70	100	3 hrs.
PC-H2 4 credit	B23-FSC-806	Practical	4	8	30	70	100	6 hrs.
OR SEMESTER-8 (FOR HONOURS WITH RESEARCH IN FORENSIC SCIENCE)								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-H4 4 credit	B23-FSC-801	Forensic Toxicology	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FSC-802	Questioned Document Examination	4	4	30	70	100	3 hrs.
Project/ Dissertation 12 credit	B23-FSC-807	Project/Dissertation	8+4	-	-	-	300	-

SEMESTER-9								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-PG1 4 credit	B23-FSC-901	Forensic Ballistics and Explosives	4	4	30	70	100	3 hrs.
CC-PG2 4 credit	B23-FSC-902	Computer Forensics and Recent Advances	4	4	30	70	100	3 hrs.
CC-PG3 4 credit	B23-FSC-903	Forensic Medicine and Drug Analysis	4	4	30	70	100	3 hrs.
DSE-PG1 4 credit Select one Option	B23-FSC-904	Forensic Anthropology and Biometrics	4	4	30	70	100	3 hrs.
	B23-FSC-905	Forensic Genetics and Serology	4	4	30	70	100	3 hrs.
PC-PG1 4 credit	B23-FSC-906	Practical	4	8	30	70	100	6 hrs.
SEMESTER-10 (FOR THE STUDENTS WHO HAVE DONE HONOURS IN FORENSIC SCIENCE DURING 8 TH SEMESTER)								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-PG4 4 credit	B23-FSC-1001	Forensic Physics	4	4	30	70	100	3 hrs.
CC-PG5 4 credit	B23-FSC-1002	Forensic Dactylography and other Impressions	4	4	30	70	100	3 hrs.
Project/ Dissertation 12 credit	B23-FSC-1003	Project/Dissertation	8+4	-	-	-	300	-
SEMESTER-10 (FOR THE STUDENTS WHO HAVE DONE HONOURS WITH RESEARCH IN FORENSIC SCIENCE DURING 8 TH SEMESTER)								
CC-PG4 4 credit	B23-FSC-1001	Forensic Physics	4	4	30	70	100	3 hrs.
CC-PG5 4 credit	B23-FSC-1002	Forensic Dactylography and other Impressions	4	4	30	70	100	3 hrs.
CC-PG6	B23-FSC-1004	Instrumental Analysis-II	4	4	30	70	100	3 hrs.
DSE-PG2 4 credit Select one Option	B23-FSC-1005	DNA Profiling	4	4	30	70	100	3 hrs.
	B23-FSC-1006	Cyber Crime and Cyber Law	4	4	30	70	100	3 hrs.
PC-PG1 4 credit	B23-FSC-1007	Practical	4	8	30	70	100	4 hrs.

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-I

Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-1 MCC-1 4 credit (Scheme A&C)	B23-FSC-101	Basics of Forensic Science	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

Level of the course: 100-199

Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)

Course Learning Outcomes (CLOs): At the end of the course the student should be able to:

1. Learn the basic concepts of forensic science.
2. To Study the history of forensic science.
3. To understand the organization of the forensic laboratory.
4. To acquire knowledge on agencies involved in crime detection and investigation.
5. Understand crime cases and their components.

Instructions for Paper-Setter

1. Nine questions will be set in all. All questions will carry equal marks.
2. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.

UNIT	TOPICS	CONTACT HOURS
I	Concepts in Forensic Science Definition of forensic science; scope and need of forensic science; Functions of Forensic Science; Evidence; classification of evidence: according to Indian Evidence Act, based on nature of evidence, class and individual evidence; Principles of forensic science; Frye Rule; Daubert Standards; Terminologies in forensic science: First responder, chain of custody, Mahazar, Code of conduct for forensic scientists; Qualifications of forensic scientists; Duties of forensic scientists; Data depiction; Report writing. Ethics in Forensic Science.	12
II	History of Forensic Science Pioneers in Forensic Sciences: History and development of branches of forensic science: forensic biology, forensic chemistry and toxicology, forensic anthropology, fingerprints, questioned document examination, forensic ballistics, digital and cyber forensics, forensic audio analysis, forensic psychology; Contribution of Sir Edgar Hoover through the FBI.	11
III	Organization of Forensic Science Laboratory Forensic Science Laboratories in India: history, development and hierarchical set up; Directorate of Forensic Science Services, Central, State and Regional Forensic Science Laboratories; Mobile Crime Laboratories; Branches of Forensic Science Laboratories (definition and functions): Forensic Biology, DNA, Forensic Chemistry, Forensic Toxicology, Narcotics Unit, Forensic Physics, Forensic Ballistics, Forensic Psychology, Questioned Documents, Computer Forensics, Forensic Audio Analysis.	11
IV	Agencies involved in crime detection and investigation Functions and hierarchical setup of Law enforcement agencies: civil police, reserve police; Government Examiners of Questioned Documents; Fingerprint Bureaus; National Crime Records Bureau; Police & Detective Training Schools; Bureau of Police Research & Development; National and State Police Academies: Police Training Schools/Colleges, Dog Squad, Bomb Detection and Defusal Squad; RAW, CBI, INTERPOL, NIA and FBI.	11
V	Practical	30

Practical	<ol style="list-style-type: none"> 1. Identifying and classifying evidence from a given case study. 2. Using the principle of probability in a case study with respect to one evidence 3. Identifying evidence and relating the branch of forensic science that it should be sent to from a case study. 4. Writing a forensic report on a criminal case from a case study. 5. Using a case study identify the agencies that need to be involved in the process of investigation with proper justification. 6. Examine the latest report of NCRB and study the data pertaining to murder cases in India using digital pie charts and graphs for depiction. 7. Collection, preservation, handling, and physical evidence method of different Crimes. 8. Understanding the hierarchical setup of different forensic science establishments and suggesting improvements. 	
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 	End Term Examination: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Written Examination: 50 > Practicum <ul style="list-style-type: none"> Practical Examination: 20 	
Learning Resources		
<ol style="list-style-type: none"> 1. Brenner, J. C. (2004). Forensic Science: an Illustrated Dictionary. CRC Press. Eckert, W. G. (1997). 2. Introduction to Forensic Sciences (2nd Edition). CRC Press. James, S. H., Nordby, J. J., Bell, S. (2014). 3. Forensic Science: An Introduction to Scientific and Investigative Techniques (4th Edition). CRC Press. 4. Nabar, B. (2017). Forensic Science in Crime Investigation. Asia Law House. S Nath, R. C. (2013). 5. Forensic Science and Crime Investigation: Abhijeet Publications. Saferstein, R. (2017). 6. Criminalistics: An Introduction to Forensic Science. Pearson. Sharma, B. R. (2019). 7. Forensic Science in Criminal Investigation & Trails. Universal Law Publishing Company. Yount, L. (2006). 8. Forensic Science: From Fibers to Fingerprints (Milestones in Discovery and Invention). Chelsea House publications. 		

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-I

Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
MCC-2 4 credit (Scheme C)	B23-FSC-102	Criminology	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

Level of the course: 100-199

Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)

Course Learning Outcomes (CLOs): At the end of the course the student should be able to:

1. The basic concepts of criminology.
2. The causes and types of crime and criminals.
3. Historical Development of Victimology.
4. Crime victim-Victim genesis.
5. Understand the practical aspects of Criminal Procedure related to forensic science.

Instructions for Paper-Setter

1. Nine questions will be set in all. All questions will carry equal marks.
2. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.

UNIT	TOPICS	CONTACT HOURS
I	Concepts of Criminology Crime: definition, characteristics of crime, elements of crime, and crime triangle; Criminology – definitions, historical perspectives, nature, origin, and scope. Theories of Criminology: Pre-Classical, Classical, Neo-Classical, Positivist, Biological, Social Learning Theory, Differential Association theory, Labelling Theory, Containment theory, and Routine Activity Theory	12
II	Causes and Types of Crime and Criminals Causes of crime: Social, Economic, Political, and Psychological; Social Problems and crime: Juvenile Delinquency, Prostitution, Dowry, drug abuse, and child labour. Types of Crime: Crimes against persons, violent crimes, sexual offences, crimes against property, cyber-crime, hate crimes and public disorder, emerging crimes. Types of Criminals: Habitual, Professional, and White-Collar Criminals.	11
III	Penology Historical Development of Penology and definitions of punishment, Concepts of correctional administration and types of punishments, Theories of punishment: Retributive, Prevention, Deterrence, and Reformative. Prisons: Historical development of Indian Prisons, Correctional Administration: Classification of Prisons and Prisoners, Non-Institutional Programmes- Probation, Parole, and After-Care. Unusual Problems in Correctional Institutions.	11
IV	Victimology Introduction to Victimology: Meaning of Victimology, Historical Development of Victimology; Victim and Victimization: Concept, Nature and Related Issues. Key Concepts in Victimology: Victim - Crime Victim - Victim Genesis -Victim Precipitation- General Victim-Victimization Proneness, Victim Responsiveness. Victim Psychology, Psychodynamics of Victimization- Primary Victimization, Secondary Victimization, Tertiary Victimization, Victim Vulnerability and Victimless Crimes.	11
V Practical	Practical 1. To review past criminal cases and elucidate which theory best explains the criminal behavior of the accused.	30

	<ol style="list-style-type: none"> 2. To cite examples of criminal cases in which the media acted as a pressure group. 3. To review crime cases where criminal profiling assisted the police to apprehend the accused. 4. To evaluate the post-trauma stress amongst victims of racial discrimination. 5. To correlate the deviant behavior of the accused with criminality (take a specific example). 6. To evaluate victimology in a heinous crime. 7. To evaluate how rising standards of living affect the crime rate. 8. To review the recommendations on the modernization of police stations and evaluate how far these have been carried out in different police stations. 9. To visit a “Model Police Station” and examine the amenities vis-à-vis conventional police stations. 10. To prepare a report on interrogation cells and suggest improvements. 	
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Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Written Examination: 50 > Practicum <ul style="list-style-type: none"> • Practical Examination: 20
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Learning Resources

<ol style="list-style-type: none"> 1. Brenner, J. C. (2004). Forensic Science: an Illustrated Dictionary. CRC Press. Eckert, W. G. (1997). 2. Introduction to Forensic Sciences (2nd Edition). CRC Press. James, S. H., Nordby, J. J., Bell, S. (2014). 3. Forensic Science: An Introduction to Scientific and Investigative Techniques (4th Edition). CRC Press. 4. Nabar, B. (2017). Forensic Science in Crime Investigation. Asia Law House. S Nath, R. C. (2013). 5. Forensic Science and Crime Investigation: Abhijeet Publications. Saferstein, R. (2017). 6. Criminalistics: An Introduction to Forensic Science. Pearson. Sharma, B. R. (2019). 7. Forensic Science in Criminal Investigation & Trails. Universal Law Publishing Company. Yount, L. (2006). 8. Forensic Science: From Fibers to Fingerprints (Milestones in Discovery and Invention). Chelsea House publications.

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-I

Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-MI 2 credit (Scheme A)	B23-FSC-103	Introduction to Forensic Science	1	1	10	20	30	3 hrs.
		Practical	1	2	5	15	20	4 hrs.
Level of the course: 100-199								
Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)								
Course Learning Outcomes (CLOs): At the end of the course the student should be able to:								
<ol style="list-style-type: none"> Learn the significance of forensic science to human society. Learn the fundamental principles and functions of forensic science. To Study the history of forensic science. To acquire knowledge on agencies involved in crime detection and investigation. Understand crime cases and their components. 								
Instructions for Paper-Setter								
<ol style="list-style-type: none"> Nine questions will be set in all. All questions will carry equal marks. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit. 								
UNIT	TOPICS							CONTACT HOURS
I	History of Development of Forensic Science in India History of Development of Forensic Science in India Functions of forensic science. Historical aspects of forensic science - Definitions and concepts in forensic science. Scope of forensic science. Need of forensic science. Basic Principles of forensic science.							4
II	Tools and Techniques in Forensic Science Pioneers Branches of forensic science. Forensic science in international perspectives, including set up of INTERPOL and FBI. Duties of forensic scientists. Code of conduct for forensic scientists. Qualifications of forensic scientists.							4
III	Organizational set up of Forensic Science Laboratories in India Hierarchical set up of Central Forensic Science Laboratories, State Forensic Science Laboratories, Government Examiners of Questioned Documents, Fingerprint Bureaus, National Crime Records Bureau, Police & Detective Training Schools, Bureau of Police Research & Development, Directorate of Forensic Science services and Mobile Crime Laboratories. Police Academies. Police dogs. Services of crime laboratories. Basic services and optional services.							4
IV	Agencies Involved in Crime Detection and Investigation Functions and hierarchical set up of Law enforcement agencies: civil police, reserve police; Government Examiners of Questioned Documents; Fingerprint Bureaus; National Crime Records Bureau; Police & Detective Training Schools; Bureau of Police Research & Development; National and State Police Academies, Police Training Schools/Colleges, Dog Squad, Bomb Detection and Defusal Squad, RAW, CBI, INTERPOL, NIA and FBI.							3
V Practical	Practical <ol style="list-style-type: none"> To study the history of crime cases from a forensic science perspective. To review the sections of forensic science at INTERPOL and compare them with those in Central Forensic Science Laboratories in India. Include suggestions for improvements if any. To study the annual reports of the National Crime Records Bureau and depict the data on different types of crime cases using smart art/templates. 							30

	<p>4. To write reports on different types of crime cases.</p> <p>5. To examine the hierarchical setup of different forensic science establishments and suggest improvements.</p> <p>6. To examine the list of projects undertaken by the Bureau of Police Research and Development and suggest the thrust areas of research in Police Science.</p> <p>7. To compare the code of conduct prescribed by different establishments for forensic scientists.</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Written Examination: 20 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Practical Examination: 15 	
Learning Resources		
<ol style="list-style-type: none"> 1. B.B. Nanda and R.K. Tiwari, Forensic Science in India: A Vision for the Twenty-First Century, Select Publishers, New Delhi (2001). 2. M.K. Bhasin and S. Nath, Role of Forensic Science in the New Millennium, University of Delhi, Delhi (2002). 3. S.H. James and J.J. Nordby, Forensic Science: An Introduction to Scientific and Investigative Techniques, 2nd Edition, CRC Press, Boca Raton (2005). 4. W.G. Eckert and R.K. Wright in Introduction to Forensic Sciences, 2nd Edition, W.G. Eckert (ED.), CRC Press, Boca Raton (1997). 5. R. Saferstein, Criminalistics, 8th Edition, Prentice Hall, New Jersey (2004). W.J. Tilstone, M.L. Hastrup and C. Hald, Fisher's Techniques of Crime Scene Investigation, CRC Press, Boca Raton (2013). 		

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-I								
Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
MDC-1 3 credit (Scheme A&C)	B23-FSC-104	Basic Forensic-I	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
Level of the course: 100-199								
Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)								
Course Learning Outcomes (CLOs): At the end of the course the student should be able to:								
<ol style="list-style-type: none"> Learn the basic concepts of forensic science. Study of the history of forensic science Understand the organization of forensic laboratories. Acquire knowledge of agencies involved in crime detection and investigation. Understand the safety considerations while handling evidence. 								
Instructions for Paper-Setter								
<ol style="list-style-type: none"> Nine questions will be set in all. All questions will carry equal marks. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit. 								
UNIT	TOPICS							CONTACT HOURS
I	Concept of Forensic Science Forensic Science: Definition, Basic Principles, Historical Development of Forensic Science in India and in Abroad, Branches of Forensic Science, Scope & Need, Ethics of Forensic Science, Tools and Techniques of Forensic Science. International Perspectives of Forensic Science.							8
II	Terminologies in Forensic Science Terminologies in forensic science: First responder, chain of custody, mahazaar; Code of conduct for forensic scientists; Qualifications of forensic scientists; Duties of forensic scientists; Data depiction; Report writing. Ethics in Forensic Science.							8
III	Institutions of Forensic Science Forensic Science Institutions: Directorate of Forensic Science Services, Central Forensic Science Laboratories, State Forensic Science Laboratories, Regional Forensic Science Laboratories, Mobile Forensic Science Laboratory, Organizational Setup, GEQD, FPB, NCRB, etc.							7
IV	Crime Detection Hierarchical Crime: definition, characteristics of crime, elements of crime, and crime triangle. Types of Crime: Crimes against persons, violent crimes, sexual offences, crimes against property, cyber-crime, hate crimes and public disorder, emerging crimes.							7
V Practical	Practical <ol style="list-style-type: none"> To study the history of crime cases from a forensic science perspective. To Visit the Forensic Science Laboratory. To study National Crime Records Bureau reports and depict the data on different types of crime cases. To write reports on different types of crime cases. To examine the hierarchical setup of different forensic science establishments and suggest improvements. To compare the code of conduct prescribed by different establishments for forensic 							30

scientists.		
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 		End Term Examination: > Theory <ul style="list-style-type: none"> • Written Examination: 35 > Practicum <ul style="list-style-type: none"> • Practical Examination: 20
Learning Resources		
<ol style="list-style-type: none"> 1. B.B. Nanda and R.K. Tiwari, Forensic Science in India: A Vision for the Twenty-First Century, Select Publishers, New Delhi (2001). 2. M.K. Bhasin and S. Nath, Role of Forensic Science in the New Millennium, University of Delhi, Delhi (2002). 3. S.H. James and J.J. Nordby, Forensic Science: An Introduction to Scientific and Investigative Techniques, 2nd Edition, CRC Press, Boca Raton (2005). 4. W.G. Eckert and R.K. Wright in Introduction to Forensic Sciences, 2nd Edition, W.G. Eckert (ED.), CRC Press, Boca Raton (1997). 5. R. Saferstein, Criminalistics, 8th Edition, Prentice Hall, New Jersey (2004). W.J. Tilstone, M.L. Hastrup and C. Hald, Fisher's Techniques of Crime Scene Investigation, CRC Press, Boca Raton (2013). 		

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-2

Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-2 MCC-3 4 credit (Scheme A&C)	B23-FSC-201	Forensic & Law	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

Level of the course: 100-199

Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)

Course Learning Outcomes (CLOs): At the end of the course the student should be able to:

1. Describe the organizations involved in the criminal justice system.
2. Point out the provisions of the Indian Penal Code with respect to the offences.
3. Appraise the provisions of the Code of Criminal Procedure that apply to forensic science.
4. Summarize the provision of the Indian Evidence Act and some minor acts.
5. Understand the practical aspects of Criminal Procedure related to forensic science.

Instructions for Paper-Setter

1. Nine questions will be set in all. All questions will carry equal marks.
2. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.

UNIT	TOPICS	CONTACT HOURS
I	<p>Introduction to the Criminal Justice System</p> <p>Criminal Justice System (CJS): Meaning, Purpose and Social Relevance; Legislative Process in Criminal Justice System; Adversarial and Inquisitorial Systems of Criminal Justice System; Coordination in CJS; Reforms in CJS (Malimath Committee Report); Fundamental Elements in Judicial Functioning: Due Process, Speedy Trials and Access to Justice; Hierarchy of courts in India; Alternative Dispute Resolution System (ADRS): Arbitration, Mediation and Counselling, Lok Adalats, Juvenile court, Mahila courts; Restorative Justice</p>	12
II	<p>Salient Features of the Indian Penal Code</p> <p>Elements of Crime: Actus Reus & Mens Rea; Elements of Criminal liability; Principles of group liability (Section 149, 34, 109, 120B IPC); General Exceptions (A): Excusable defences (Sec. 76-95); General Exceptions (B): Justifiable Defences (Sec. 96-106) Offences against Human body: Hurt, Grievous hurt, Culpable Homicide, Murder, Dowry Death, Kidnapping, Abduction, Rape and Acid attack (Sec. 302) Offence against property: Theft, Robbery, Dacoity, Cheating and Criminal Breach of Trust Criminal Amendment Act, 2013: IPC Sec 354, Sec 326 and Sec 376</p>	11
III	<p>Criminal Procedure Code</p> <p>Constitution of Criminal Courts and Functionaries under the Code; Arrest- Meaning and purpose, arrest with/ without a warrant, arrest of a woman, arrest by a private person; Search and Seizure with/without a warrant and general provisions; F.I.R. and procedure after the recording of the F.I.R; Bail- Concept, Purpose & Constitutional Overtones; Anticipatory bail; Charge- Framing of Charge; 21 Form and content of charge; Separate charges for distinct offence Trials- Trial before a court of the session; of warrant cases; of summons cases; Summary trials; Judgment, Appeal, Reference, Revision and Transfer of cases. Chemical examiner's report. CrPC (1873) - 26, 27, 29, 31, 144, 154-158, 176, 291, 292, 293.</p>	11
IV	<p>Law of Evidence and Minor Acts</p> <p>Indian Evidence Act: Introduction; Different types of Evidence; Burden of proof; Relevancy</p>	11

	and admissibility of facts, admissions, and confessions; Relevancy of confessions and dying declarations; Expert opinion: Appreciating expert evidence in court; Expert witness; Cross-Examination and Reexamination of Witnesses, Sections - 32, 45, 46, 47, 57, 58, 60, 73, 114(A) 135, 136, 137, 138, 141. Protection of Children from Sexual Offences Act (POCSO Act), 2012; Protection of Women from Domestic Violence Act, 2005 and Juvenile Justice (Care and Protection of Children) Act, 2015.	
V Practical	<p>Practical</p> <ol style="list-style-type: none"> 1. To prepare a schedule of five cognizable and five non-cognizable offences. 2. To study the powers and limitations of the Court of Judicial Magistrate of First Class. 3. To prepare a schedule of the offences which may be tried under Section 260(2) of the Criminal Procedure Code. 4. To study a criminal case in which an accused was punished on charges of murder under Section 302. 5. To study a crime case in which an accused was punished on the charge of rape under Section 375. 6. To cite an example of a case in which an expert's opinion was called for under Section 45 of the Indian Evidence Act. 7. To cite a case wherein a person was detained under Article 22(5) of the Indian Constitution. Express your views on whether the rights of the person as enlisted in this Article were taken care of. 8. To prepare a schedule of persons convicted under the Narcotics, Drugs, and Psychotropic Act statistically analyze the age group to which they belonged. 9. To study a case in which Drugs and Cosmetic Act was invoked. 10. To study a case in which the Explosive Substances Act was invoked. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Written Examination: 50 <p>➤ Practicum</p> <p>Practical Examination: 20</p>
Learning Resources		
<ol style="list-style-type: none"> 1. D.A. Bronstein, Law for the Expert Witness, CRC Press, Boca Raton (1999). 2. Vipa P. Sarthi, Law of Evidence, 6th Edition, Eastern Book Co., Lucknow (2006). 3. A.S. Pillia, Criminal Law, 6th Edition, N.M. Tripathi Pvt Ltd., Mumbai (1983). 4. R.C. Nigam, Law of Crimes in India, Volume I, Asia Publishing House, New Delhi (1965). 5. (Chief Justice) M. Monir, Law of Evidence, 6th Edition, Universal Law Publishing Co. Pvt. Ltd., New Delhi (2002). 		

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-2

Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
DSEC-1 4 credit (Scheme C)	B23-FSC-202	Crime Scene Management	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.

Level of the course: 100-199

Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)

Course Learning Outcomes (CLOs): At the end of the course the student should be able to:

1. Learn the basic concepts of the crime scene.
2. To Study types of evidence found in crime scenes.
3. To understand the safety considerations while handling evidence.
4. To acquire knowledge on agencies involved in crime detection and investigation.
5. Use the best technique for the collection and preservation of evidence from the scene of crime.

Instructions for Paper-Setter

1. Nine questions will be set in all. All questions will carry equal marks.
2. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit.

UNIT	TOPICS	CONTACT HOURS
I	<p>Introduction to Crime Scene</p> <p>Crime scene: Definition; Types of crime scenes: Primary, Secondary, Indoor, Outdoor, based on the manner of crime: homicide, suicide, accidental; Actions of first responding officer: emergency care, secure and control, Statements of the victim, witness, suspects, databases and records, officer safety, release scene to appropriate authorities. Types of evidence found at the crime scene: physical evidence, biological evidence, digital evidence, individual evidence, and class evidence. The evaluation of 5Ws (who?, what?, when?, where?, why?) and 1H (how). Role of different agencies involved in crime scene management: Police, Forensic Science Laboratories, Medico-legal experts, Judicial officers.</p>	12
II	<p>Crime Scene Investigation</p> <p>Securing the crime scene; Evaluating the crime scene; Preliminary walk-through and documentation of the crime scene; Search and seizure of the crime scene Crime scene search patterns: strip method, grid method, zone/quadrant method, spiral method (inward and outward), wheel, and random; Documenting the crime scene: Photography of the crime scene: Wide range, mid-range and close up photography; Sketching: Rough and final sketch (Triangulation, Baseline, and polar coordinate methods), Videography, 3D Crime Scene Mapping, contemporaneous notes. Identifying and listing evidence along with their evidentiary value.</p>	11
III	<p>Collection and Preservation of Evidence</p> <p>Collection and preservation of evidence along with control samples and standards: blood, urine, saliva, semen, tissue, hair, soil, paint, glass, bullet, cartridge case, clothing, weapons (knife, firearm), documents, drugs, fingerprints, tool marks, explosive material, bite marks; General safety considerations while handling evidence in the crime scene; Forwarding evidence to the Forensic Science Laboratory; Chain of custody.</p>	11
IV	<p>Special Crime Scenes and Crime Scene Reconstruction</p> <p>Arson, mass disasters, road traffic accidents, wildlife crime scene: their scene management and evidence collection for identification; Crime scene reconstruction: Introduction, importance,</p>	11

	nature; Principles; Stages: data collection, conjecture, hypothesis formulation, testing, theory formation. Crime Scene Investigation Kit, Alternate Light Source, ABFO Scales, Placards, Fingerprint Detection kit, Barricading Equipment, Evidence Tags, Sniffer Dogs, Packaging Equipment. ESDA, GPR (Ground Penetrating Radar), RUVIS HAZMAT Suits, Personal Protective Equipment. Product Safety Equipment.	
V Practical	<p>Practical</p> <ol style="list-style-type: none"> 1. Securing and evaluating indoor and outdoor scenes of crime. 2. Searching indoor scenes of crime using the spiral technique and listing evidence. 3. Searching outdoor scenes of crime using the grid search technique. 4. Photographing the scene of the crime with at least five pieces of evidence. 5. Sketching of the indoor crime scene using the baseline method. 6. Sketching of the outdoor crime scene using the triangulation method. 7. Making contemporaneous notes while investigating a scene of the crime. 8. Collection, preservation, sealing, and forwarding of soil samples from the crime scene. 9. Collection, preservation, sealing, and forwarding of blood samples from crime scene. 10. Crime scene reconstruction of a simulated scene of murder/burglary. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.: 5 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Written Examination: 50 ➤ Practicum <ul style="list-style-type: none"> • Practical Examination: 20
Learning Resources		
<ol style="list-style-type: none"> 1. Saferstein: Criminalistics – An Introduction to Forensic Science, Prentice Hall Inc. USA 91995) 2. James, S.H. and Nordby, J.J.; Forensic Science; an Introduction to Scientific and Investigative Techniques, CRC Press, USA (2003) 3. O’ Hara & Osterberg: An Introduction to Criminalistics. 4. Forest: Forensic Science, An Introduction. 5. Lee, Honry: Advances in Forensic Science. 6. Sharma B R: Forensic Science in Criminal Investigation and trials. 7. Mordby, J Deed Reckoning – The Art of Forensic Science Detection, CRC Press LLC, Boca Raton FL, CRC Press (2000). 8. Moenseens, A.A., Starrs, J.E, Henderson, C.E. and Inbare, F.E., 1995 Scientific Evidence in Civil and Criminal Cases, IV edition, Foundation Press, Westbury, New York. 		

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-2

Course Type	Course Code	Name of the Course	Credit	Contact Hours/ Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
CC-M2 2 credit (Scheme A)	B23-FSC-203	Crime Scene & Evidences	1	1	10	20	30	3 hrs.
		Practical	1	2	5	15	20	4 hrs.
Level of the course: 100-199								
Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)								
Course Learning Outcomes (CLOs): At the end of the course the student should be able to:								
<ol style="list-style-type: none"> Learn the basic concepts of the crime scene. Study of types of evidence found in crime scenes. Understand the safety considerations while handling evidence. Acquire knowledge of agencies involved in crime detection and investigation. Use the best technique for the collection and preservation of evidence from the scene of crime 								
Instructions for Paper-Setter								
<ol style="list-style-type: none"> Nine questions will be set in all. All questions will carry equal marks. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit. 								
UNIT	TOPICS							CONTACT HOURS
I	Introduction to Crime Scene Crime scene: Definition; Types of crime scenes: Primary, Secondary, Indoor, Outdoor, based on the manner of crime: homicide, suicide, accidental; Actions of first responding officer: emergency care, secure and control, Statements of the victim, witness, suspects, databases and records, officer safety, release scene to appropriate authorities.							4
II	Types of Evidence Types of evidence found in the crime scene: physical evidence, biological evidence, digital evidence, individual evidence, class evidence. The evaluation of 5Ws (who?, what?, when?, where?, why?) and 1H (how). Role of different agencies involved in crime scene management: Police, Forensic Science Laboratories, Medico-legal experts, Judicial officers.							4
III	Collection and Preservation of Evidence Collection and preservation of evidence along with control samples and standards: blood, urine, saliva, semen, tissue, hair, soil, paint, glass, bullet, cartridge case, clothing, weapons (knife, firearm), documents, drugs, fingerprints, tool marks, explosive material, bite marks; General safety considerations while handling evidence in the crime scene; Forwarding evidence to the Forensic Science Laboratory; Chain of custody.							4
IV	Type of Crime Scenes Special Crime Scenes, Arson, mass disasters, road traffic accidents, wildlife crime scene: their scene management and evidence collection for identification.							3
V Practical	Practical <ol style="list-style-type: none"> To Secure and evaluate indoor and outdoor scenes of crime. Searching indoor scenes of crime using the spiral technique and listing evidence. Searching outdoor scenes of crime using the grid search technique. Photographing the scene of the crime with at least five pieces of evidence. Sketching of the indoor crime scene using the baseline method. 							30
Suggested Evaluation Methods								

<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: NA • Mid-Term Exam: 6 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Written Examination: 20 > Practicum <ul style="list-style-type: none"> • Practical Examination: 15
<p>Learning Resources</p>	
<ol style="list-style-type: none"> 1. B.B. Cooper, J. E., Cooper, M. E. (2013). Wildlife forensic investigation: principles and practice. CRC Press. 2. Everett, J. B. (2015). Complete Crime Scene Investigation Handbook. CRC Press. 3. Fisher, B. A., Fisher, D. (2012). Techniques of Crime Scene Investigation, (8th Edition). CRC Press. 4. Huffman, J. E., Wallace, J. R. (2012). Wildlife forensics: methods and applications (Vol. 6). Wiley Blackwell. 5. James, S. H., Nordby, J. J., Bell, S. (2014). Forensic Science: An Introduction to Scientific and Investigative Techniques (4th Edition). CRC Press. 6. Linacre, A. (2009). Forensic Science in Wildlife Investigations. Taylor & Francis. 7. Robert R. Ogle, S. L. (2017). Crime Scene Investigation and Reconstruction. Pearson. 8. Shaler, R. C. (2011). Crime Scene Forensics: A Scientific Method Approach. CRC Press. 9. Tom Bevel, R. M. (2012). Bloodstain Pattern Analysis with an Introduction to Crime Scene Reconstruction. CRC Press. 	

M.SC. (5-YEAR INTEGRATED) FORENSIC SCIENCE: SEMESTER-2

Course Type	Course Code	Name of the Course	Credit	Contact Hours/Week	Internal Assessment marks	End Term Marks	Max. Marks	Exam Duration
MDC-3 3 credit (Scheme A&C)	B23-FSC-204	Basic Forensic-2	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
Level of the course: 100-199								
Pre-requisite for the course (if any): Any Science Subject at 4.0 Level (Class XII)								
Course Learning Outcomes (CLOs): At the end of the course the student should be able to:								
<ol style="list-style-type: none"> Learn the basic concepts of the crime scene. Study of types of evidence found in crime scenes. Understand the safety considerations while handling evidence. To acquire knowledge on agencies involved in crime detection and investigation. Demonstrate the techniques of securing and searching of indoor and outdoor crime scenes 								
Instructions for Paper-Setter								
<ol style="list-style-type: none"> Nine questions will be set in all. All questions will carry equal marks. Question No. 1, which will be short answer type covering the entire syllabus, will be compulsory. The remaining eight questions will be set unit wise selecting two questions from each Unit I to IV. The candidate will be required to attempt question No. 1 and four more questions selecting one question from each unit. 								
UNIT	TOPICS							CONTACT HOURS
I	Crime Scene Investigation Forensic Crime Scene Investigation 10 hours Securing the crime scene; Evaluating the crime scene; Preliminary walk-through and documentation of the crime scene; Search and seizure of the crime scene Crime scene search patterns: strip method, grid method, zone/quadrant method, spiral method (inward and outward), wheel, and random.							8
II	Recording of Crime Scene Documenting the crime scene: Photography of the crime scene: Wide range, mid-range and close-up photography; Sketching: Rough and final sketch (Triangulation, Baseline, and polar coordinate methods), Videography, 3D Crime Scene Mapping, contemporaneous notes. Identifying and listing evidence along with their evidentiary value.							8
III	Crime Scene Management Forensic Science Introduction to crime scene management, duties of first responding officer at the scene of crime, duties of crime scene investigator, specialized personnel at the crime scene: biological or chemical terrorist crime scene							7
IV	Crime Scene Reconstruction Crime scene reconstruction: Introduction, importance, nature; Principles; Stages: data collection, conjecture, hypothesis formulation, testing, theory formation. Crime Scene Investigation Kit, Alternate Light Source, ABFO Scales, Placards, Fingerprint Detection kit, Barricading Equipments, Evidence Tags, Sniffer Dogs, Packaging Equipments.							7
V Practical	Practical <ol style="list-style-type: none"> Sketching of the outdoor crime scene using the triangulation method. Making contemporaneous notes while investigating a scene of crime. Collection, preservation, sealing, and forwarding of soil samples from crime scenes. Collection, preservation, sealing, and forwarding of blood samples from crime scenes. Crime scene reconstruction of a simulated scene of murder/burglary. 							30

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.: 4 • Mid-Term Exam: 7 > Practicum <ul style="list-style-type: none"> • Class Participation: NA • Seminar/Demonstration/Viva-voce/Lab records etc.: 5 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Written Examination: 35 > Practicum <ul style="list-style-type: none"> • Practical Examination: 20
Learning Resources	
<ol style="list-style-type: none"> 1. B.B. Cooper, J. E., Cooper, M. E. (2013). Wildlife forensic investigation: principles and practice. CRC Press. 2. Everett, J. B. (2015). Complete Crime Scene Investigation Handbook. CRC Press. 3. Fisher, B. A., Fisher, D. (2012). Techniques of Crime Scene Investigation, (8th Edition). CRC Press. 4. Huffman, J. E., Wallace, J. R. (2012). Wildlife forensics: methods and applications (Vol. 6). Wiley Blackwell. 5. James, S. H., Nordby, J. J., Bell, S. (2014). Forensic Science: An Introduction to Scientific and Investigative Techniques (4th Edition). CRC Press. 6. Linacre, A. (2009). Forensic Science in Wildlife Investigations. Taylor & Francis. 7. Robert R. Ogle, S. L. (2017). Crime Scene Investigation and Reconstruction. Pearson. 8. Shaler, R. C. (2011). Crime Scene Forensics: A Scientific Method Approach. CRC Press. 9. Tom Bevel, R. M. (2012). Bloodstain Pattern Analysis with an Introduction to Crime Scene Reconstruction. CRC Press. 	

KURUKSHETRA UNIVERSITY
KURUKSHETRA

Department of Tourism and Hotel Management
Kurukshetra University, Kurukshetra

Scheme of Examination and Syllabus for
Undergraduate Programme
Multidisciplinary Scheme -A

SUBJECT : TOURISM AND TRAVEL MANAGEMENT
as per NEP 2020

(Multiple Entry-Exit, Internships and Choice Based Credit System)

w.e.f.
Session: 2023-2024

GENERAL INSTRUCTIONS FOR EXAMINERS / PAPER SETTERS / SUBJECT TEACHERS

EVALUATION AND EXAMINATION

- The students will be assessed through a system of Continuous Comprehensive Assessment (CCA).
- Evaluation will be done by Internal assessment (broadly 30% of total weightage) and by end term exam for rest 70%).

Theory Internal Assessment shall broadly based on the following defined composition:

- a) Class Participation
- b) Seminar/Presentation/Assignment/Quiz/Class Test, etc.
- c) Mid-Term Exam

Total Internal Assessment Marks (Practical)	Class Participation	Seminar/Demonstration/Viva-Voce/Lab Record etc.	Mid-Term Exam
10	04	-	06
15	04	04	07
20	05	05	10
25	05	07	13
30	05	10	15

Practical Internal Assessment shall be broadly based on the following defined composition:

- a) Class Participation
- b) Seminar/Presentation/Viva-voce/Lab Records, etc.
- c) Mid-Term Exam

Total Internal Assessment Marks (Practical)	Class Participation	Seminar/Demonstration/Viva-Voce/Lab Record etc.	Mid-Term Exam
05	-	05	NA
10	-	10	NA
15	05	10	NA
30	05	10	15

MODE OF PAPER SETTING FOR END-TERM EXAMINATION:

Every course irrespective of credit will have an End-Term Examination with every course paper having 09 questions in all. Question No. 1 will be compulsory. Duration of the exam will be 3 hours irrespective of credit. These questions shall judge both theoretical and applied knowledge of students. Case studies may also be given as questions.

FIRST YEAR: SEMESTER-1

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A & C	CC-1 MCC-1	B23- TTM-101	Introduction to Tourism	4	4	30	70	100	3 hrs.
Scheme C only	MCC-2	B23- TTM-102	Tourism Business Environment	4	4	30	70	100	3 hrs.
Scheme A	CC-M1	B23- TTM-103	Transport Management	2	2	15	35	50	3 hrs.
Scheme A & C	MDC-1	.	Students will opt from the pool available in College/Institute/ Department	3	3	25	50	75	3 hrs.

FIRST YEAR: SEMESTER-2

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A & C	CC-2 MCC-3	B23- TTM-201	Travel Agency and Tour Operations Business	4	4	30	70	100	3 hrs.
Scheme C only	DSEC-1	B23- TTM-202	ICT in Tourism	4	4	30	70	100	3 hrs.
Scheme A only	CC-M2	B23- TTM-203	Field Trip Report	2	2	15	35	50	3 hrs.
Scheme A & C	MDC-2	.	Students will opt from the pool available in College/Institute/ Department	3	3	25	50	75	3 hrs.

DEPARTMENT OF TOURISM, KURUKSHETRA UNIVERSITY, KURUKSHETRA**SECOND YEAR: SEMESTER-3**

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A, B & C	CC-3 MCC-4	B23-TTM- 301	Cultural Tourism Resources of India	4	4	30	70	100	3 hrs.
Scheme B & C	MCC-5	B23-TTM- 302	Hotel Business	4	4	30	70	100	3 hrs.
Scheme A, B & C	MDC-3	.	Students will opt from the pool available in College/Institute/ Department	3	3	25	50	75	3 hrs.

SECOND YEAR: SEMESTER-4

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A, B & C	CC-4 MCC-6	B23-TTM-401	Natural Tourism Resources of India	4	4	30	70	100	3 hrs.
Scheme B & C	MCC-7	B23-TTM-402	International Tourism	4	4	30	70	100	3 hrs.
Scheme B & C	MCC-8	B23-TTM-403	Tourism Organizations	4	4	30	70	100	3 hrs.
Scheme B & C	DSE-1 Select one option	B23-TTM-404	Tourism Documentation	4	4	30	70	100	3 hrs.
		B23-TTM-405	Eco Tourism	4	4	30	70	100	3 hrs.

DEPARTMENT OF TOURISM, KURUKSHETRA UNIVERSITY, KURUKSHETRA

THIRD YEAR: SEMESTER-5

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A, B & C	CC-5 MCC-9	B23-TTM-501	Event Management	4	4	30	70	100	3 hrs.
Scheme B & C	MCC-10	B23-TTM-502	Impacts of Tourism	4	4	30	70	100	3 hrs.
Scheme B & C	DSE-2 Select one Option	B23-TTM-503	Online Tourism Business	4	4	30	70	100	3 hrs.
		B23-TTM-504	Rural Tourism	4	4	30	70	100	3 hrs.
Scheme B & C	DSE-3 Select one Option	B23-TTM-505	Haryana Tourism	4	4	30	70	100	3 hrs.
		B23-TTM-506	Tourism Planning and Policies	4	4	30	70	100	3 hrs.

THIRD YEAR: SEMESTER-6

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Scheme A, B & C	CC-6 MCC-11	B23-TTM-601	Airline Ticketing	4	4	30	70	100	3 hrs.
Scheme B & C	MCC-12	B23-TTM-602	Adventure Tourism	4	4	30	70	100	3 hrs.
Scheme B & C	DSE-4 Select one Option	B23-TTM-603	Emerging Trends In Tourism	4	4	30	70	100	3 hrs.
		B23-TTM-604	Relationship Marketing	4	4	30	70	100	3 hrs.
Scheme B & C	DSE-5 Select one Option	B23-TTM-605	Sustainable Tourism	4	4	30	70	100	3 hrs.
		B23-TTM-606	Business Tourism	4	4	30	70	100	3 hrs.

DEPARTMENT OF TOURISM, KURUKSHETRA UNIVERSITY, KURUKSHETRA

FOURTH YEAR: SEMESTER-7 (FOR HONOURS/HONOURS WITH RESEARCH IN TOURISM)

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
For Honours in Tourism/Honours with Research in Tourism (For Scheme B & C)	CC-H1 4 credit	B23-TTM-701	Destination Planning and Development	4	4	30	70	100	3 hrs.
	CC-H2 4 credit	B23-TTM-702	Tourist Behavior	4	4	30	70	100	3 hrs.
	CC-H3 4 credit	B23-TTM-703	Tourism Economics	4	4	30	70	100	3 hrs.
	DSE-H1 4 credit Select one Option	B23-TTM-704	Tourism Geography	4	4	30	70	100	3 hrs.
		B23-TTM-705	Special Interest Tourism	4	4	30	70	100	3 hrs.
	PC-H1 4 credit	B23-TTM-706	Itinerary Preparation and Tour Packaging	4	8	30	70	100	3 hrs.

SEMESTER-8 (FOR HONOURS IN TOURISM)

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Honours in Tourism (For Scheme B & C)	CC-H4 4 credit	B23-TTM-801	Entrepreneurship in Tourism	4	4	30	70	100	3 hrs.
	CC-H5 4 credit	B23-TTM-802	Organizational Behavior	4	4	30	70	100	3 hrs.
	CC-H6 4 credit	B23-TTM-803	Successful Tourism Business case studies	4	4	30	70	100	3 hrs.
	DSE-H2 4 credit Select one option	B23-TTM-804	Environment and Tourism	4	4	30	70	100	3 hrs.
		B23-TTM-805	Project Management	4	4	30	70	100	3 hrs.
	PC-H2 4 credit	B23-TTM-806	Soft Skills for Tourism Professionals	4	8	30	70	100	6 hrs.

OR SEMESTER-8 (FOR HONOURS WITH RESEARCH IN TOURISM)

Remarks	Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
Honours with Research in TOURISM (For Scheme B & C)	CC-H4 4 credit	B23-TTM-801	Entrepreneurship in Tourism	4	4	30	70	100	3 hrs.
	CC-H5 4 credit	B23-TTM-802	Organizational Behavior	4	4	30	70	100	3 hrs.
		B23-TTM-807	Project / Dissertation	8+4	-	-	-	300	-

SCHEME -A

SEMESTER I

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	1		
Name of the Course	INTRODUCTION TO TOURISM		
Course Code	B23-TTM-101		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	NA		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology used in tourism 2. : To know about various types of tourism and factors responsible for the development 3. To be able to identify different components of tourism 4. To be able to work with and for tourism services in tourism chain <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Basic Concept and Terminology used in Tourism Tourism, tourist, visitors, traveler, excursionist as per UNWTO classification and Ministry of Tourism, Govt. of India. Impacts of Tourism (Economic, Socio-cultural and Environmental)	15
II	Types of Tourism and Factors of Development of Tourism Approaches to study tourism, Travel Agency and Tour Operators – Meaning and Types. Linkages in Tourism Industry, Push and Pull factors in Tourism,	15
III	Components of Tourism Attractions: Types and their significance for tourism Transportation: Types and their significance for tourism Accommodation: Types and their significance for tourism	15
IV	Tourism Services and Tourism Chain Characteristics of tourism and hospitality services- Perishability, Variability, Inseparability, Intangibility, Seasonality. Vertical, Horizontal and Diagonal Integration in Tourism	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Christopher J. Holloway- The Business of Tourism Macdonald and Evans. • A.K. Bhatia- Tourism Development Principles and Practices Sterling Publishers, New Delhi. • Anand M.M.- Tourism and Hotel Industry in India: Sterling Publishers, New Delhi. • Kaul R.H. Dynamics of Tourism: A Terminology, Sterling Publishers, New Delhi. 		

Session: 2023-24			
PartA - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	1		
Name of the Course	TRANSPORT MANAGEMENT		
Course Code	B23-TTM-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with transportation related to Tourism industry 2. To understand the various concepts related to Air and Water Transport 3. To understand the various concepts related to Road Transport. 4. To know about major Railways of India and the World ----- 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks: 50			Time: 3 Hours
Internal Assessment Marks:15			
End Term Exam Marks: 35			
PartB-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 7 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			

Unit	Topics	Contact hours
I	<p>Introduction to Transport</p> <p>Transportation as important element of tourism industry. History of different modes of transportation. Advantages and Limitations of different modes of transport.</p> <p>The factors affecting the selection of modes of transport by tourist.</p>	8
II	<p>Air and Water Transport</p> <p>History of air transport in India. IATA and DGCA: Organizational structures and functions. Major Airlines operating in India. Role of airlines in tourism promotion.</p> <p>Water transport- Limitation & scope of water transport in India. Cruise ships and Cruise tourism. The role of water transport in tourism.</p>	8
III	<p>Road Transport</p> <p>Road Transport: Major Highways and Expressways of India. Golden Quadrilateral Highway. Coach-Bus, Inter State Bus Services, Tourist Taxi, Rent-a-car Scheme, OLA and UBER</p>	7
IV	<p>Rail Transport</p> <p>Rail Transport: Major Railway Systems of World, (Euro Rail and AMTrak). General information about Indian Railways. Tourist trains of India and Indrail Pass service.</p>	7
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 		<p>End Term Examination: 35</p>
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Hannel Christine, Robert Harshman&Graham Draper- ‘Travel & Tourism: A world Regional geography, John Wiley & Sons, New York 		

- Hurst, Elist, 'Transporation Geography' McGraw Hill, New York
- David Timothy Duval, Tourism and Transport: Modes, Networks and flows. Channel view Publications.

- Stephan Page, Transport and Tourism, Global Perspectives, Pearson Publications
- Case Study Series Aerospace & Airlines, The ICFAI, University Press, Hyderabad
- Bharath, R., Low Cost Carriers, Concept and Cases, The ICFAI, University Press, Hyderabad
- Kumar, V V Ravi., Indian Aviation Industry, The ICFAI, University Press, Hyderabad
- Nayak, G.,Development of Transport and Communication, Anmol Publication
- Ginger Todd, Susan Rice (2002), Travel Perspectives: A Guide to becoming a Travel Professional, Delmar ThomPLOn Learning.

SEMESTER II

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	2		
Name of the Course	TRAVEL AGENCY & TOUR OPERATIONS BUSINESS		
Course Code	B23-TTM-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 1. Introducing about the concept of travel agency and tour operation 2. Enabling to identify functions and linkages in travel agencies and tour operators 3. Knowledge about significance of travel agency and procedure to follow for government approval 4. Understanding the activities of Travel Trade Associations. ----- 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
PartB-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Introduction to Travel Agency and Tour Operation Travel Agency and Tour Operations: concept, meaning, definition, significance and growth over the years.	15
II	Functions and Linkages in Travel Agencies and Tour Operators Functions of Travel Agencies and tour operators. Linkages and integrations in tour operation business.	15
III	Procedure for Government Approval Procedure for recognitions of Travel Agency and tour operators from Ministry of tourism, Govt. of India. Various govt. schemes for promotion of tourism business in India	15
IV	Travel Trade Associations -TAAI, IATO , IATA, PATA Brief History, Organization Structure and Functions.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
PartC-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Foster, D., the Business of Travel Agency, Pitman, 1990. • Aggarwal, Surrender, Travel Agency Management (Communication India, 1983). • Geo, Chack, Professional Travel Agency Management: (Prentice Hall, London, 1990). • MohinderChand , Travel Agency Management – An Introductory Text, Anmol Publications, New Delhi, 2006. • IATA, IATO, TAAI manual. • Jag Mohan, Negi, Travel Agency and tour operation, Kanishka Publication New Delhi, 1990 		

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	2		
Name of the Course	FIELD TRIP REPORT		
Course Code	B23-TTM-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize students with visit to tourism destination. 2. To know about attractions and recreation opportunities at destination. 3. To collect first-hand information about tourism service and facilities at the destination. 4. To identify challenges and ways to develop tourism at the destination. <hr style="border-top: 1px dashed black;"/> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks:	50	Time: - 3 Hours	
Internal Assessment Marks:--	15		
End Term Exam Marks: --	35		
Part B-Contents of the Course			
<u>Instructions for Paper- Setter/Examiner</u>			
	Instructions		Contact hours

	<p>To know how to select a destination to visit followed by preparation of a report on tourism status on visited at a destination and to guide how to appear for Viva-Voce for the same.</p> <ol style="list-style-type: none"> 1. A field trip shall be conducted to cover any tourism destination of adjacent areas. 2. This is to supplement the learning for Tourism. After completion of field trip the students shall submit a field trip report for about 50 pages. 3. The Field Trip Report will be submitted in the form specified as under: <ol style="list-style-type: none"> a. The typing should be done on both sides of the paper (instead of single side printing). b. The font size should be 12 with Times New Roman font. c. The Report may be typed in 1.5 line spacing. d. The paper should be A-4 size. e. Two copies meant for the purpose of evaluation may be bound in paper-and submitted to the approved authority. 	
	<ol style="list-style-type: none"> 4. The Viva-Voce examination for the subject shall be conducted by the External Examiner approved by UGBOS/BOSof Department of Tourism & Hotel Management, Kurukshetra University,and Kurukshetra as Per Provisions in the Ordinance of the Course. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: -4 • Seminar/presentation/assignment/quiz/class test etc.: -4 • Mid-Term Exam: -7 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: - • Seminar/Demonstration/Viva-voce/Lab records etc.: • Mid-Term Exam: - 	<p>End Term Examination:</p> <p>Viva-Voce of 35 marks by External Examiner</p>	

SEMESTER III

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	3		
Name of the Course	CULTURAL TOURISM RESOURCES OF INDIA		
Course Code	B23-TTM-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the basics of Indian culture 2. To describe the general features of Indian culture 3. To analyses the tourism potential Indian culture 4. To explain and connect with the different cultural attractions in India <p>-----</p> <p>5. Applicable for courses having practical component.</p>		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Introduction to Culture Culture: Concept and its essential features, elements of Indian culture, geographical variations of Indian culture. Cultural as tourist attraction with special reference to India.	15
II	Religions and Pilgrimage Places in India. Major Religions of India and their salient features. Major Pilgrimage Places related to Hinduism, Buddhism, Jainism, Islam and Sikhism (Any four places for each religion)	15
III	Indian Architecture and Monuments Buddhist Architecture: main features of Ajanta, Ellora and Sanchi. Hindu Architecture: main features of Khajuraho temples, Sun temple of Konark, Shore Temple of Mamallapuram. Medieval Architecture: TajMahal, Red Fort of Delhi, FatehpurSikri.	15
IV	Dances, Music and Fairs of India Classical Dances of India, Major tourism oriented fairs and festivals of India and their significance for tourism: Kullu-Dussehra, Pongal, Bihu, and Desert festivals.	15

Suggested Evaluation Methods

Internal Assessment:30

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:10
- Mid-Term Exam:15

End Term Examination:70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Abid Hussain, S. 2003 (reprint) The National Cultural of India. National Book Trust, Delhi.
- The Wonder that was India- A Survey of the History and Culture of the Indian Sub-continent Before the Coming of the Muslims by Arthur L. Basham, ISBN 9780836429138, Rupa Publications, 1964
- Of Past Dawns and Future Noons-Towards a Resurgent India by Shonar, ISBN 9788174765369, Published by Sri Aurobindo Society (2006)
- Gupta, S.P.et.al 2002, Cultural Tourism in India, D.K. Printworld, New Delhi
- Hay, Stephen (Ed.) 1992, Sources of Indian Tradition, 2 vols, Penguin Books, Delhi .
- Krishana Deva, 2002 (reprint) Temples of North India. National Book Trust, Delhi –

- Pande, G.C. 1990 (2nd ed.) Foundations of Indian Culture, 2 vols. MotiLalBanarasi Das Publisher, Delhi.
- Samson, Leela, 2002. The joy of Classical Dances of India, National Book Trust, India, New Delhi.
- Sharma, Chandradhar, 1991 (reprint), A Critical Survey of Indian Philosophy MotiLalBanarasi

SEMSETER IV

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	NATURAL TOURISM RESOURCES OF INDIA		
Course Code	B23-TTM-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-4		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of the geography of tourism 2. To describe the general geography of India 3. To analyses the natural tourism potential in India 4. To explain and connect with the nature based tourism attractions in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks: 30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Introduction to Natural Tourism Resource of India India: Physiographic regions, Northern Mountains, Northern Plains, Peninsula Plateau, Coastal Regions, Great Indian Dessert, Islands.		15

	Touristic significance of various Physiographic regions.	
II	Major Natural Tourism Resources of India Wildlife Tourism Potential in India – Case studies of Ranthambore National Park, Great Himalayan National Park, Jim Corbett National Park, Gir National Park and Bhandhavgarh National Park, Kaziranga National park.	15
III	Nature Based Tourism Products of India Major Hill Stations and Adventure Tourism in India: Case Study from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim.	15
IV	Nature Based Tourism Products of India Coastal and Beach Tourism Potential in India: Case Study from Goa, Kerala, Karnataka and Tamilnadu.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: 1. Boniface B. & Cooper, C. (2009). Worldwide Destinations: The Geography of Travel & Tourism. Oxford Butterworth Heinemann, London. 2. Goh Chong Leong, 'An Economic Atlas of India, Oxford University Press, Singapore. 4. Husain, M (2013) - Geography of India, Tata McGraw Hill, New Delhi. 5. Singh Gopal, 'Geography of India', Atma Ram and sons, New Delhi, 1994 6. Quereshi, Imtiaz, (ed) Physical geography of India, NCERT, New Delhi 7. Hall, M (1999), Geography of Travel and Tourism, Routledge, London. 8. Robinson H.A. (1976), Geography of Tourism. Mac Donald & Evans Ltd		

DETAILED SYLLABUS

SEMESTER I

Session: 2023-24			
PartA - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	1		
Name of the Course	INTRODUCTION TO TOURISM		
Course Code	B23-TTM-101		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1 MCC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	NA		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology used in tourism 2. : To know about various types of tourism and factors responsible for the development 3. To be able to identify different components of tourism 4. To be able to work with and for tourism services in tourism chain <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Basic Concept and Terminology used in Tourism Tourism, tourist, visitors, traveler, excursionist as per UNWTO		15

	classification and Ministry of Tourism, Govt. of India. Impacts of Tourism (Economic, Socio-cultural and Environmental)	
II	Types of Tourism and Factors of Development of Tourism Approaches to study tourism, Travel Agency and Tour Operators – Meaning and Types. Linkages in Tourism Industry, Push and Pull factors in Tourism,	15
III	Components of Tourism Attractions: Types and their significance for tourism Transportation: Types and their significance for tourism Accommodation: Types and their significance for tourism	15
IV	Tourism Services and Tourism Chain Characteristics of tourism and hospitality services- Perishability, Variability, Inseparability, Intangibility, Seasonality. Vertical, Horizontal and Diagonal Integration in Tourism	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Christopher J. Holloway- The Business of Tourism Macdonald and Evans. • A.K. Bhatia- Tourism Development Principles and Practices Sterling Publishers, New Delhi. • Anand M.M.- Tourism and Hotel Industry in India: Sterling Publishers, New Delhi. • Kaul R.H. Dynamics of Tourism: A Terminology, Sterling Publishers, New Delhi. 		

Session: 2023-24			
Part A – Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	1		
Name of the Course	TOURISM BUSINESS ENVIRONMENT		
Course Code	B23-TTM-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MCC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the concept of business environment 2. To describe the economic environment for tourism 3. To analyses the industrial policies concerning the tourism 4. To explain different tourism reforms in India ----- <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks:	100		Time: 3 Hours
Internal Assessment Marks:	30		
End Term Exam Marks:	70		
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	An Overview of Business Environment Business – Meaning, Concept and Nature, Business Environment – Meaning, nature and components. Business environment analysis – Process, techniques and limitations		15

II	<p>Economic Environment</p> <p>Economic Reforms in India - Liberalization, Privatization and Globalization, meaning, merits, de-merits and impact on tourism business in India.</p> <p>MSME (Micro, Small and Medium Enterprises) – Definition, Problems and Incentives available for growth.</p>	15
III	<p>Policies concerning Tourism</p> <p>Tourism development during five year plans. Tourism under NITI Ayog, National tourism policy of India, 2002. Competition Act and its impact on tourism business in India</p>	15
IV	<p>Tourism Reforms</p> <p>FDI - Meaning, merits, de-merits and impact on tourism business in India.</p> <p>Govt. of India Schemes for development of tourism business in India: Incredible India Campaign, PRASHAD Scheme, SWADESH Darshan. Scheme.</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		<p>End Term Examination:70</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Daniel, John D and Radebangh, Lee H : International Business, 5th ed., New York, Addison Weley, 2007 • Charles W. Hill, International Business, fourth edition, Tata McGraw Hill Publications Companies.2010. • AK. Sundaram J. StemartBlock : The International Business Environment PHI,2008 • Rangarajan, C.A.; Perspective in Economics, S.Chand& Sons, New Delhi. • Cherunilam, Francis; Business Environment - Text and Cases, Himalaya Publishing House. • Aswathappa, K.; Essentials of Business Environment, Himalaya Publishing House, New Delhi. 		

Session: 2023-24			
PartA - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	1		
Name of the Course	TRANSPORT MANAGEMENT		
Course Code	B23-TTM-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with transportation related to Tourism industry 2. To understand the various concepts related to Air and Water Transport 3. To understand the various concepts related to Road Transport. 4. To know about major Railways of India and the World <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks: 50			Time: 3 Hours
Internal Assessment Marks:15			
End Term Exam Marks: 35			
PartB-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 7 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			

Unit	Topics	Contact hours
I	<p>Introduction to Transport</p> <p>Transportation as important element of tourism industry. History of different modes of transportation. Advantages and Limitations of different modes of transport.</p> <p>The factors affecting the selection of modes of transport by tourist.</p>	8
II	<p>Air and Water Transport</p> <p>History of air transport in India. IATA and DGCA: Organizational structures and functions. Major Airlines operating in India. Role of airlines in tourism promotion.</p> <p>Water transport- Limitation & scope of water transport in India. Cruise ships and Cruise tourism. The role of water transport in tourism.</p>	8
III	<p>Road Transport</p> <p>Road Transport: Major Highways and Expressways of India. Golden Quadrilateral Highway. Coach-Bus, Inter State Bus Services, Tourist Taxi, Rent-a-car Scheme, OLA and UBER</p>	7
IV	<p>Rail Transport</p> <p>Rail Transport: Major Railway Systems of World, (Euro Rail and AMTrak). General information about Indian Railways. Tourist trains of India and Indrail Pass service.</p>	7
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 4 • Seminar/presentation/assignment/quiz/class test etc.:4 • Mid-Term Exam: 7 		<p>End Term Examination: 35</p>
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Hannel Christine, Robert Harshman&Graham Draper- ‘Travel & Tourism: A world Regional geography, John Wiley & Sons, New York 		

- Hurst, Elist, 'Transporation Geography' McGraw Hill, New York
- David Timothy Duval, Tourism and Transport: Modes, Networks and flows. Channel view Publications.

- Stephan Page, Transport and Tourism, Global Perspectives, Pearson Publications
- Case Study Series Aerospace & Airlines, The ICFAI, University Press, Hyderabad
- Bharath, R., Low Cost Carriers, Concept and Cases, The ICFAI, University Press, Hyderabad
- Kumar, V V Ravi., Indian Aviation Industry, The ICFAI, University Press, Hyderabad
- Nayak, G.,Development of Transport and Communication, Anmol Publication
- Ginger Todd, Susan Rice (2002), Travel Perspectives: A Guide to becoming a Travel Professional, Delmar ThomPLOn Learning.

SEMESTER II

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	2		
Name of the Course	TRAVEL AGENCY & TOUR OPERATIONS BUSINESS		
Course Code	B23-TTM-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2 MCC-3		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 5. Introducing about the concept of travel agency and tour operation 6. Enabling to identify functions and linkages in travel agencies and tour operators 7. Knowledge about significance of travel agency and procedure to follow for government approval 8. Understanding the activities of Travel Trade Associations. ----- 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
PartB-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Introduction to Travel Agency and Tour Operation Travel Agency and Tour Operations: concept, meaning, definition, significance and growth over the years.	15
II	Functions and Linkages in Travel Agencies and Tour Operators Functions of Travel Agencies and tour operators. Linkages and integrations in tour operation business.	15
III	Procedure for Government Approval Procedure for recognitions of Travel Agency and tour operators from Ministry of tourism, Govt. of India. Various govt. schemes for promotion of tourism business in India	15
IV	Travel Trade Associations -TAAI, IATO , IATA, PATA Brief History, Organization Structure and Functions.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
PartC-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Foster, D., the Business of Travel Agency, Pitman, 1990. • Aggarwal, Surrender, Travel Agency Management (Communication India, 1983). • Geo, Chack, Professional Travel Agency Management: (Prentice Hall, London, 1990). • MohinderChand , Travel Agency Management – An Introductory Text, Anmol Publications, New Delhi, 2006. • IATA, IATO, TAAI manual. • Jag Mohan, Negi, Travel Agency and tour operation, Kanishka Publication New Delhi, 1990 		

Session: 2023-24			
Part A – Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	2		
Name of the Course	INFORMATION & COMMUNICATION TECHNOLOGY IN TOURISM		
Course Code	B23-TTM-202		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	DSEC-1		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology of computer fundamentals. 2. To gain knowledge of various types of information and communication technologies tools. 3. To be able to identify different components of information & communication technologies. 4. To be able to work with and for application of information and communication technologies <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks: 75		Time: 3 Hours	
Internal Assessment Marks:25			
End Term Exam Marks: 50			
PartB-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 10 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Fundamentals of Computer Technology Meaning, Components and Units of a computer system, Characteristics, Features and Uses of computers. Data entry devices, data output devices and storage devices. Introduction to Windows and Basics of MS Office.	12
II	Types of Information and Communication Technologies ICT meaning and important ICT tools. Introduction to Internet; uses and applications in Tourism. Web Portal and Websites: Definition and Meaning. Role and Importance of ICT in Tourism sector.	11
III	Components of Information and Communication Technologies for Tourism E-Commerce: Meaning, Features, Functions and Limitations of E-Commerce. Different E-Commerce Business Models. E Tourism and Online Travel Agency, case study of Yatra.com and Makemytrip.com.	11
IV	Information and Communication Technologies Application in Tourism Introduction to CRS; Need and history of CRS systems, Benefits and importance of the CRS system to the Travel trade. CRS for Rail Transport, Airlines and Hotels. GDS; Concept and Uses. Introduction to AMADEUS, SABRE and WORLDSAPN	11
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:7 • Mid-Term Exam: 13		End Term Examination: 50
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Buhalis, D. (2003). e-Tourism: Information technology for strategic tourism management. Pearson education. • Hassan, A., & Sharma, A. (Eds.). (2020). The Emerald handbook of ICT in tourism and hospitality. Emerald Publishing Limited. • Joseph, P. T. (2019). E-commerce: An Indian perspective. PHI Learning Pvt. Ltd. • Leon, A., & Mathews, L. (1999). Fundamentals of information technology. Leon Press. • Minazzi, R. (2015). Social media marketing in tourism and hospitality. Springer International Publishing Switzerland. • Rajaraman, V., & Adabala, N. (2014). Fundamentals of computers. PHI Learning Pvt. Ltd.. 		

- Shanker, D. (2008). ICT and Tourism: challenges and opportunities.
- Zelenka, J. (2009). Information and communication technologies in tourism-influence, dynamics, trends.

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	2		
Name of the Course	FIELD TRIP REPORT		
Course Code	B23-TTM-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 5. To familiarize students with visit to tourism destination. 6. To know about attractions and recreation opportunities at destination. 7. To collect first-hand information about tourism service and facilities at the destination. 8. To identify challenges and ways to develop tourism at the destination. <p>-----</p> <p>5. Applicable for courses having practical component.</p>		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks:	50		Time: - 3 Hours
Internal Assessment Marks:--	15		
End Term Exam Marks: --	35		
Part B-Contents of the Course			
<u>Instructions for Paper- Setter/Examiner</u>			
	Instructions		Contact hours

	<p>To know how to select a destination to visit followed by preparation of a report on tourism status on visited at a destination and to guide how to appear for Viva-Voce for the same.</p> <ol style="list-style-type: none"> 5. A field trip shall be conducted to cover any tourism destination of adjacent areas. 6. This is to supplement the learning for Tourism. After completion of field trip the students shall submit a field trip report for about 50 pages. 7. The Field Trip Report will be submitted in the form specified as under: <ol style="list-style-type: none"> a. The typing should be done on both sides of the paper (instead of single side printing). b. The font size should be 12 with Times New Roman font. c. The Report may be typed in 1.5 line spacing. d. The paper should be A-4 size. e. Two copies meant for the purpose of evaluation may be bound in paper-and submitted to the approved authority. 	
	<ol style="list-style-type: none"> 8. The Viva-Voce examination for the subject shall be conducted by the External Examiner approved by UGBOS/BOSof Department of Tourism & Hotel Management, Kurukshetra University,and Kurukshetra as Per Provisions in the Ordinance of the Course. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: -4 • Seminar/presentation/assignment/quiz/class test etc.: -4 • Mid-Term Exam: -7 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: - • Seminar/Demonstration/Viva-voce/Lab records etc.: • Mid-Term Exam: - 	<p>End Term Examination:</p> <p>Viva-Voce of 35 marks by External Examiner</p>	

SEMESTER III

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	3		
Name of the Course	CULTURAL TOURISM RESOURCES OF INDIA		
Course Code	B23-TTM-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3 MCC-4		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 5. To understand the basics of Indian culture 6. To describe the general features of Indian culture 7. To analyses the tourism potential Indian culture 8. To explain and connect with the different cultural attractions in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			

Unit	Topics	Contact hours
I	Introduction to Culture Culture: Concept and its essential features, elements of Indian culture, geographical variations of Indian culture. Cultural as tourist attraction with special reference to India.	15
II	Religions and Pilgrimage Places in India. Major Religions of India and their salient features. Major Pilgrimage Places related to Hinduism, Buddhism, Jainism, Islam and Sikhism (Any four places for each religion)	15
III	Indian Architecture and Monuments Buddhist Architecture: main features of Ajanta, Ellora and Sanchi. Hindu Architecture: main features of Khajuraho temples, Sun temple of Konark, Shore Temple of Mamallapuram. Medieval Architecture: TajMahal, Red Fort of Delhi, FatehpurSikri.	15
IV	Dances, Music and Fairs of India Classical Dances of India, Major tourism oriented fairs and festivals of India and their significance for tourism: Kullu-Dussehra, Pongal, Bihu, and Desert festivals.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: • Abid Hussain, S. 2003 (reprint) The National Cultural of India. National Book Trust, Delhi. • The Wonder that was India- A Survey of the History and Culture of the Indian Sub-continent Before the Coming of the Muslims by <u>Arthur L. Basham</u> , ISBN 9780836429138, Rupa Publications, 1964 • Of Past Dawns and Future Noons-Towards a Resurgent India by Shonar, ISBN		

9788174765369, Published by Sri Aurobindo Society (2006)

- Gupta, S.P.et.al 2002, Cultural Tourism in India, D.K. Printworld, New Delhi
- Hay, Stephen (Ed.) 1992, Sources of Indian Tradition, 2 vols, Penguin Books, Delhi .
- Krishana Deva, 2002 (reprint) Temples of North India. National Book Trust, Delhi –
- Pande, G.C. 1990 (2nd ed.) Foundations of Indian Culture, 2 vols. MotiLalBanarasi Das Publisher, Delhi.
- Samson, Leela, 2002. The joy of Classical Dances of India, National Book Trust, India, New Delhi.
- Sharma, Chandradhar, 1991 (reprint), A Critical Survey of Indian Philosophy MotiLalBanarasi Das Publishers, Delhi .
- Upadhyaya, B.S. 1989, (reprint), Feeders of Indian Culture People,s Publishing House.

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	3		
Name of the Course	HOTEL BUSINESS		
Course Code	B23-TTM-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MCC-5		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology used in tourism accommodation 2. To gain knowledge of growth and development of hotel industry in India 3. To be able to identify different functions and operations of hotel 4. To be able to work with and for hotel development in tourism <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			

Unit	Topics	Contact hours
I	Introduction to Tourism Accommodation Introduction – Tourism and Accommodation, their relationship, Tourism, Types of Tourist Accommodation: Different basis of categorization of accommodation sector. Main features of different basis of categorization of accommodation sector.	15
II	Origin and Growth of Hotel Sector Growth and development of hotel industry with special reference to India. Role of governing bodies in development of hotel sector in India: Ministry of Tourism, Federation of Hotel and Restaurant Association of India (FHRAI), Hospitality Development And Promotion Board (HDPB). Study of Major hotel chains of India.	15
III	Hotel Operations Hotel accommodation and its various activities. Organization structure and role of various departments of hotel: Front Office, Housekeeping, Food & Beverages (Service & Production), Engineering & Maintenance, Store & Purchase, Human Resources, Sales & Marketing and Accounts	15
IV	Hotel Business and Recent Trends Ownership and forms of hotel ownership. Sole-Proprietorship, Partnership, Joint Stock Company, Referral organizations, Hotel chain, Lease Agreements, Management contracts, Franchise Organizations. Recent development and challenges of hotel industry in India. Future of Hotel industry in India.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Anand, M. M. (1976). Tourism and Hotel Industry in India: A Study in Management. Prentice Hall.
- Brymer, R. A. (Ed.). (1984). Introduction to hotel and restaurant management. Kendall/Hunt.
- Chand, M. (2009). Managing hospitality operations. Anmol Publications.
- Chuck, Y. G. (1998). International Hotel Management. Educational Institute American Hotel & Motel Association, Washington.
- Hassanien, A., Dale, C., Clarke, A., & Herriott, M. W. (2010). Hospitality business development. Routledge.
- Jagmohan, N. (2000). Hotels for Tourism Development (2nd Ed). Metropolitan Book Company.
- Walker, J. R. (2002). Introduction to hospitality . Prentice Hall.
- Wood, R. C. (2013). Key concepts in hospitality management. Key Concepts in Hospitality Management. London: SAGE.

SEMSETER IV

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	NATURAL TOURISM RESOURCES OF INDIA		
Course Code	B23-TTM-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-4 MCC-6		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of the geography of tourism 2. To describe the general geography of India 3. To analyses the natural tourism potential in India 4. To explain and connect with the nature based tourism attractions in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks: 30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Introduction to Natural Tourism Resource of India India: Physiographic regions, Northern Mountains, Northern Plains, Peninsula Plateau, Coastal Regions, Great Indian Dessert, Islands.		15

	Touristic significance of various Physiographic regions.	
II	Major Natural Tourism Resources of India Wildlife Tourism Potential in India – Case studies of Ranthambore National Park, Great Himalayan National Park, Jim Corbett National Park, Gir National Park and Bhandhavgarh National Park, Kaziranga National park.	15
III	Nature Based Tourism Products of India Major Hill Stations and Adventure Tourism in India: Case Study from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim.	15
IV	Nature Based Tourism Products of India Coastal and Beach Tourism Potential in India: Case Study from Goa, Kerala, Karnataka and Tamilnadu.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: 3. Boniface B. & Cooper, C. (2009). Worldwide Destinations: The Geography of Travel & Tourism. Oxford Butterworth Heinemann, London. 4. Goh Chong Leong, 'An Economic Atlas of India, Oxford University Press, Singapore. 9. Husain, M (2013) - Geography of India, Tata McGraw Hill, New Delhi. 10. Singh Gopal, 'Geography of India', Atma Ram and sons, New Delhi, 1994 11. Quereshi, Imtiaz, (ed) Physical geography of India, NCERT, New Delhi 12. Hall, M (1999), Geography of Travel and Tourism, Routledge, London. 13. Robinson H.A. (1976), Geography of Tourism. Mac Donald & Evans Ltd		

Session: 2023-24			
PartA - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	INTERNATIONAL TOURISM		
Course Code	B23-TTM-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MCC-7		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the concept of international tourism 2. To describe the tourism trends at international level 3. To analyses the potential of tourism in different regions of the world 4. To explain different destinations in various nations of the world <p>-----</p> <p>5. Applicable for courses having practical component.</p>		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Concept and Current Status of International Tourism Global tourism trends in terms of international tourist arrivals and international tourism receipts. Factors affecting growth of international		15

	tourism	
II	<p>Regional Distribution of International Tourism – I:</p> <ul style="list-style-type: none"> - Europe: Inbound tourism with special reference to France, Spain, and United Kingdom and their major destinations i.e. Paris, Madrid and London - Americas: Inbound tourism with special reference to USA, Canada and Mexico and their major destinations i.e. New York, Washington DC, Toronto and Mexico City 	15
III	<p>Regional Distribution of International Tourism – II:</p> <ul style="list-style-type: none"> - Africa: Inbound tourism with special reference to Egypt, South Africa and Kenya and their major destinations i.e. Giza, Johannesburg and Nairobi. - East-Asia & Pacific: Inbound tourism with special reference to Australia, China, and Thailand and their main destinations i.e. Sydney, Beijing, and Bangkok 	15
IV	<p>International Tourism Organizations UNWTO, PATA, IATA – Brief History, Organization Structure and Functions. Challenges before international tourism and strategies to promote international tourism.</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		<p>End Term Examination:70</p>
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Bhatia, A. K. (1991). International tourism: fundamentals and practices. Sterling Publishers. • Chand, M. (2004). Basics of tourism: theory, operation and practice. Kanishka Publishers. • Lonely Planet – Singapore, Malaysia, Thailand, China, Hong Kong, Australia, New Zealand, UK, France, Switzerland, Germany, Italy, Greece, Austria, USA, CANADA, Brazil, UAE, South Africa, Kenya, Tanzania. • McIntosh, R., Goeldner, W., & Charles, R. (1990). Tourism: Principles, Practices and Philosophies., John Wiley and Sons Inc. New York. 		

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	TOURISM ORGANIZATIONS		
Course Code	B23-TTM-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MCC-8		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the meaning, concept and nature of International Tourism organizations. 2. To understand the organization structure and functions of Regional Tourism Organizations. 3. To know about of National Tourism Organization and their role. 4. To get familiarization with applications of knowledge by professional bodies in tourism. <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100			Time: 3 Hours
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	International Tourism Organizations Tourism Organizations: meaning, nature and significance for tourism development. United Nations World Tourism Organization (UNWTO): structure, functions & significance. World Tourism & Travel Council (WTTC): Structure, Committee, Events and Functions.	15
II	Regional Tourism Organizations United Nations Educational, Scientific & Cultural Organization (UNESCO). History, Functions and Role in Promotion of Tourism. Pacific Asia Travel Association (PATA): Membership, Committee and Functions. International Air Transport Association (IATA): structure, membership, functions & significance.	15
III	National Tourism Organization Ministry of Tourism, Government of India: Organizational Structure and Functions. Indian Tourism Development Corporation (ITDC): History, Structure and Functions. Tourism Finance Corporation of India (TFCI): Organizational Structure and Functions.	15
IV	Tourism Business Promotion Organizations & Associations Indian Associations of Tour Operators (IATO). Travel Agents Association of India (TAAI). Travel Agents Association of India (TAAI). Federation of Hotel & Restaurant Associations of India (FHRAI). India Convention Promotion Bureau (ICPB).	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: • www.unesco.org • www.pata.org		

- www.iata.org
- www.wttc.org
- www.itdc.com
- www.unwto.org
- Website of Ministry of Tourism, Govt. of India.

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	TOURISM DOCUMENTATION		
Course Code	B23-TTM-404		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	DSE-1		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the basic terminology and types of tourism related documents. 2. To gain knowledge about basic regulations for safe and hassle-free travelling. 3. To know the financial assets and their requirements in travel 4. To be able to work with regulations and bodies involved in international travel. <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	Basic Concept in Travel Documentation Passport, types of Passports, Process of acquiring passport in India. Visa and its types, Documentation for Visa, Schengen Visa, US Visa and UK Visa. Visa on Arrival (VoA), e-visa and Travel Insurance.	15
II	Regulations and Certification in International Travel Baggage Regulations. Currency Regulations. Customs Regulations. Health Regulation and Certification (Yellow fever, Malaria, H.I.V. and COVID Vaccination).	15
III	Financial Assets and Formalities Bank details, Requisite Bank Balance, Income Tax Returns, Property Documents and their Valuation, Insurance papers. Guarantee for Visa, Collateral Security, Transfer of Money. Role of Currency Exchange Companies, Banks and NBFCs.	15
IV	Regulations for Travel Documentation in India Citizenship, Immigration, Enforcement Directorate. Foreign Exchange Management Act, 1999 and Prevention of Money Laundering Act. 2002. Immigration formalities at airport for outbound and inbound tourists in India. Foreign regional registration office (FRRO).	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: • Website of Ministry of Tourism, Govt. of India. • Embassy Websites of the concerned country. • Website of Ministry of External Affairs, Govt. of India. • Website of Ministry of Finance, Govt. of India. • Website of Ministry of Home, Govt. of India.		

Session: 2023-24

Part A - Introduction			
Subject	TOURISM AND TRAVEL MANAGEMENT		
Semester	4		
Name of the Course	ECO-TOURISM		
Course Code	B23-TTM-405		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	DSE-1		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To comprehend the concept and practices of ecotourism. 2. To identify the ecotourism potential in India. 3. To understand the planning and development of ecotourism. 4. To be familiar with various impacts of ecotourism. <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Emergence of Ecotourism Ecotourism: concept, definitions, growth and development. Ecotourism principles and typology of eco tourists.		15

	Mass tourism V/s ecotourism, potential benefits from ecotourism	
II	Ecotourism Potential of India Eco Tourism Resources in India: National Parks, Wild life sanctuaries, Tiger reserves, Biosphere reserves, wetlands, coral reefs, desert ecotourism. Case study of selected states (Kerala and Sikkim).	15
III	Ecotourism Planning and Development Guidelines for ecotourism development for government, for developers and operators, for visitors and for host population. Eco-friendly practices and carrying capacity in tourism and hospitality sector. Environmental Issues and models of ecotourism development.	15
IV	Impacts of Ecotourism Eco Tourism and Development: Community awareness and participation. Contribution of ecotourism to environmental Conservation. Socio-cultural and economic impact of ecotourism.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Erlet Cater & Gwen Lowman: Ecotourism. • Dr. Jasbir Singh, Eco-Tourism, I.K. International Publishing, New Delhi , 2010. • Ballantyne, R. and Packer, J. (2013). International Handbook on Ecotourism. United Kingdom: Edward Elgar Publishing Ltd. • Fennel, D. A. (2002), Ecotourism Policy and Planning. USA: CABI Publishing. • Fennell, D.A. (2008). Ecotourism Third Edition. New York: Routledge Publication. • Goodwin, H. (2011). Taking Responsibility for Tourism. Woodeaton: Goodfellow Publishers Limited. • Honey. (2008). Ecotourism and Sustainable Development: Who Owns Paradise? 2nd Edition. Washington, DC: Island Press. • Weaver, D. (2001). The Encyclopedia of Ecotourism. London: CABI Publication. 		

DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT
KURUKSHETRA UNIVERSITY, KURUKSHETRA

**POOL OF MULTIDISCIPLINARY COURSES (MDC) BY
MULTIDISCIPLINARY SCHEME-A (TOURISM AND TRAVEL
MANAGEMENT)**

Semester 1	Semester 2	Semester 3
1. Tourism Products of India (Natural)	1. Tourism Products of India(Cultural)	1. Tourism Products of India (Religious)

MDC FOR SEMESTER 1

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM PRODUCTS OF INDIA (NATURAL)		
Semester	1		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I)			
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of Indian Geography 2. To study case studies related to Wildlife Tourism in India. 3. To analyze the hill stations tourism in India. 4. To analyze the potential of coaster and beach tourism in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks: 75		Time: 3 Hours	
Internal Assessment Marks: 25			
End Term Exam Marks: 50			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 10 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Introduction to Geographical Resource for Tourism in India		12

	India: Physiographic regions, Northern Mountains, Northern Plains, Peninsular Plateau, Coastal Regions, Great Indian Desert, Islands. Touristic significance of various Physiographic regions	
II	Major National Parks of India Wildlife Tourism Potential in India – Case studies of Ranthambore National Park, Great Himalayan National Park, Jim Corbett National Park, Gir National Park and Bhandhavgarh National Park, Kaziranga National park.	11
III	Geography Based Tourism Products of India Major Hill Stations and Adventure Tourism in India: Case Study from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim	11
IV	Geography Based Tourism Products of India Coastal and Beach Tourism Potential in India: Case Study from Goa, Kerala, Karnataka and Tamilnadu	11
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:7 • Mid-Term Exam: 13		End Term Examination: 50
Part C-Learning Resources		
Recommended Books/e-resources/LMS: • Burton, R. (1995). Travel Geography. Pitman Publishing, Marlow Essex. • Boniface B. & Cooper, C. (2009). Worldwide Destinations: The Geography of Travel & Tourism. Oxford Butterworth Heinemann, London. • Husain, M (2013) - Geography of India, Tata McGraw Hill, New Delhi. • Singh Gopal, 'Geography of India', Atma Ram and sons, New Delhi, 1994 • Singh, R.L., India: A regional Geography, National Geographical Society, Varanasi, 1990 • Qureshi, Imtiaz,(ed) World Geography, NCERT, New Delhi • Qureshi, Imtiaz, (ed) Physical geography of India, NCERT, New Delhi.		

MDC FOR SEMESTER 2

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM PRODUCTS OF INDIA(CULTURAL)		
Semester	2		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of Indian culture and heritage. 2. To describe the general features of Indian culture and heritage 3. To analyses the culture-heritage tourism potential in India. 4. To explain and connect with the different cultural and heritage attractions in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks:	75		Time: 3 Hours
Internal Assessment Marks:	25		
End Term Exam Marks:	50		
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 10 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours

I	Introduction to Culture and Heritage Culture: Concept and its essential features, Elements of Indian Culture. Heritage: Concept and Classification of Heritage. Culture and heritage as tourist attraction with special reference to India.	12
II	Religious Culture and Heritage in India Major Religions of India and their salient features: Hinduism, Buddhism, Jainism, Islam and Sikhism. Case Study of any four pilgrimage places of each religion.	11
III	Indian Architectural and Monumental Heritage Buddhist Architecture: main features of Ajanta, Ellora and Sanchi. Hindu Architecture: main features of Khajuraho temples, Sun temple of Konark, Shore Temple of Mamallapuram. Medieval Architecture: Taj Mahal, Red Fort of Delhi, Fatehpur Sikri.	11
IV	Dances, Music and Fairs of India Classical Dances of India, Major tourism oriented fairs and festivals of India and their significance for tourism: Kullu-Dussehra, Pongal, Bihu, and Desert festivals.	11

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:7
- Mid-Term Exam: 13

End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- The Wonder that was India- A Survey of the History and Culture of the Indian Sub-continent Before the Coming of the Muslims by Arthur L. Basham, ISBN 9780836429138, Rupa Publications,1964.
- Abid Hussain, S. 2003 (reprint) The National Cultural of India. National Book Trust, Delhi.
- Of Past Dawns and Future Noons-Towards a Resurgent India by Shonar, ISBN 9788174765369, Published by Sri Aurobindo Society (2006)
- Gupta, S.P.et.al 2002, Cultural Toursim in India, D.K. Printworld, New Delhi
- Hay,Stephen (Ed.) 1992, Sources of Indian Tradition, 2 vols, Penguin Books, Delhi .
- Krishana Deva, 2002 (reprint) Temples of North India. National Book Trust, Delhi –
- Pande, G.C. 1990 (2nd ed.) Foundations of Indian Culture, 2 vols. MotiLalBanarasi Das Publisher, Delhi.
- Samson, Leela, 2002. The joy of Classical Dances of India, National Book Trust, India, New Delhi.
- Sharma, Chandradhar, 1991 (reprint), A Critical Survey of Indian Philosophy MotiLalBanarasi Das Publishers, Delhi .

- Upadhyaya, B.S. 1989, (reprint), Feeders of Indian Culture People,s Publishing House.

MDC FOR SEMESTER 3

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM PRODUCTS OF INDIA (RELIGIOUS)		
Semester	3		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts of religious tourism products. 2. To gain knowledge of various tourism places of Hindu religion 3. To be able to identify different tourism places of Buddhism, Jainism, Sikhism, Islam and Christianity 4. To be able to identify various problems and prospects of religion based tourism products in India. <p style="text-align: center;">-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks: 75			Time: 3 Hours
Internal Assessment Marks:25			
End Term Exam Marks: 50			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question			

from each unit including the compulsory question. Each question is of 10 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.

Unit	Topics	Contact hours
I	Introduction to Religious Tourism Product Religious tourism: meaning, features and significance of religious tourism in India. Overview of different religions of India.	12
II	Hindu Religious Tourism Places Four Dham – Badrinath, Rameshwaram, Puri and Dwaraka, Varanasi, Haridwar and Tirupati.	11
III	Religious Tourism Places of Buddhism, Jainism, Sikhism, Islam and Christianity Buddhism: Bodh Gaya and Sarnath. Jainism: Mount Abu and Palitana. Sikhism: Amritsar. Islam: Ajmer and Christianity: Goa.	11
IV	Recent Trends and Growth of Religious Tourism in India Recent trends in Indian religious tourism market. Challenges faced by religious tourism in India. Scope of religious tourism product development in India and strategies to promote religious tourism in India	11

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:7
- Mid-Term Exam: 13

End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Abid Hussain, S. 2003 (reprint) The National Culture of India, National Book Trust, New Delhi.
- Basham, A.L., 1985 (reprint) The Wonder That Was India, Rupa % Co., New Delhi
- Hay, Stephen, (Ed.) 1992, Sources of Indian Tradition, 2 vols., Penguin Books, Delhi
- Nadakarni, M.V. 2006, Hinduism: The Gandhian Perspective, Ane Books India, New Delhi
- Radhakrishnan, S. 1999 (Oxford India paperback) Indian Philosophy, 2 vols., Oxford University Press, New Delhi

**Department of Tourism and Hotel Management
Kurukshetra University, Kurukshetra**

PROGRAMME TITLE

**BACHELOR OF TOURISM & TRAVEL
MANAGEMENT**

(BTTM): Scheme D

As per NEP 2020

(Multiple Entry-Exit, Internships and Choice Based Credit System)

w.e.f.

Session: 2023-2024

**GENERAL INSTRUCTIONS FOR EXAMINERS / PAPER SETTERS /
SUBJECT TEACHERS**

EVALUATION AND EXAMINATION

- The students will be assessed through a system of Continuous Comprehensive Assessment (CCA).
- Evaluation will be done by Internal assessment (broadly 30% of total weightage) and by end term exam for rest 70%).

Theory Internal Assessment shall broadly based on the following defined composition:

- a) Class Participation
- b) Seminar/Presentation/Assignment/Quiz/Class Test, etc.
- c) Mid-Term Exam

Total Internal Assessment Marks (Practical)	Class Participation	Seminar/Demonstration/Viva-Voce/Lab Record etc.	Mid-Term Exam
10	04	-	06
15	04	04	07
20	05	05	10
25	05	07	13
30	05	10	15

Practical Internal Assessment shall be broadly based on the following defined composition:

- a) Class Participation
- b) Seminar/Presentation/Viva-voce/Lab Records, etc.
- c) Mid-Term Exam

Total Internal Assessment Marks (Practical)	Class Participation	Seminar/Demonstration/Viva-Voce/Lab Record etc.	Mid-Term Exam
05	-	05	NA
10	-	10	NA
15	05	10	NA
30	05	10	15

MODE OF PAPER SETTING FOR END-TERM EXAMINATION:

Every course irrespective of credit will have an End-Term Examination with every course paper having 09 questions in all. Question No. 1 will be compulsory. Duration of the exam will be 3 hours irrespective of credit. These questions shall judge both theoretical and applied knowledge of students. Case studies may also be given as questions.

SEMESTER-I

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
I	CC-A1	B23-TMG-101	Introduction to Tourism	4	4	30	70	100	3
	CC-B1	B23-TMG-102	Natural Tourism Resources of India	4	4	30	70	100	3
	CC-C1	B23-TMG-103	Tourism Business Environment	4	4	30	70	100	3
	CC-M1 *	B23-TMG-104	Transport Management	2	2	15	35	50	3
	MDC-1 **	Student will opt from the pool available in college/institute/department		3	3	25	50	75	3
	AEC-1 *	Student will opt from available Pool of AEC		2	2	15	35	50	3
	SEC-1 *	Student will opt from available Pool of SEC		3	3	25	50	75	3
	VAC-1 *	Student will opt from available Pool of VAC		2	2	15	35	50	3

SEMESTER-II

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
II	CC-A2	B23-TMG-201	Travel Agency and Tour Operations Business	4	4	30	70	100	3
	CC-B2	B23-TMG-202	Cultural Tourism Resources of India	4	4	30	70	100	3
	CC-C3	B23-TMG-203	International Tourism	4	4	30	70	100	3
	CC-M2 *	B23-TMG-204	Field Trip Report	2	2	15	35	50	3
	MDC-2 **	Student will opt from the pool available in college/institute/department		3	3	25	50	75	3
	AEC-2 *	Student will opt from available Pool of AEC		2	2	15	35	50	3
	SEC-2 *	Student will opt from available Pool of SEC		3	3	25	50	75	3
	VAC-2 *	Student will opt from available Pool of VAC		2	2	15	35	50	3

SEMESTER-III

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
III	CC-A3	B23-TMG-301	Religious Tourism	4	4	30	70	100	3
	CC-B3	B23-TMG-302	Hotel Business	4	4	30	70	100	3
	CC-C3	B23-TMG-303	Airlines Ticketing	4	4	30	70	100	3
	CC-M3 *	B23-TMG-304	Principles of Management	4	4	30	70	100	3
	MDC-3 **	Student will opt from the pool available in college/institute/department		3	3	25	50	75	3
	AEC-3 *	Student will opt from available Pool of AEC		2	2	15	35	50	3
	SEC-3 *	Student will opt from available Pool of SEC		3	3	25	50	75	3

SEMESTER-IV

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
IV	CC-A4	B23-TMG-401	Tourism Marketing	4	4	30	70	100	3
	CC-B4	B23-TMG-402	Tourism Organizations	4	4	30	70	100	3
	CC-C4	B23-TMG-403	Tourism Documentation	4	4	30	70	100	3
	CC-M4(V) **	Student will opt from the pool available in college/institute/department		4	4	30	70	100	3
	AEC-4 *	Student will opt from available Pool of AEC		2	2	15	35	50	3
	VAC-3 *	Student will opt from available Pool of VAC		2	2	15	35	50	3

SEMESTER-V

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
V	CC-A5	B23-TMG-501	Adventure Tourism	4	4	30	70	100	3
	CC-B5	B23-TMG-502	Sales Management in Tourism	4	4	30	70	100	3
	CC-C5	B23-TMG-503	Online Travel Business	4	4	30	70	100	3
	CC-M5(V)**	Student will opt from the pool available in college/institute/department		4	4	30	70	100	3
			Internship and Viva-Voce	4	-	-	-	100	3

SEMESTER-VI

Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hours) T+P
VI	CC-A6	B23-TMG-601	Accounting for Tourism	4	4	30	70	100	3
	CC-B6	B23-TMG-602	Impacts of Tourism	4	4	30	70	100	3
	CC-C6	B23-TMG-603	Sustainable Tourism	4	4	30	70	100	3
	CC-M6 **	B23-TMG-604	Human Resource Management in Tourism	4	4	30	70	100	3
	CC-M7(V) **	Student will opt from the pool available in college/institute/department		4	4	30	70	100	3

Credits	Major=72	Minor=24	MDC=09	SEC=09	AEC=08	VAC=06	Internship=04	Total=132
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Note:

- Credits (C), Core Courses (CC); Discipline Specific Elective Courses (DSE); Discipline Skill Enhancement Courses (DSEC); Skill Enhancement Courses (SEC); Ability Enhancement Courses (AEC); Practicum Courses (PC); Value Added Courses (VAC); Multidisciplinary Courses (MDC).
- *A student will opt for AEC, SEC, VAC and Minor (Vocational) courses from the respective pools of courses offered by the University/Department/College/Institute duly approved by the University.
- **A student will opt for Multidisciplinary Course (MDC) from the subject which is different from the discipline of the programme in which admission is taken from the respective pools of courses offered by the University/Department/College/Institute duly approved by the University.
- ***A student will have to undergo a 4-6 weeks internship after fourth semester and 4 credit of internship will be awarded in fifth semester after completion of viva-voce by external examiner as provisions made in the ordinance of the course.

SEMESTER-VII									
Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hrs) T+P
VII	CC-H1	B23-TMG-701	Entrepreneurship in Tourism	4	4	30	70	100	3
	CC-H2	B23-TMG-702	Organization Behavior	4	4	30	70	100	3
	CC-H3	B23-TMG-703	Haryana Tourism	4	4	30	70	100	3
	DSE-H1	B23-TMG-704	Event Management	4	4	30	70	100	3
		OR							
		B23-TMG-705	Tourism Business Ethics and Laws	4	4	30	70	100	3
PC-H1	B23-TMG-706	Soft Skills for Tourism Professionals	4	4	30	70	100	3	
	CC-HM1	Student will opt from the courses available in college/institute/department		4	4	30	70	100	3
SEMESTER-VIII									
VIII	CC-H4	B23-TMG-801	Destination Planning and Development	4	4	30	70	100	3
	CC-H5	B23-TMG-802	Tourist Behaviour	4	4	30	70	100	3
	CC-H6	B23-TMG-803	Tourism Economics	4	4	30	70	100	3
	DSE-H2	B23-TMG-804	Airport and Cargo Management	4	4	30	70	100	3
		OR							
		B23-TMG-805	Tour Planning and Management	4	4	30	70	100	3
	PC-H2	B23-TMG-806	Itinerary Preparation and Tour Packaging	4	4	30	70	100	3
		CC-HM2	Student will opt from the courses available in college/institute/department		4	4	30	70	100

OR

SEMESTER-VII									
Sem	Course Type	Course Code	Nomenclature of Paper	Credits	Contact Hours	Internal Marks	End Term Marks	Total Marks	Duration of Exam (Hrs) T+P
VII	CC-H1	B23-TMG-701	Entrepreneurship in Tourism	4	4	30	70	100	3
	CC-H2	B23-TMG-702	Organization Behavior	4	4	30	70	100	3
	CC-H3	B23-TMG-703	Haryana Tourism	4	4	30	70	100	3
	DSE-H1	B23-TMG-704	Event Management	4	4	30	70	100	3
		OR							
		B23-TMG-705	Tourism Business Ethics and Laws	4	4	30	70	100	3
PC-H1	B23-TMG-706	Soft Skills for Tourism Professionals	4	4	30	70	100	3	
	CC-HM1	Student will opt from the courses available in college/institute/department		4	4	30	70	100	3

SEMESTER-VIII									
VIII Level-8	CC-H4	B23-TMG-801	Destination Planning and Development	4	4	30	70	100	3
	CC-H5	B23-TMG-802	Tourist Behavior	4	4	30	70	100	3
		B23-TMG-807	Project/Dissertation	12		-		300	3
	CC-HM2	Student will opt from the courses available in college/institute/department		4	4	30	70	100	3

UG Programme (Interdisciplinary): Scheme D
Bachelors of Tourism and Travel Management

First Year: Scheme D										
Semester	Subject-1 Core Courses	Subject-2 Core Courses	Subject-3 Core Courses	Minor/Vocational	Multidisciplinary Courses	Ability Enhancement Courses	Skill Enhancement Courses	Value Added Course	Total Credits	Exit Option
I	CC-A1	CC-B1	CC-C1	CC-M1	MDC-1	AEC-1	SEC-1	VAC-1	24	Under Graduate Certificate in Discipline with 52 credits
	B-23-TMG-101 Introduction to Tourism (4 credit)	B-23-TMG-102 Natural Tourism Resources of India (4 credit)	B-23-TMG-103 Tourism Business Environment (4 credit)	B-23-TMG-104 Transport Management (2 credit)	Student will opt from the pool available in college/institute/department (3 credit)	Student will opt from available Pool of AEC (2 credit)	Student will opt from available Pool of SEC (3 credit)	Student will opt from available Pool of VAC (2 credit)		
II	CC-A2	CC-B2	CC-C2	CC-M2	MDC-2	AEC-2	SEC-2	VAC-2	24	
	B-23-TMG-201 Travel Agency and Tour Operations Business (4 credit)	B-23-TMG-202 Cultural Tourism Resources of India (4 credit)	B-23-TMG-203 International Tourism (4credit)	B-23-TMG-204 Field Trip Report (2 credit)	Student will opt from the pool available in college/institute/department (3 credit)	Student will opt from available Pool of AEC (2 credit)	Student will opt from available Pool of SEC (3 credit)	Student will opt from available Pool of VAC (2 credit)		
Internship of 4 credits of 4-6 weeks duration after 2nd semester										

Note:

1. Credits(C),CoreCourses(CC);DisciplineSpecificElectiveCourses(DSE);DisciplineSkillEnhancementCourses(DSEC);SkillEnhancementCourses(SEC);AbilityEnhancement Courses(AEC);Practicum Courses(PC);Value Added Courses(VAC);Multidisciplinary Courses(MDC).
2. If a student has been admitted to UG Programme(Interdisciplinary),then that student will select three subjects A, B and C in the first year out of the pool Of subjects in that discipline offered by the Department/Institute/College. For example; a student admitted to Bachelor of Computer Applications will select three subjects out of the pool of subjects offered in the first year of the BCA Programme.
3. The subject of Field Trip Report (B-23-TMG-204) under CC-M2 category in semester 2 is field based subject/project, which involves guiding students to visit to destination followed by preparation of a field trip report under supervision of the faculty, thus, is an integral part of curriculum and workload of 2 credit in Bachelor of tourism & travel management in semester 2.

2nd Year Scheme D: Bachelor of Tourism and Travel Management

Semester	Subject-1 Core Courses	Subject-2 Core Courses	Subject-3 Core Courses	Minor/ Vocational	Multidisciplinary Courses	Ability Enhancement Course	Skill Enhancement Courses	Value Added Course	Total Credits	Exit Option
III	CC-A3 B23-TMG-301 Religious Tourism (4 credit)	CC-B3 B23-TMG-302 Hotel Business (4 credit)	CC-C3 B23-TMG-303 Airline Ticketing (4 credit)	CC-M3 B23-TMG-304 Principles of Management (4 credit)	MDC-3 Student will opt from the pool available in college/institute/ department (3 credit)	AEC-3 Student will opt from available Pool of AEC (2 credit)	SEC-3 Student will opt from available Pool of SEC (3 credit)	-----	24	Under Graduate Diploma in Discipline with 96 credits
IV	CC-A4 B23-TMG-401 Tourism Marketing (4 credit)	CC-B4 B23-TMG-402 Tourism Organizations (4 credit)	CC-C4 B23-TMG-403 Tourism Documentation (4 credit)	CC-M4 (V) Student will opt from the pool available in college/institute/ department (4 credit)	-	AEC-4 Student will opt from available Pool of AEC (2 credit)	--	VAC-3 Student will opt from available Pool of VAC (2 credit)	20	

Internship of 4credits of 4-6weeks duration after 4th semester

2

3 rd Year Scheme D: Bachelor of Tourism and Travel Management										
V	CC-A5 B23-TMG-501 Adventure Tourism (4credits)	CC-B5 B23-TMG-502 Sales Management in Tourism (4credits)	CC-C5 B23-TMG-503 Online Travel Business (4credits)	CC-M5 (V) Student will opt from the pool available in college/institute/department (4 credit)	--		Internship (4 credits)	--	20	Bachelor in Discipline with 132 credits
VI	CC-A6 B23-TMG-601 Accounting For Tourism (4credits)	CC-B6 B23-TMG-602 Impacts of Tourism (4credits)	CC-C6 B23-TMG-603 Sustainable Tourism (4credits)	CC-M6 B23-TMG-604 Human Resource Management in Tourism (4 credit) CC-M7(V) Student will opt from the pool available in college/institute/department (4 credit)	--	--	--		20	
Credits	Major=72		Minor= 24	MDC= 09	SEC= 09	AEC= 08	VAC=06	Internship=04	Total= 132	

Notes:

- Subjects, DSE, DSEC, SEC, AEC, MDC and VAC courses will be offered by the Department/College/Institute depending upon its available faculty, infrastructure and timetable.
- A student will opt for Multidisciplinary Course (MDC) from the subject which is different from the discipline of the Programme in which admission is taken.

Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) or opted as major and minor courses under this category. Provided further that if a Multidisciplinary Course across the discipline cannot be offered by the Department/Institute/College, due to its constraints and available resources, then

- i. MDC can be opted out of MOOCs through SWAYAM
 - ii. MDC can be completed out of online courses offered by the Kurukshetra University
 - iii. MDC can be completed from a cluster college, i.e. from a neighboring college/institute
3. A student will opt for AEC, SEC, VAC and Minor (Vocational) courses from the respective pools of courses offered by the Department/College/Institute duly approved by the University. A Department/Institute/College can add more courses in the pools of AEC, SEC, VAC and Vocational courses with prior approval of the university.
 4. For first and second semester of UG Programme (Interdisciplinary) (Scheme D), a student can choose a Minor Course of 2 credit from the pool of minor subjects in that semester offered by the Department/Institute/College.
 5. From 3rd semester onwards of the scheme D, a student can choose a Minor Course, say Subject E, out of available Core Courses of that subject E offered in that semester.
 6. In the subjects/courses which involve practicum, i.e. Practical/ Laboratory/ Studio/ Project/ Survey/Field work, etc., a course of 4 credits will dedicate 3 credits for lectures and one credit for practicum and in other subjects/courses, a course of 4 credits will dedicate 3 credits for lectures and 1 credit for tutorial. During 4th year, when the practicum course is offered as a separate course in that subject, then a course of 4 credits will dedicate 3 credits for lectures and 1 credit for tutorial. However, for any DSE course, a course of 4 credits will dedicate 3 credits for lectures and one credit for tutorial.
 7. In case of AEC of 2 credits, the entire 2 credits will be dedicated for lectures.
 8. In the SEC courses of 3 credits, 2 credits will be dedicated for lectures and 1 credit for practicum and in the DSEC courses of 4 credits, 3credits will be dedicated for lectures and 1 credit for practicum.
 9. If a student takes exit after the second semester, then Undergraduate Certificate in Discipline will be awarded after earning 52 creditsincluding 4 credits for the internship of 4-6 weeks during the summer vacation.
 10. If a student takes exit after the 4th semester, then Undergraduate Diploma in Discipline will be awarded after earning 96 credits including 4 Credits for the internship of 4-6 weeks during the summer vacation.

Fourth Year: Scheme D: Bachelor of Tourism and Travel Management

Semester	Major Subject			Minor Subject	Total credits	Degree to be awarded
	Core Courses	Discipline Specific Courses	Practicum Courses	Core Courses		
VII Level-8	<p align="center">CC-H1 B23-TMG-701 Entrepreneurship in Tourism</p> <p align="center">CC-H2 B23-TMG-702 Organization Behavior</p> <p align="center">CC-H3 B23-TMG-703 Haryana Tourism (4+4+4 Credits)</p>	<p align="center">DSE-H1 B23-TMG-704 Event Management (4credit)</p> <p align="center">OR B23-TMG-705 Tourism Business Ethics and Laws (4credit)</p>	<p align="center">PC-H1 B23-TMG-706 Soft Skills For Tourism Professionals (4credit)</p>	<p align="center">CC-HM1</p> <p align="center">Student will opt from the pool available in college/institute/ department</p> <p align="center">(4 credit)</p>	24	<p align="center">Bachelor (Honours) in Discipline with 180 Credits</p>
VIII Level-8	<p align="center">CC-H4 B23-TMG-801 Destination Planning and Development</p> <p align="center">CC-H5 B23-TMG-802 Tourist Behavior</p> <p align="center">CC-H6 B23-TMG-803 Tourism Economics (4+4+4 Credits)</p>	<p align="center">DSE-H2 B23-TMG-804 Airport and Cargo Management (4 credit)</p> <p align="center">OR B23-TMG-805 Tour Planning and Management (4 credit)</p>	<p align="center">PC-H2 B23-TMG-806 Itinerary Preparation and Tour Packaging (4credit)</p>	<p align="center">CC-HM2</p> <p align="center">Student will opt from the pool available in college/institute/ department</p> <p align="center">(4 credit)</p>	24	
OR						

VII Level-8	<p>CC-H1 B23-TMG-701 Entrepreneurship in Tourism</p> <p>CC-H2 B23-TMG-702 Organization Behavior</p> <p>CC-H3 B23-TMG-703 Haryana Tourism (4+4+4 Credits)</p>	<p>DSE-H1 B23-TMG-704 Event Management (4credit)</p> <p>OR</p> <p>B23-TMG-705 Tourism Business Ethics and Laws (4credit)</p>	<p>PC-H1 B23-TMG-706 Soft Skills For Tourism Professionals (4credit)</p>	<p>CC-HM1</p> <p>Student will opt from the pool available in college/institute/ department</p> <p>(4 credit)</p>	24	<p>Bachelor(Honours with Research) in Discipline With 180 Credits</p>
VIII Level-8	<p>CC-H4 B23-TMG-801 Destination Planning and Development (4credit)</p> <p>CC-H5 B23-TMG-802 Tourist Behavior (4credit)</p> <p>CC-H6 B23-TMG-807 Project/Dissertation (12 Credits)</p>	--	-----	<p>CC-HM2</p> <p>Student will opt from the pool available in college/institute/ department</p> <p>(4 credit)</p>	24	

Note:

1. 4-year UG (Honours) or (Honours with Research) in Discipline will be offered after completion of 3 year UG programme (Interdisciplinary) to those students who have completed at least 60 credits in the concerned discipline. In addition to the above, 4- year UG (Honours with Research) in Discipline will be offered only to those students who have obtained CGPA 7.5 or more in the 3 year UG programme.
2. Core course in Honours discipline (CCH): Discipline specific elective course in Honours (DSE-H); Practicum Course in Honours subject (PC-H); Core Course in Minor Subject (CC-HM) of Honours Program.
3. Bachelor degree (Honours) or (Honours with Research) will be awarded in the Discipline after successful completion of the four year programme securing 184 credits and satisfying the minimum credit requirement as given in the Credit Table.

4. Student opting for Honours with Research will work on a Research Project or do research during the eighth semester. The dissertation work will be of 12 credits. 8 credits will be earmarked for the evaluation report of the dissertation and viva-voce examination will carry weightage of 4 credits.
5. The evaluation of the Dissertation and the conduct of viva-voce examination will be done by an external examiner.
6. The practicum course may be replaced by a theory course wherever not applicable.

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Session: 2023-2024

SEMESTER I

Session: 2023-24			
Part A - Introduction			
Subject	INTRODUCTION TO TOURISM		
Semester	I		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology used in tourism 2. : To know about various types of tourism and factors responsible for the development 3. To be able to identify different components of tourism 4. To be able to work with and for tourism services in tourism chain <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Basic Concept and Terminology used in Tourism Tourism, tourist, visitors, traveler, excursionist as per UNWTO classification and Ministry of Tourism, Govt. of India. Impacts of Tourism (Economic, Socio-cultural and Environmental)		15

II	Types of Tourism and Factors of Development of Tourism Approaches to study tourism, Travel Agency and Tour Operators – Meaning and Types. Linkages in Tourism Industry, Push and Pull factors in Tourism,	15
III	Components of Tourism Attractions: Types and their significance for tourism Transportation: Types and their significance for tourism Accommodation: Types and their significance for tourism	15
IV	Tourism Services and Tourism Chain Characteristics of tourism and hospitality services- Perishability, Variability, Inseparability, Intangibility, Seasonality. Vertical, Horizontal and Diagonal Integration in Tourism	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Christopher J. Holloway- The Business of Tourism Macdonald and Evans. • A.K. Bhatia- Tourism Development Principles and Practices Sterling Publishers, New Delhi. • Anand M.M.- Tourism and Hotel Industry in India: Sterling Publishers, New Delhi. • Kaul R.H. Dynamics of Tourism: A Terminology, Sterling Publishers, New Delhi. 		

Session: 2023-24			
Part A - Introduction			
Subject	NATURAL TOURISM RESOURCES OF INDIA		
Semester	I		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of the geography of tourism 2. To describe the general geography of India 3. To analyses the natural tourism potential in India 4. To explain and connect with the nature based tourism attractions in India <hr style="border-top: 1px dashed black;"/> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks: 30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Introduction to Natural Tourism Resource of India India: Physiographic regions, Northern Mountains, Northern Plains, Peninsula Plateau, Coastal Regions, Great Indian Desert, Islands. Touristic significance of various Physiographic regions.		15

II	Major Natural Tourism Resources of India Wildlife Tourism Potential in India – Case studies of Ranthambore National Park, Great Himalayan National Park, Jim Corbett National Park, Gir National Park and Bhandhavgarh National Park, Kaziranga National park.	15
III	Nature Based Tourism Products of India Major Hill Stations and Adventure Tourism in India: Case Study from Jammu & Kashmir, Himachal Pradesh, Uttarakhand and Sikkim.	15
IV	Nature Based Tourism Products of India Coastal and Beach Tourism Potential in India: Case Study from Goa, Kerala, Karnataka and Tamilnadu.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ol style="list-style-type: none"> 1. Boniface B. & Cooper, C. (2009). Worldwide Destinations: The Geography of Travel & Tourism. Oxford Butterworth Heinemann, London. 2. Goh Chong Leong, 'An Economic Atlas of India, Oxford University Press, Singapore. 4. Husain, M (2013) - Geography of India, Tata McGraw Hill, New Delhi. 5. Singh Gopal, 'Geography of India', Atma Ram and sons, New Delhi, 1994 6. Quereshi, Imtiaz, (ed) Physical geography of India, NCERT, New Delhi 7. Hall, M (1999), Geography of Travel and Tourism, Routledge, London. 8. Robinson H.A. (1976), Geography of Tourism. Mac Donald & Evans Ltd 		

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM BUSINESS ENVIRONMENT		
Semester	I		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the concept of business environment 2. To describe the economic environment for tourism 3. To analyses the industrial policies concerning the tourism 4. To explain different tourism reforms in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All question carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	An Overview of Business Environment Business – Meaning, Concept and Nature, Business Environment – Meaning, nature and components. Business environment analysis – Process, techniques and limitations		16

II	<p>Economic Environment</p> <p>Economic Reforms in India - Liberalization, Privatization and Globalization, meaning, merits, de-merits and impact on tourism business in India.</p> <p>MSME (Micro, Small and Medium Enterprises) – Definition, Problems and Incentives available for growth.</p>	15
III	<p>Policies concerning Tourism</p> <p>Tourism development during five year plans. Tourism under NITI Ayog, National tourism policy of India, 2002. Competition Act and its impact on tourism business in India</p>	15
IV	<p>Tourism Reforms</p> <p>FDI - Meaning, merits, de-merits and impact on tourism business in India. Govt. of India Schemes for development of tourism business in India: Incredible India Campaign, PRASHAD Scheme, SWADESH Darshan. Scheme.</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 5 ● Seminar/presentation/assignment/quiz/class test etc.:10 ● Mid-Term Exam:15 		<p>End Term Examination:70</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Daniel, John D and Radebanh, Lee H : International Business, 5th ed., New York, Addison Weley, 2007 ● Charles W. Hill, International Business, fourth edition, Tata McGraw Hill Publications Companies.2010. ● AK. Sundaram J. StemartBlock : The International Business Environment PHI,2008 ● Rangarajan, C.A.; Perspective in Economics, S.Chand & Sons, New Delhi. ● Cherunilam, Francis; Business Environment - Text and Cases, Himalaya Publishing House. ● Aswathappa, K.; Essentials of Business Environment, Himalaya Publishing House, New Delhi. 		

Session: 2023-24			
Part A - Introduction			
Subject	TRANSPORT MANAGEMENT		
Semester	I		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with transportation related to Tourism industry 2. To understand the various concepts related to Air and Water Transport 3. To understand the various concepts related to Road Transport. 4. To know about major Railways of India and the World <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks: 50		Time: 3 Hours	
Internal Assessment Marks:15			
End Term Exam Marks: 35			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 7 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours

I	<p>Introduction to Transport</p> <p>Transportation as important element of tourism industry. History of different modes of transportation. Advantages and Limitations of different modes of transport.</p> <p>The factors affecting the selection of modes of transport by tourist.</p>	8
II	<p>Air and Water Transport</p> <p>History of air transport in India. IATA and DGCA: Organizational structures and functions. Major Airlines operating in India. Role of airlines in tourism promotion.</p> <p>Water transport- Limitation & scope of water transport in India. Cruise ships and Cruise tourism. The role of water transport in tourism.</p>	8
III	<p>Road Transport</p> <p>Road Transport: Major Highways and Expressways of India. Golden Quadrilateral Highway. Coach-Bus, Inter State Bus Services, Tourist Taxi, Rent-a-car Scheme, OLA and UBER</p>	7
IV	<p>Rail Transport</p> <p>Rail Transport: Major Railway Systems of World, (Euro Rail and AMTrak). General information about Indian Railways. Tourist trains of India and Indrail Pass service.</p>	7

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: 4
- Seminar/presentation/assignment/quiz/class test etc.:4
- Mid-Term Exam: 7

End Term Examination: 35

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Hannel Christine, Robert Harshman & Grahan Draper- 'Travel & Tourism: A world Regional geography, John Wiley & Sons, New York
- Hurst, Elist, 'Transporation Geography' McGraw Hill, New York
- David Timothy Duval, Tourism and Transport: Modes, Networks and flows. Channel view Publications.
- Stephan Page, Transport and Tourism, Global Perspectives, Pearson Publications
- Case Study Series Aerospace & Airlines, The ICAFI, University Press, Hyderabad
- Bharath, R., Low Cost Carriers, Concept and Cases, The ICAFI, University Press, Hyderabad

- Kumar, V V Ravi., Indian Aviation Industry, The ICFAI, University Press, Hyderabad
 - Nayak, G.,Development of Transport and Communication, Anmol Publication
- Ginger Todd, Susan Rice (2002), Travel Perspectives: A Guide to becoming a Travel Professional, Delmar ThomPLOn Learning.

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Session: 2023-2024

SEMESTER II

Session: 2023-24			
Part A – Introduction			
Subject	TRAVEL AGENCY & TOUR OPERATIONS BUSINESS		
Semester	II		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	201-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Introducing about the concept of travel agency and tour operation 2. Enabling to identify functions and linkages in travel agencies and tour operators 3. Knowledge about significance of travel agency and procedure to follow for government approval 4. Understanding the activities of Travel Trade Associations. ----- <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Introduction to Travel Agency and Tour Operation Travel Agency and Tour Operations: concept, meaning, definition, significance and growth over the years.		15

II	Functions and Linkages in Travel Agencies and Tour Operators Functions of Travel Agencies and tour operators. Linkages and integrations in tour operation business.	
III	Procedure for Government Approval Procedure for recognitions of Travel Agency and tour operators from Ministry of tourism, Govt. of India. Various govt. schemes for promotion of tourism business in India	15
IV	Travel Trade Associations -TAAI, IATO , IATA, PATA Brief History, Organization Structure and Functions.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Foster, D., the Business of Travel Agency, Pitman, 1990. • Aggarwal, Surrender, Travel Agency Management (Communication India, 1983). • Geo, Chack, Professional Travel Agency Management: (Prentice Hall, London, 1990). • Mohinder Chand , Travel Agency Management – An Introductory Text, Anmol Publications, New Delhi, 2006. • IATA, IATO, TAAI manual. • Jag Mohan, Negi, Travel Agency and tour operation, Kanishka Publication New Delhi, 1990 		

Session: 2023-24			
Part A – Introduction			
Subject	CULTURAL TOURISM RESOURCES OF INDIA		
Semester	II		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	201-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the basics of Indian culture 2. To describe the general features of Indian culture 3. To analyses the tourism potential Indian culture 4. To explain and connect with the different cultural attractions in India <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Introduction to Culture Culture: Concept and its essential features, elements of Indian culture and its geographical variations of Indian culture. Cultural as tourist attraction with special reference to India.		15

II	<p>Religions and Pilgrimage Places in India.</p> <p>Major Religions of India and their salient features.</p> <p>Major Pilgrimage Places related to Hinduism, Buddhism, Jainism, Islam and Sikhism (Any four places for each religion)</p>	15
III	<p>Indian Architecture and Monuments</p> <p>Buddhist Architecture: main features of Ajanta, Ellora and Sanchi. Hindu Architecture: main features of Khajuraho temples, Sun temple of Konark, Shore Temple of Mamallapuram.</p> <p>Medieval Architecture: Taj Mahal, Red Fort of Delhi, Fatehpur Sikri.</p>	15
IV	<p>Dances, Music and Fairs of India</p> <p>Classical Dances of India, Major tourism oriented fairs and festivals of India and their significance for tourism: Kullu-Dussehra, Pongal, Bihu, and Desert festivals.</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		<p>End Term Examination:70</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Abid Hussain, S. 2003 (reprint) The National Cultural of India. National Book Trust, Delhi. • The Wonder that was India- A Survey of the History and Culture of the Indian Sub-continent Before the Coming of the Muslims by <u>Arthur L. Basham</u>, ISBN 9780836429138, Rupa Publications,1964 • Of Past Dawns and Future Noons-Towards a Resurgent India by Shonar, ISBN 9788174765369, Published by <u>Sri Aurobindo Society</u> (2006) • Gupta, S.P.et.al 2002, Cultural Toursim in India, D.K. Printworld, New Delhi • Hay,Stephen (Ed.) 1992, Sources of Indian Tradition, 2 vols, Penguin Books, Delhi . • Krishana Deva, 2002 (reprint) Temples of North India. National Book Trust, Delhi – • Pande, G.C. 1990 (2nd ed.) Foundations of Indian Culture, 2 vols. MotiLalBanarasi Das Publisher, Delhi. • Samson, Leela, 2002. The joy of Classical Dances of India, National Book Trust, India, New Delhi. • Sharma, Chandradhar, 1991 (reprint), A Critical Survey of Indian Philosophy MotiLalBanarasi Das Publishers, Delhi . • Upadhyaya, B.S. 1989, (reprint), Feeders of Indian Culture People,s Publishing House. 		

Session: 2023-24			
Part A - Introduction			
Subject	INTERNATIONAL TOURISM		
Semester	II		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	201-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the concept of international tourism 2. To describe the tourism trends at international level 3. To analyses the potential of tourism in different regions of the world 4. To explain different destinations in various nations of the world <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Concept and Current Status of International Tourism Global tourism trends in terms of international tourist arrivals and international tourism receipts. Factors affecting growth of international tourism		15

II	Regional Distribution of International Tourism – I: - Europe: Inbound tourism with special reference to France, Spain, and United Kingdom and their major destinations i.e. Paris, Madrid and London - Americas: Inbound tourism with special reference to USA, Canada and Mexico and their major destinations i.e. New York, Washington DC, Toronto and Mexico City	15
III	Regional Distribution of International Tourism – II: - Africa: Inbound tourism with special reference to Egypt, South Africa and Kenya and their major destinations i.e. Giza, Johannesburg and Nairobi. - East-Asia & Pacific: Inbound tourism with special reference to Australia, China, and Thailand and their main destinations i.e. Sydney, Beijing, and Bangkok	15
IV	International Tourism Organizations UNWTO, PATA, IATA – Brief History, Organization Structure and Functions. Challenges before international tourism and strategies to promote international tourism.	15

Suggested Evaluation Methods

Internal Assessment:30

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:10
- Mid-Term Exam:15

End Term Examination:70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Bhatia, A. K. (1991). International tourism: fundamentals and practices. Sterling Publishers.
- Chand, M. (2004). Basics of tourism: theory, operation and practice. Kanishka Publishers.
- Lonely Planet – Singapore, Malaysia, Thailand, China, Hong Kong, Australia, New Zealand, UK, France, Switzerland, Germany, Italy, Greece, Austria, USA, CANADA, Brazil, UAE, South Africa, Kenya, Tanzania.
- McIntosh, R., Goeldner, W., & Charles,R.(1990). Tourism: Principles, Practices and Philosophies., John Wiley and Sons Inc. New York.

Session: 2023-24

Part A - Introduction

Subject	FIELD TRIP REPORT
Semester	II
Name of the Course	Bachelor of Tourism and Travel Management

Course Code	B23-TMG-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize students with visit to tourism destination. 2. To know about attractions and recreation opportunities at destination. 3. To collect first-hand information about tourism service and facilities at the destination. 4. To identify challenges and ways to develop tourism at the destination. <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2		2
Max. Marks: 50		Time: - 3 Hours	
Internal Assessment Marks:--15			
End Term Exam Marks: --35			
Part B- Contents of the Course			
<u>Instructions for Examiner</u>			
	Instructions		Contact hours
	<p>To know how to select a destination to visit followed by preparation of a report on tourism status on visited at a destination and to guide how to appear for Viva-Voce for the same.</p> <ol style="list-style-type: none"> 1. A field trip shall be conducted to cover any tourism destination of adjacent areas. 2. This is to supplement the learning for Tourism. After completion of field trip the students shall submit a field trip report for about 50 pages. 3. The Field Trip Report will be submitted in the form specified as under: <ol style="list-style-type: none"> a. The typing should be done on both sides of the paper (instead 		30

	<p>of single side printing).</p> <p>b. The font size should be 12 with Times New Roman font.</p> <p>c. The Report may be typed in 1.5 line spacing.</p> <p>d. The paper should be A-4 size.</p> <p>e. Two copies meant for the purpose of evaluation may be bound in paper-and submitted to the approved authority.</p>	
	<p>4. The Viva-Voce examination for the subject shall be conducted by the External Examiner approved by UGBOS/BOS of Department of Tourism & Hotel Management, Kurukshetra University, and Kurukshetra as Per Provisions in the Ordinance of the Course.</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: -4 • Seminar/presentation/assignment/quiz/class test etc.: -4 • Mid-Term Exam: -7 		<p>End Term Examination:</p> <p>Viva-Voce of 35 marks by External Examiner</p>
Part C-Learning Resources		
Recommended Books/e-resources/LMS:		

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(Detailed Syllabus)

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Session: 2023-2024

SEMESTER III

Session: 2023-24			
Part A – Introduction			
Subject	RELIGIOUS TOURISM		
Semester	III		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	301-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology of religious tourism 2. To gain knowledge of various religious tourism places of Hinduism 3. To be able to identify different religious tourism places of Buddhism, Jainism, Sikhism, Islam and Christianity <p>To be able to identify various problems and prospects of religious tourism in India</p> <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Major Religions In India Hinduism: Salient features. Buddhism and Jainism: Main Teachings and Philosophy. Islam and Sikhism: Basic features. Meaning and Characteristics of religious tourism.		15

II	Major Religious Tourism Places of Hinduism Four Dham – Badrinath, Rameshwaram, Puri and Dwaraka, Varanasi, Haridwar and Tirupati.	15
III	Major Religious Tourism Places of Buddhism, Jainism, Sikhism, Islam and Christianity Buddhism: Bodh Gaya and Sarnath. Jainism: Mount Abu and Palitana. Sikhism: Amritsar. Islam: Ajmer. Christianity: Goa.	15
IV	Trends and Pattern of Religious Tourism in India Current scenario of Indian religious tourism. Problems and Prospect of religious tourism in India. Strategies to promote religion tourism in India.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Abid Hussain, S. 2003 (reprint) The National Culture of India, National Book Trust, New Delhi. • Basham, A.L., 1985 (reprint) The Wonder That Was India, Rupa % Co., New Delhi • Hay, Stephen, (Ed.) 1992, Sources of Indian Tradition, 2 vols., Penguin Books, Delhi • Nadakarni, M.V. 2006, Hinduism: The Gandhian Perspective, Ane Books India, New Delhi • Radhakrishnan, S. 1999 (Oxford India paperback) Indian Philosophy, 2 vols., Oxford University Press, New Delhi. 		

Session: 2023-24			
Part A - Introduction			
Subject	HOTEL BUSINESS		
Semester	III		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	301-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts and terminology used in tourism accommodation 2. To gain knowledge of growth and development of hotel industry in India 3. To be able to identify different functions and operations of hotel 4. To be able to work with and for hotel development in tourism <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Introduction to Tourism Accommodation		15
	Introduction – Tourism and Accommodation, their relationship, Tourism,		

	Types of Tourist Accommodation: Different basis of categorization of accommodation sector. Main features of different basis of categorization of accommodation sector.	
II	Origin and Growth of Hotel Sector Growth and development of hotel industry with special reference to India. Role of governing bodies in development of hotel sector in India: Ministry of Tourism, Federation of Hotel and Restaurant Association of India (FHRAI), Hospitality Development And Promotion Board (HDPB). Study of Major hotel chains of India.	15
III	Hotel Operations Hotel accommodation and its various activities. Organization structure and role of various departments of hotel: Front Office, Housekeeping, Food & Beverages (Service & Production), Engineering & Maintenance, Store & Purchase, Human Resources, Sales & Marketing and Accounts	15
IV	Hotel Business and Recent Trends Ownership and forms of hotel ownership. Sole-Proprietorship, Partnership, Joint Stock Company, Referral organizations, Hotel chain, Lease Agreements, Management contracts, Franchise Organizations. Recent development and challenges of hotel industry in India. Future of Hotel industry in India.	15

Suggested Evaluation Methods

Internal Assessment:30

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:10
- Mid-Term Exam:15

End Term Examination:70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Anand, M. M. (1976). Tourism and Hotel Industry in India: A Study in Management. Prentice Hall.
- Brymer, R. A. (Ed.). (1984). Introduction to hotel and restaurant management. Kendall/Hunt.
- Chand, M. (2009). Managing hospitality operations. Anmol Publications.
- Chuck, Y. G. (1998). International Hotel Management. Educational Institute American Hotel & Motel Association, Washington.
- Hassanien, A., Dale, C., Clarke, A., & Herriott, M. W. (2010). Hospitality business

development. Routledge.

- Jagmohan, N. (2000). Hotels for Tourism Development (2nd Ed). Metropolitan Book Company.
- Walker, J. R. (2002). Introduction to hospitality . Prentice Hall.
- Wood, R. C. (2013). Key concepts in hospitality management. Key Concepts in Hospitality Management. London: SAGE.

Session: 2023-24			
Part A - Introduction			
Subject	AIRLINES TICKETING		
Semester	III		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	301-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with airlines geography. 2. To understand the various concepts associated with airlines ticketing. 3. To get knowledge of calculating fare of ticket and passenger handling. 4. To know about CRS and GDS in airlines <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			

Unit	Topics	Contact hours
I	<p>Introduction to Airline Industry</p> <p>History of development of Airline industry and important international conventions (Warsaw Convention, Bermuda Convention and Chicago Convention). IATA Traffic Conference Area: TC 1, TC 2, TC 3. Role of IATA and ICAO in airline industry.</p>	15
II	<p>Overview of Codes and Fare</p> <p>Familiarization with OAG: 3 Letter codes and airport codes, airline designated codes, Minimum Connecting Time (MCT), Global Indicators. Familiarization with PAT: Introduction to general terms and abbreviations, PAT extracts, general rules, fares types and fare rules.</p>	15
III	<p>Fare Construction and Ticketing</p> <p>Fare construction: One way through fare construction with MPM, TPM, EMA and EMS check – Round and Circle trip fare construction with selection of break point and CTM check – Child and Infant Fares – Special Fares – Surcharges – Consolidator and net fares.</p> <p>Steps of ticketing: Types of Ticket, Types of cabin class, Type of Service, Direction of Travel, Type of Transaction.</p>	15
IV	<p>Airlines Reservation System</p> <p>Computerized reservation system (CRS) and comparative study of different CRS System. Global distribution system (GDS) and overview of major GDS (AMADEUS, GALILEO, SABRE).</p> <p>Process of reservation and booking through GDS.</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		<p>End Term Examination:70</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Davidoff, D.S. and Davidoff, P.G. (1995). Air Fares and Ticketing. New York: Prentice Hall. 		

- Gupta, S.K. (2007). International Airfare and Ticketing – Methods and Techniques, New Delhi: UDH Publishers and Distributers (P) Ltd.
- Foster, Dennis L. (2010). Reservations and Ticketing with Sabre. London: CreateSpace.
- Gupta S.K : International Airfare & Ticketing Methods & Technique UDH Publishers & Distributers (P) Ltd. New Delhi.
- Nawab, A.W.: Comparative evolution of world Air Transport, National publishing House, Delhi

Session: 2023-24			
Part A - Introduction			
Subject	PRINCIPLES OF MANAGEMENT		
Semester	III		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ul style="list-style-type: none"> • To orient the students about management practices. • To know student about planning and decision making skills. • To teach students about organizing and staffing functions. • To make the students to know motivation and controlling techniques. <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100			Time: 3 Hours
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting or			

question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.

Unit	Topics	Contact hours
I	Introduction to Management Concept of management, definition, nature, purpose, management as an art, science, and a profession, functions of management, systems approach to management.	15
II	Planning and Decision Making Planning meaning, steps in planning process, purpose, type of plans, management by objectives, Decision making- meaning, definition, importance, process of decision making, limitations.	15
III	Organizing and Staffing Organizing- meaning process of organizing, levels of organizing, span of management, forms -line, functional, line & Staff and Committee form of organizations. Delegation of Authority, Decentralization & Centralization	15
IV	Motivation and Controlling Motivation and theories of motivation (Maslow's Need Hierarchy theory and Herzberg's Two Factor theory of motivation). Leadership traits and styles. Communication: process and barriers. Controlling: meaning, process and importance.	15

Suggested Evaluation Methods

Internal Assessment:30

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:10
- Mid-Term Exam:15

➤ **Practicum**

- Class Participation: -
- Seminar/Demonstration/Viva-voce/Lab records etc.:-
- Mid-Term Exam: -

End Term Examination:70

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Weirich, Heinz, Mark V. Cannice, and Harold Koontz. "Management: A global and entrepreneurial perspective." New Dehi (2008).
- Ghuman, Karminder& K. Aswathappa: Management: Concept, Practice & Case, Tata McGraw -Hill, New Delhi.

- Kase , F. L. and Rasonu, J.E. 1985, Organization and Management -A System And Contingency Approach, McGraw Hill Book Company, New York'
- Becker, P.E, The Practices of Management, London, 1955.
- May, D., The Evolution of Management Thought. Ronald Press, New York, 1972.
- Singh. A.N., The Skills of Management, GoverEarnborough, 1980.
- Ricks. S., Management of Organization. Macmillan publication. Honkong, 1981.
- Y.A., Management, of Organization. McGraw Hill. 1958.
- Crompton. Summer and Webber, 1973. Organizational Behavior and The Practices of Management, Scoft, Poresman, Cleneve'
- Koontz, Harold, Cyril O'Donnell, and Heinz Weihrich. Essentials of management. Vol. 18. New York: McGraw-Hill, 1986.
- Sherlekar, S. A. "Marketing Management, Himalaya Publishing House, Mumbai." (1998).
- Agarwal R D, Organization and Management
- Prasad L M, Principles and Practices of Management , Sultan Chand & Sons

BTTM

(Detailed Syllabus)

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Session: 2023-2024

SEMESTER IV

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM MARKETING		
Semester	IV		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the basic concepts of tourism marketing. 2. To understand characteristics and challenges of tourism marketing. 3. To analyze various facets of marketing as applied to tourism. 4. To be able to apply various services marketing strategies to tourism industry. <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Basic Concepts of Tourism Marketing		15
	Tourism Marketing: Meaning, Nature & Process. Concept of Marketing		

	Mix, Developing Marketing Mix for tourism industry. Concept of Tourism Product, New Product Development and Tourism Product Life Cycle.	
II	Characteristics and Challenges of Tourism Marketing. Characteristics of Tourism Product: Intangibility, Perishability, Heterogeneity, Inseparability, Non-ownership. Issues and Challenges related to tourism marketing. Marketing strategies to overcome the challenges and limitations.	15
III	Facets of Tourism Marketing Production, Product, Selling in tourism marketing. Socially Responsible marketing and Green marketing concept in tourism. Tourism Markets and types of tourism markets. Consumer buying behaviour in tourism and factors influencing buying behaviour.	15
IV	Marketing Strategies in Tourism Market segmentation, market positioning, market skimming and market penetration. Pricing Strategies and factors influencing pricing of tourism product. Promotion Mix and its components, various promotional tools used in tourism (Brochures, Events, Movies and Cinema). Distribution system/channel in tourism industry.	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Hospitality Marketing Management, Robert D. Reid, Wiley Publications. • Marketing for Hospitality and Tourism , Kotler, P., Bowen, J. T., Makens, J. C., & Baloglu, S., Boston, MA: Pearson Education. • Marketing for Hospitality and Tourism Services, Prasanna Kumar, Tata McGraw Hill Publications. • Services Marketing, Govind Apte, Oxford Publications • Tourism Marketing, Devashish Dasgupta, Pearson India Publications. • Tourism Marketing, Manjula Chaudhary, Oxford Publications. 		

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM ORGANIZATIONS		
Semester	IV		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	400-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the meaning, concept and nature of International Tourism organizations. 2. To understand the organization structure and functions of Regional Tourism Organizations. 3. To know about of National Tourism Organization and their role. 4. To get familiarization with applications of knowledge by professional bodies in tourism. <hr style="border-top: 1px dashed black;"/> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks:	100		Time: 3 Hours
Internal Assessment Marks:	30		
End Term Exam Marks:	70		
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	International Tourism Organizations Tourism Organizations: meaning, nature and significance for tourism development. United Nations World Tourism Organization (UNWTO): structure, functions & significance.		15

	World Tourism & Travel Council (WTTC): Structure, Committee, Events and Functions.	
II	<p>Regional Tourism Organizations</p> <p>United Nations Educational, Scientific & Cultural Organization (UNESCO). History, Functions and Role in Promotion of Tourism.</p> <p>Pacific Asia Travel Association (PATA): Membership, Committee and Functions.</p> <p>International Air Transport Association (IATA): structure, membership, functions & significance.</p>	15
III	<p>National Tourism Organization</p> <p>Ministry of Tourism, Government of India: Organizational Structure and Functions.</p> <p>Indian Tourism Development Corporation (ITDC): History, Structure and Functions.</p> <p>Tourism Finance Corporation of India (TFCI): Organizational Structure and Functions.</p>	15
IV	<p>Tourism Business Promotion Organizations & Associations</p> <p>Indian Associations of Tour Operators (IATO).</p> <p>Travel Agents Association of India (TAAI).</p> <p>Travel Agents Association of India (TAAI).</p> <p>Federation of Hotel & Restaurant Associations of India (FHRAI).</p> <p>India Convention Promotion Bureau (ICPB).</p>	15
Suggested Evaluation Methods		
<p>Internal Assessment:30</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15 		<p>End Term Examination:70</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • www.unesco.org • www.pata.org • www.iata.org • www.wttc.org • www.itdc.com • www.unwto.org • Website of Ministry of Tourism, Govt. of India. 		

Session: 2023-24			
Part A - Introduction			
Subject	TOURISM DOCUMENTATION		
Semester	IV		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code	B23-TMG-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC		
Level of the course (As per Annexure-I)	401-499		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To familiarize with the basic terminology and types of tourism related documents. 2. To gain knowledge about basic regulations for safe and hassle-free travelling. 3. To know the financial assets and their requirements in travel 4. To be able to work with regulations and bodies involved in international travel. <p>-----</p> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	4	NA	4
Contact Hours	4		4
Max. Marks: 100		Time: 3 Hours	
Internal Assessment Marks:30			
End Term Exam Marks: 70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<p>Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 14 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.</p>			
Unit	Topics		Contact hours
I	Basic Concept in Travel Documentation Passport, types of Passports, Process of acquiring passport in India. Visa and its types, Documentation for Visa, Schengen Visa, US Visa and UK Visa.		15

	Visa on Arrival (VoA), e-visa and Travel Insurance.	
II	Regulations and Certification in International Travel Baggage Regulations. Currency Regulations. Customs Regulations. Health Regulation and Certification (Yellow fever, Malaria, H.I.V. and COVID Vaccination).	15
III	Financial Assets and Formalities Bank details, Requisite Bank Balance, Income Tax Returns, Property Documents and their Valuation, Insurance papers. Guarantee for Visa, Collateral Security, Transfer of Money. Role of Currency Exchange Companies, Banks and NBFCs.	15
IV	Regulations for Travel Documentation in India Citizenship, Immigration, Enforcement Directorate. Foreign Exchange Management Act, 1999 and Prevention of Money Laundering Act. 2002. Immigration formalities at airport for outbound and inbound tourists in India. Foreign regional registration office (FRRO).	15
Suggested Evaluation Methods		
Internal Assessment:30 ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:10 • Mid-Term Exam:15		End Term Examination:70
Part C-Learning Resources		
Recommended Books/e-resources/LMS: • Website of Ministry of Tourism, Govt. of India. • Embassy Websites of the concerned country. • Website of Ministry of External Affairs, Govt. of India. • Website of Ministry of Finance, Govt. of India. • Website of Ministry of Home, Govt. of India.		

DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT
KURUKSHETRA UNIVERSITY, KURUKSHETRA

POOL OF MULTIDISCIPLINARY COURSES (MDC) BY
FACULTY OF TOURISM UNDER SCHEME-D

Semester 1	Semester 2	Semester 3
1. Basics of Tourism	1. Major Tourist Destinations of The World	1. Hospitality Management

MDC FOR SEMESTER 1

Session: 2023-24			
Part A - Introduction			
Subject	BASICS OF TOURISM		
Semester	1		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To familiarize with the concept and basic terminology of tourism 2. To gain knowledge of various approaches and factors of development of tourism 3. To be able to identify different components of tourism 4. To explain characteristics of tourism and its services <hr style="border-top: 1px dashed black;"/> <ol style="list-style-type: none"> 5. Applicable for courses having practical component. 		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks: 75		Time: 3 Hours	
Internal Assessment Marks:25			
End Term Exam Marks: 50			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 10 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.			
Unit	Topics		Contact hours
I	Tourism Concept Tourism, tourist, visitors, traveler, excursionist as per UNWTO classification		12

	and Ministry of Tourism, Govt. of India. Impacts of Tourism (Economic, Socio-cultural and Environmental).	
II	Approaches and Linkages in Tourism Approaches to study tourism, Travel Agency and Tour Operators – Meaning and Types. Linkages in Tourism Industry, Push and Pull factors in Tourism.	11
III	Components of Tourism Attractions: Types and their significance for tourism Transportation: Types and their significance for tourism Accommodation: Types and their significance for tourism	11
IV	Tourism Characteristics Characteristics of tourism and hospitality services- Perishability, Variability, Inseparability, Intangibility, Seasonality. Vertical, Horizontal and Diagonal Integration in Tourism	11
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory • Class Participation: 5 • Seminar/presentation/assignment/quiz/class test etc.:7 • Mid-Term Exam: 13		End Term Examination: 50
Part C-Learning Resources		
Recommended Books/e-resources/LMS:		
<ul style="list-style-type: none"> • Bhatia, A.K. International Tourism: Fundamental and practice, Delhi: Sterling. • Hudman, E.L. and D.E. Hawkins, Tourism in Contemporary Society: an introductory text, New Jersey: Prentice Hall. • Kamra, K.K. and M. Chand, Basics of tourism: Theory operation and practice, Delhi: Kanishka. • Lundberg, D.E., The Tourist Business. New York: Van Nostrand. • Reinhold Mill, R.C. and A.M. Morrison, The Tourism System, New Jersey: Prentice Hall • McIntosh, Robert, W Goeldner, R Charles, Tourism: Principles, Practices and Philosophies. John Wiley and Sons Inc. New York 1990 • Seth P.N., Successful Tourism Management, Sterling Publisher: New Delhi • Burkart A.J., Medlik S., Tourism - Past, Present and Future, Heinemann, London. • Chuck Y. Gee, James C. Makens & Dexter J. L. Choy, The Travel Industry, Van Nostrand Reinhold, New York. • Holloway, J. C., The Business of tourism, Pitman Publishing, London. • Medlik, S., Understanding tourism, Butterworth Hinemann, Oxford. • Michael M. Coltman, Introduction to Travel and Tourism- An International Approach, Van Nostrand Reinhold, New York. 		

- Page J. Stephen & Brunt Paul, Tourism- A Modern Synthesis, Thomson Publishers, London.
- Ray Youell, Tourism-an introduction, Addison Wesley Longman, Essex.
- Sunetra Roday, Tourism Operations and Management, Oxford University Press.

MDC FOR SEMESTER 2

Session: 2023-24			
Part A - Introduction			
Subject	MAJOR TOURIST DESTINATIONS OF THE WORLD		
Semester	2		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/V AC)	MDC		
Level of the course (As per Annexure-I)	200-299		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the concept of global tourism 2. To describe the tourism trends at international level 3. To analyses the potential of tourism in different regions of the world 4. To explain different destinations in various nations of the world <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3

Max. Marks: 75	Time: 3 Hours
Internal Assessment Marks:25	
End Term Exam Marks: 50	

Part B- Contents of the Course

Instructions for Paper- Setter

Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 7 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.

Unit	Topics	Contact hours
I	Concept and Current Status of Global Tourism Global tourism trends in terms of international tourist arrivals and international tourism receipts. Factors affecting growth of international tourism	12
II	Famous Destinations of Europe and America Europe: major attractions with reference to Paris (France), Madrid (Spain) and London (United Kingdom). Americas: major tourist attractions with reference to New York and Washington DC (USA), Toronto (Canada) and Mexico City (Mexico).	11
III	Famous Destinations of Africa and East-Asia & Pacific Africa: major attractions with reference to Giza (Egypt), Johannesburg (South Africa) and Nairobi (Kenya). East-Asia & Pacific: major attractions with reference to Sydney (Australia), Beijing (China) and Bangkok (Thailand).	11
IV	Global Tourism Associations UNWTO, PATA, IATA – Brief History, Organization Structure and Functions. Challenges before global tourism and strategies to promote international tourism	11

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:7
- Mid-Term Exam: 13

End Term Examination: 50

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Bhatia, A. K. (1991). International tourism: fundamentals and practices. Sterling Publishers.
- Chand, M. (2004). Basics of tourism: theory, operation and practice. Kanishka Publishers.
- Hudman, L. E., & Hawkins, D. E. (1989). Tourism in contemporary society: an introductory text. Prentice Hall.
- Lonely Planet – Singapore, Malaysia, Thailand, China, Hong Kong, Australia, New Zealand, UK, France, Switzerland, Germany, Italy, Greece, Austria, USA, CANADA, Brazil, UAE, South Africa, Kenya, Tanzania.
- McIntosh, R., Goeldner, W., & Charles, R. (1990). Tourism: Principles, Practices and Philosophies.
- John Wiley and Sons Inc. New York.

MDC FOR SEMESTER 3

Session: 2023-24			
Part A - Introduction			
Subject	HOSPITALITY MANAGEMENT		
Semester	3		
Name of the Course	Bachelor of Tourism and Travel Management		
Course Code			
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	MDC		
Level of the course (As per Annexure-I)	300-399		
Pre-requisite for the course (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To introduce the concept of Hospitality Management. 2. To understand the Hospitality Operations Management. 3. To familiarize with the ownership structure in Hospitality Operations. 4. To be able to know the Disaster Management mechanism in India. <hr style="border-top: 1px dashed black;"/> 5. Applicable for courses having practical component.		
Credits	Theory	Practical	Total
	3	NA	3
Contact Hours	3		3
Max. Marks: 75			Time: 3 Hours
Internal Assessment Marks:25			
End Term Exam Marks: 50			

Part B- Contents of the Course

Instructions for Paper- Setter

Total number of questions set will be nine. Question No. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all selecting one question from each unit including the compulsory question. Each question is of 10 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.

Unit	Topics	Contact hours
I	Introduction to Hospitality Management Overview and evolution of the hospitality industry. Different Hospitality Sectors: Hotel & Resorts, Restaurants & Food Service, Travel and Tourism, MICE, Spa & Wellness etc. Concept of Hotel: organization structure and classification of Hotels. Types of rooms and Types of plan.	12
II	Hospitality Operations Front office Department: Organization & Functions. Housekeeping Department: Organization & Functions. Overview of Food and beverage production and service. Organization and functions of Engineering & Maintenance, Store & Purchase, Human Resources, Sales & Marketing and Accounts departments.	11
III	Ownership Structure in Hospitality Organization Sole – Proprietorship: Characteristics and Limitations. Partnership: Characteristics and Limitations. Joint stock companies: Characteristics and Limitations. Referral Organizations, Hotel chain, Lease Agreements, Management contracts, Franchise Organizations	11
IV	Emerging areas of Hospitality Operations Major players in Indian hospitality sector. Recent development and challenges of hospitality industry in India. Future of hospitality industry in India.	11

Suggested Evaluation Methods

Internal Assessment:

➤ **Theory**

- Class Participation: 5
- Seminar/presentation/assignment/quiz/class test etc.:7
- Mid-Term Exam: 13

End Term Examination: 50

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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Negi, Jagmohan: Hotels for Tourism Development (2nd Edition); Metropolitan, New Delhi, 2000.
- Gee, Chuck Y.: International Hotel Management. Educational Institute, America, 1998
- Kaul, R.N.: Dynamics of Tourism: a trilogy. Vol. 2: Accommodation. Sterling Publishers Pvt. Ltd. New Delhi, 2001.
- Mohinder , Chand , Managing Hospitality Operations , Anmol publications , New Delhi, 2009.
- Anand M.M. – Tourism and Hotel Industry in India: Sterling Publishers, New Delhi
- Madlik, S. – Hotel Business, Heinemann, London
- Brymer, Robert A. –Introduction of Hotel and Restaurant Management: HUB Publication, Co., Iowa, 1984
- John R. Walker : Introduction to Hospitality
- Tiwari, J. R. : Hotel Front Office: Operation and Management, Oxford University Press

KURUKSHETRA UNIVERSITY KURUKSHETRA



Scheme of Examinations and Syllabus for Under-Graduate Programme Bachelor of Home Science Interdisciplinary Scheme D

Under Multiple Entry-Exit

Internship and CBCS-LOCF in accordance to NEP-2020

w.e.f. 2023-24 (in phased manner)

KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Examinations For Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP 2020
w.e.f. 2023-24 (in phased manner)
Bachelor of Home Science

SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours / Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A1 4 credit	B23-HSC-101	Home and Interior Decor'	3	3	20	50	70	3 hrs.
		Home and Interior Decor' Practical	1	2	10	20	30	4 hrs.
CC-B1 4 credit	B23-HSC-102	Fundamentals of Clothing & Textiles	3	3	20	50	70	3 hrs.
		Fundamentals of Clothing & Textiles Practical	1	2	10	20	30	4 hrs.
CC-C1 4 credit	B23-HSC-103	Introduction to Human Development	3	3	20	50	70	3 hrs.
		Introduction to Human Development Practical	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-HSC-104	Consumer Education	1	1	10	20	30	3hrs.
		Consumer Education Practical	1	2	5	15	20	4hrs.
MDC-1 3 credits	From the courses offered by D/C/I							
AEC-1 2 credit	From available AEC-1 pool list of two credit as per NEP							
SEC-1 3 credit	From Available SEC-1 pool list of two credit as per NEP							
VAC-1 2 credit	From Available VAC-1 pool list of two credit as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hours / Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A2 4 credit	B23-HSC-201	Nutrition Science	3	3	20	50	70	3 hrs.
		Nutrition Science Practical	1	2	10	20	30	4 hrs.
CC-B2 4 credit	B23-HSC-202	Family Resource Management	3	3	20	50	70	3 hrs.
		Family Resource Management Practical	1	2	10	20	30	4 hrs.
CC-C2 4 credit	B23-HSC-203	Extension Education & Communication	3	3	20	50	70	3 hrs.
		Extension Education & Communication Practical	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-HSC-204	Housing & Space Management	1	1	10	20	30	3hrs.
		Housing & Space Management Practical	1	2	5	15	20	4hrs.
MDC-2 3 credits	From the courses offered by D/C/I							
AEC-2 2 credit	From Available AEC-2 pool list of two credit as per NEP							
SEC-2 3 credit	From Available SEC-2 pool list of three credit as per NEP							
VAC-2 2 credit	From Available VAC-2 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

Scheme of Examinations For Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP 2020
w.e.f. 2023-24 for IIHS,KUK (in phased manner)
SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A3 4 credit	B23-HSC-301	Basics of clothing Construction & apparel designing	3	3	20	50	70	3 hrs.
		Basics of clothing Construction & apparel designing Practical	1	2	10	20	30	4 hrs.
CC-B3 4 credit	B23-HSC-302	Food Science	3	3	20	50	70	3 hrs.
		Food Science Practical	1	2	10	20	30	4 hrs.
CC-C3 4 credit	B23-HSC-303	Life Span Development-I	3	3	20	50	70	3 hrs.
		Life Span Development-I Practical	1	2	10	20	30	4 hrs.
CC-M3 4 credit	B23-HSC-304	Hygiene & human physiology	3	3	20	50	70	3 hrs.
		Hygiene & human physiology Practical	1	2	10	20	30	4 hrs.
MDC-3 3 credits	From the courses offered by D/C/I							
AEC-3 2 credit	From Available AEC-3 pool list of three credit as per NEP							
SEC-3 3 credit	From Available SEC-3 pool list of three credit as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A4 4 credit	B23-HSC-401	Advanced apparel & textile designing	3	3	20	50	70	3 hrs.
		Advanced apparel & textile designing Practical	1	2	10	20	30	4 hrs.
CC-B4 4 credit	B23-HSC-402	Early childhood education and special need children	3	3	20	50	70	3 hrs.
		Early childhood education and special need children Practical	1	2	10	20	30	4 hrs.
CC-C4 4 credit	B23-HSC-403	Food microbiology & biochemistry	3	3	20	50	70	3 hrs.
		Food microbiology & biochemistry Practical	1	2	10	20	30	4 hrs.
CC-M4(V) 4 credit	From Available CC-M4(V) pool list of four credit as per NEP							
AEC-4 2 credit	From Available AEC-4 pool list of three credit as per NEP							
VAC-3 2 credit	From Available VAC-4 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 4th semester (If not done in 2nd Semester)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours / Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-HSC-501	Normal & therapeutic nutrition	3	3	20	50	70	3 hrs.
		Normal & therapeutic nutrition Practical	1	2	10	20	30	4 hrs.
CC-B5 4 credit	B23-HSC-502	Traditional textiles & embroideries of India	3	3	20	50	70	3 hrs.
		Traditional textiles & embroideries of India Practical	1	2	10	20	30	4 hrs.
CC-C5 4 credit	B23-HSC-503	Life Span Development-II	3	3	20	50	70	3 hrs.
		Life Span Development-II Practical	1	2	10	20	30	4 hrs.
CC-M5(V) 4 credit	From Available CC M5(V) pool list of four credit as per NEP							
SEC	Internship#							

#Four credits of internship, earned by a student during summer internship after 2nd or 4th semester, will be taken in to account in 5th semester of a student who pursue 3 year UG programmes without taking exit option .

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours / Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A6 4 credit	B23-HSC-601	Family dynamics & counseling	3	3	20	50	70	3 hrs.
		Family dynamics & counseling	1	2	10	20	30	4 hrs.
CC-B6 4 credit	B23-HSC-602	Fashion merchandising & entrepreneurship	3	3	20	50	70	3 hrs.
		Fashion merchandising & entrepreneurship Practical	1	2	10	20	30	4 hrs.
CC-C6 4 credit	B23-HSC-603	Advanced Therapeutic Nutrition	3	3	20	50	70	3 hrs.
		Advanced Therapeutic Nutrition Practical	1	2	10	20	30	4 hrs.
CC-M6 4 credit	B23-HSC-604	Entrepreneurial Trends & Techniques	3	3	20	50	70	3 hrs.
		Entrepreneurial Trends & Techniques Practical	1	2	10	20	30	4 hrs.
CC-M7(V) 4 credit	From Available CC-M7(V) pool list of four credit as per NEP							

SEMESTER-7
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (FOOD, NUTRITION & DIETETICS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-701	Advanced Human Nutrition-I	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-702	Advanced Nutritional Biochemistry-I	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-703	Institutional Management I	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23-HSC-704	Food Science I	4	4	30	70	100	3 hrs.
	B23-HSC-705	Food Safety and Quality Control I	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-HSC-706	Practical Based on B-23 HSC 701-705	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-HSC-707	Food Microbiology	3	3	20	50	70	3 hrs.
		Food Microbiology Practical	1	2	10	20	30	4 hrs.

SEMESTER-8
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (FOOD, NUTRITION & DIETETICS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-HSC-801	Advanced Human Nutrition-II	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-HSC -802	Advanced Nutritional Biochemistry-II	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-803	Institutional Management II	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23-HSC-804	Food Science II	4	4	30	70	100	3 hrs.
	B23-HSC-805	Food Safety and Quality Control II	4	4	30	70	100	3 hrs.
PC-H2 4 credit	B23- HSC-806	Practical Based on B23-HSC-801 TO 804/805	4	8	30	70	100	6 hrs.
CC-HM2 4 credit	B23- HSC-807	Human physiology	4	4	30	70	100	3 hrs.

OR
SEMESTER-7
BACHELOR OF HOME SCIENCE (HONORS WITH RESEARCH)
SPECIALISATION IN (FOOD, NUTRITION & DIETETICS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-701	Advanced Human Nutrition-I	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-702	Advanced Nutritional Biochemistry-I	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-703	Institutional Management I	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23-HSC-704	Food Science I	4	4	30	70	100	3 hrs.
	B23-HSC-705	Food Safety and Quality Control I	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-HSC-706	Practical Based on B-23 HSC 701-705	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-HSC-707	Food Microbiology	3	3	20	50	70	3 hrs.
		Food Microbiology Practical	1	2	10	20	30	4 hrs.

SEMESTER-8
BACHELOR OF HOME SCIENCE (HONORS WITH RESEARCH)
SPECIALISATION IN (FOOD, NUTRITION & DIETETICS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-HSC-801	Advanced Human Nutrition-II	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23- HSC-802	Advanced Nutritional Biochemistry-II	4	4	30	70	100	3 hrs.
CC-HM2 4 credit	B23- HSC-807	Human physiology	4	4	30	70	100	3 hrs.
Project/Dissertation 12 credit	B23-HSC -808	Project/Dissertation	8+4	-	-	-	-	-

SEMESTER-7
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (HUMAN DEVELOPMENT)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-711	Theories of Human Development, psychology and Behaviour	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23- HSC-712	Methods and Techniques of Assessment in Human Development	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23- HSC-713	Early Childhood Development: Care and Education	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23- HSC-714	Cross-Cultural Perspectives in Family Studies	4	4	30	70	100	3 hrs.
	B23- HSC-715	Family Support Therapy	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23- HSC-716	Practical Based on B-23 HSC 701-705	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23- HSC-717	Mental health	3	3	20	50	70	3 hrs.
		Mental health practical	1	2	10	20	30	4 hrs.

SEMESTER-8
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (HUMAN DEVELOPMENT)

Course	Pa per(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23- HSC 811	Fundamentals of Human Development	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23- HSC-812	Adolescence and adulthood: Development, Psychology and Challenges	4	4	30	70	100	3 hrs.
CC-H6 4 credit	B23- HSC-813	Management, Policies and Programmes for Women and Children	4	4	30	70	100	3 hrs.
DSE-H2 4 credit Select one option	B23- HSC-814	Population and Family: Dynamics, Psychology and Welfare	4	4	30	70	100	3 hrs.
	B23- HSC-815	Guiding young Children: Growth Behaviour and Development	4	4	30	70	100	3 hrs.
PC-H2 4 credit	B23- HSC-816	Practical Based on B23-HSC-801 TO 804/805	4	8	30	70	100	6 hrs.
CC-HM2 4 credit	B23- HSC-817	Care of elderly	3	3	20	50	70	3 hrs.
		Care of elderly practical	1	2	10	20	30	4 hrs.

OR
SEMESTER-7

BACHELOR OF HOME SCIENCE (HONOURS WITH RESEARCH)
SPECIALISATION IN (HUMAN DEVELOPMENT)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-711	Theories of Human Development, psychology and Behaviour	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23- HSC-712	Methods and Techniques of Assessment in Human Development	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23- HSC-713	Early Childhood Development: Care and Education	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one Option	B23- HSC-714	Cross-Cultural Perspectives in Family Studies	4	4	30	70	100	3 hrs.
	B23- HSC-715	Family Support Therapy	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23- HSC-716	Practical Based on B-23 HSC 711-715	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23- HSC-717	Mental health	3	3	20	50	70	3 hrs.
		Mental health practical	1	2	10	20	30	4 hrs.
SEMESTER-8								
BACHELOR OF HOME SCIENCE (HONORS WITH REASEARCH)								
SPECIALISATION IN (HUMAN DEVELOPMENT)								
Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23- HSC 811	Fundamentals of Human Development	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23- HSC-812	Adolescence and adulthood: Development, Psychology and Challenges	4	4	30	70	100	3 hrs.
CC-HM2 4 credit	B23- HSC-817	Care of elderly	3	3	20	50	70	3 hrs.
		Care of elderly practical	1	2	10	20	30	4 hrs.
Project/Dissertation 12 credit	B23-HSC -818	Project/Dissertation	8+4	-	-	-	-	-

SEMESTER 7
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (CLOTHING TEXTILE & FASHION DESIGNING)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-721	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-722	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-723	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-HSC-724	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-HSC-725	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-HSC-726	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-HSC-727	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER-8
BACHELOR OF HOME SCIENCE (HONORS)
SPECIALISATION IN (CLOTHING TEXTILE & FASHION DESIGNING)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-821	Fabric construction and woven fabric analysis	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-822	Textile testing and quality control	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-823	Apparel and Textile designing	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-HSC-824	Fashion retailing and branding	4	4	30	70	100	3 hrs.
	B23-HSC-825	Social and psychological aspects of clothing	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-HSC-826	Textile testing, designing and fashion illustration	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-HSC-827	Entrepreneurship management	4	4	30	70	100	3 hrs.

OR

SEMESTER 7

**BACHELOR OF HOME SCIENCE (HONOURS WITH RESEARCH)
SPECIALISATION IN (CLOTHING TEXTILE & FASHION DESIGNING)**

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-721	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-722	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-HSC-723	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-HSC-724	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-HSC-725	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-HSC-726	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-HSC-727	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER 8

**BACHELOR OF HOME SCIENCE (HONOURS WITH RESEARCH)
SPECIALISATION IN (CLOTHING TEXTILE & FASHION DESIGNING)**

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-HSC-821	Fabric construction and woven fabric analysis	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-HSC-822	Textile testing and quality control	4	4	30	70	100	3 hrs.
CC-HM2 4 credit	B23-HSC-827	Entrepreneurship management	4	4	30	70	100	3 hrs.
Project/Dissertation 12 credit	B23-HS -828	Project/Dissertation	8+4	-	-	-	-	-

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home Science
Semester	I
Name of the Course	Home and Interior Decor
Course Code	B23-HSC- 101
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)

Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To encourage experimentation with traditional and contemporary materials, technical processes and methods 2.To impart knowledge and skills for making different floor plans for different income groups. 3.To develop skills, abilities & knowledge that enable artistic production & creative problem solving skills. 4.To develop and apply concepts of art & design to create aesthetically pleasing interiors. <hr/> <p>5*.To acquire professional and entrepreneurial skills like interior decoration, use of waste material and decorative pieces for economic empowerment.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			

Unit	Topics	Contact Hours
I	Objectives of interior decoration, importance of elements of art in interior decoration. Types of design: structural and decorative and its application. Elements of art: line, form, texture, light, pattern, colour, space and its application in interior decoration	10
II	<p>Principles of design: Rhythm, balance, proportion, emphasis, harmony and its application in interior decoration</p> <p>Colour: Properties of colour, psychological effect of colour, color schemes and its application in the interior of a house.</p> <p>Lighting: a) Types and requirement for various activities b) Lighting fixtures in the home</p>	10
III	<p>Table setting and table manners: Informal and formal table settings (buffet style, Indian style restaurant style, Cafe style)</p> <p>Furniture: Types of furniture, furniture arrangement for different areas (bedroom, drawing room, dining room, kitchen and its types) Factors affecting the selection and purchase of furniture, care and maintenance of furniture.</p>	10
IV	<p>Flower arrangement: a) Different types of Flower arrangement b) Accessories used and points to be considered for flower arrangement</p> <p>c) Flower decoration for different occasions Furnishings: a) Soft Furnishing (curtains, cushions, pillow and material for upholstered furniture) b) Wall treatment and its types c) Window treatment and decoration d) Types of floor coverings</p>	10

Recommended Books/e-resources/LMS:

- 1. Seetharaman P.(2019), Interior Design And Decoration,India:CBS.**
- 2. M.Pratap Rao (2020),Interior Design: Principles And Practice,India, Standard Publishers and Distributors Pvt Ltd**
- 3. Frida Ramstedt (2020), The Interior Design Handbook: Furnish, Decorate, and Style Your Space,Clarkson Potter publishing.**
- 4. Dr. Bhargava B. (2007), Principles of art,University Book House Pvt. Ltd.**
5. Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.
6. Riley &Bayen., (2003), The Elements of Design, Mitchell Beazley.
7. Rutt Anna Hong (1961): Home furnishing,Wiley Eastern Pvt.Ltd.
8. Bhat Pranav and Goenka Shanita (1990): The foundation of art and Design, Bombay: Lakhani Book Depot.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	I		
Name of the Course	Fundamentals of Clothing and Textiles		
Course Code	B-23 HSC-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Students understand the scope of clothing & textile and know various parts and the functioning of a basic sewing machine. 2. Students get acquainted with the criteria of selection of clothing and factors affecting selection of clothing. 3. Gain knowledge about the types, processings and properties of different textile fibres. 4. Acquire the knowledge about principles, types, and manufacturing of yarns. <hr style="width: 20%; margin-left: auto; margin-right: auto;"/> <ol style="list-style-type: none"> 5. Develop the skill of applying hand processes, machine processes and seam finishing. 		
Credits	Theory	Practical	Total

	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper-Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.			
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all,selecting atleast one question from each unit and the compulsory question as well.			
Unit	Topics		Contact Hours
I	Importance & scope of clothing & textile. Basic Terminology used for clothing and textile: <ul style="list-style-type: none"> ● Clothing: bias grainline, grain, dart, notches, gathers, fasteners, contours, interfacing, placket,seam allowance. ● Textile: fiber, filament, yarn, yarn count, thread count, cord,twist,crimp,tensile strength etc Parts of the basic sewing machine, its care, maintenance & functioning. Study of different types of sewing machines,their use in the garment industry.		9
II	Factors affecting selection of clothing: Environmental, social, psychological and Physiological. Clothing requirements of different age groups(infants, toddlers, preschoolers and elementary school children, Pregnant lady and Lactating mother) Comparison of tailor-made, readymade and homemade garments.		11
III	Textile Fiber: Definition & Classification of fiber Difference between natural & man made fibers		11

	Manufacturing & properties of following: Natural fiber: Cotton, wool, silk Man made: Nylon, rayon & polyester	
IV	Yarn: Definition and process of yarn making (s twist and z twist) Basic principles of yarn making (mechanical, chemical, spinning: wet, dry & melt) Classification and types; Simple, filament, spun, novelty, complex yarns. Properties of yarn: Elasticity, plasticity, strength & elongation	9
V*	Demonstration, use and care of parts of sewing machine and other equipment used in clothing construction. Identification of textile fibers: Microscopic, Burning and Chemical test (cotton, silk, linen, wool, nylon, rayon). Prepare samples of basic hand processes: Visible and invisible hemming, tacking, overcasting, running stitch, backstitch, buttonhole and application of fasteners. Prepare samples of basic machine processes: Tucks, Pleats, Gathers, Darts and Placket. Prepare samples of different seams: plain seam, counter seam, run and fell seam, french seam and mantua maker.	30
Suggested Evaluation Methods		
Internal Assessment: > Theory • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 > Practicum • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA		End Term Examination: 50 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Sushma Gupta, Neeru Garg and Renu Saini, 2013. Text book of clothing, textiles and laundry Kalyani Pub.
2. Doongaji S., Deshpande R., 1989. Basic processes and clothing construction. 2nd ed. New raj book depot, New delhi. 292p
3. Corbman, B.P. (1985), Fibre to Fabric (6th edition), Mc Graw hill International.
4. Dantyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publishers.
5. Joseph, M. (1992), Introductory Textile Science. Sixth edition, California: Harcourt College Publishers
6. Rastogi, D., & Chopra, S. (2017). Textile Science. India: Orient Blackswan Private Limited.
7. J.C. Flyer (2000). The Psychology of Clothing, Fontana Press, London
8. Susan B. Kaiser (2006). The Social Psychology of Clothing: Symbolic Appearances in Context. Fairchild books and Visuals

*Applicable for courses having practical components.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	I		
Name of the Course	Introduction to Human Development		
Course Code	B-23 HSC-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand and identify key concepts in multiple areas of lifespan psychology including concepts, facts and theoretical perspectives 2.To identify the basic research and evaluation methods used in lifespan psychology, including the strengths and weaknesses of each method. 3.To have knowledge of and explain concepts related to human development. 4.To apply development theory to the analysis of child observations, surveys, and interviews using investigative research methodologies. <hr/> <p>5*.To learn methods of child study for analyzing and improving the quality of life.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.		
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.		
Unit	Topics	Contact Hours
I	Human development: Importance, scope & multidisciplinary nature of Human Development. Understanding the meaning, concept and principles of Human Growth and Development. Factors influencing growth & development Differences between Growth & Development	9
II	Historical trends in human development, Theories of Development: Psychoanalytic theory of Sigmund Freud, Cognitive theory of Piaget and Psychosocial theory of Erik Erikson. Stages and domains of human development throughout life span.	11
III	Developmental tasks during life span including physical, motor, social, emotional, cognitive, language and moral development. Methods of Child Study and data collection - observation, interview, questionnaire, case study, cross-sectional, longitudinal methods.	10
IV	Learning: definition and concept, types, factors affecting learning process Intelligence: definition and concept, IQ, Measurement of intelligence, factors affecting intelligence.	8
V*	<ul style="list-style-type: none"> ● Implement the methods of child study in field setting: <ol style="list-style-type: none"> a) Interview: i) Identify and select a problem of child & prepare a predetermined set of questions to collect data 	30

	<p>regarding problem ii) Organize a structured interview & prepare a report</p> <p>b) Observation: i) Prepare a checklist for different developmental domains of a child & collect data from an adult (parent/teacher/caretaker) ii. Observe the child in natural/participatory settings & prepare a report</p> <p>c) Case study: i) Justification for studying the child ii) Collect family background, health record, educational, psychological and social data & prepare a report</p> <ul style="list-style-type: none"> ● Conduct activities for stimulation and creative expressions among young children like painting, printing, modeling, cutting and pasting, paper folding and beading by visiting nursery schools & preparing a report. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi. 2. Tara L. Kuther (2022). Lifespan Development: Lives in Context. A Topical Approach, Second Edition. Western Connecticut State University, USA. 3. Srivastava S. (2019). Lifespan development. S.Chand publication, New Delhi. 4. Hurlock, Elizabeth B. (2017). Developmental Psychology, A life-span approach. Fifth Edition. Tata McGraw Hill Publishing Company Ltd. New Delhi. 5. Berk, Laura E (1999). Child Development. Prentice Hall of India, Private Ltd. New Delhi. 6. Lerner Hultsch (1983): Human Development, A life span perspective, New 		

York, McGraw Hill Book, Co.

7. Saraswathi, T.S. & Kaur, B. (1993): The development of Children, New York: Scientific American Books.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	I		
Name of the Course	Consumer Education		
Course Code	B23-HSC-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M (Minor)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To equip the students with proper care and storage of household equipment. 2. To make aware about consumerism. 3. To impart knowledge about consumer protection act 4. To acquaint students with standardized marks and consumer protection agencies. <hr style="width: 20%; margin: 10px auto;"/> <p>5*.To gain practical knowledge about household equipments and Standardized marks .</p>		
Credits	Theory	Practical	Total

	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks: 20(T)+15(P)=35		Time: 3hrs	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	Factors affecting requirement of household equipment. Precautions to be used while using major electrical equipment.		3
II	Consumer: Definition and role of consumer in market Consumer education : Meaning & importance Consumer Rights & consumer responsibilities		4
III	Problems of consumers Consumer Protection Act :Meaning and importance.		4

IV	Consumer protection Agencies: Consumer Education and Research Centre (CERC), Federation of consumer organization in Tamil Nadu (FEDCOT), Citizen consumer and civil action group, Consumer guidance society of India (CGSI), Consumer unity of trust society	3
V*	<ul style="list-style-type: none"> ● Make a file on use, care and storage of LPG gas stove, refrigerator, pressure cooker, mixer, electric iron, computer & laptop, washing machine. ● Make a flowchart of steps involved in filing a case in consumer forum. ● Understanding Standardized and Quality control measures with illustrations: ISI, BIS, FPO, AGMARK, Eco mark, Wool mark, Silk mark, Cotton mark, Handloom mark. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.: - ● Mid-Term Exam: 06 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: - ● Seminar/Demonstration/Viva-voce/Lab records etc.: 05 ● Mid-Term Exam: - 		End Term Examination: 20 15
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur.
2. Home Management- A Textbook of Home Science for Senior Students. The Educational Planning Group, Arya Publishing House, Karol Bagh, New Delhi.
3. Varghese, M.N., Ogale, N.N. and Srinivasaan, K. (1992). Home Management. Wiley Eastern, New Delhi.
4. Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi.
5. Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana.
6. Mann, M.K. (2004). Home Management for Indian Families. Kalyani Publisher, Ludhiana.
7. Singh, S. (2007). Ergonomics Integration for Health and Productivity. Himanshu Publications,
Udaipur and New Delhi.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	II		
Name of the Course	Nutrition Science		
Course Code	B-23 HSC-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand basic concepts of nutrition & importance of water & carbohydrates. 2. To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients. 3 The students will be able to know the functions, sources, requirements and effects of excess and deficiency of different vitamins. 4. To understand the functions, sources, requirements and effects of excess and deficiency of different minerals.. <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about preparation of nutrient rich and some other recipes</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Definition of Nutrition, nutrients, recommended dietary allowance, balanced diet, health., reference man & reference woman and BMR-Definition and factors affecting BMR Water: Functions and sources of water for human body Carbohydrates: Classification, functions, sources & requirement, effects of deficiency and excess (in brief) Fibre -Types, functions, sources & requirement and health problems associated with excess and deficiency of fiber	10
II	Protein: Classification. functions, sources & requirement Fats/ Lipids: Classification, functions, sources and requirements and health problems associated with excess and deficiency of lipids. Vitamins: Definition and classification of vitamins, difference between fat soluble & water soluble vitamins Fat soluble vitamins: Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of: Vitamin A, D, E & K	11
III	Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of various water soluble vitamins : Vitamin C, Vitamin B1 (Thiamine), Vitamin B2, (Riboflavin), Vitamin B6 (Pyridoxine), Vitamin B12 (Cyanocobalamin), Niacin and Folic acid.	11

IV	<p>Definition and Classification of minerals</p> <p>Macro minerals: Functions, Sources, RDA, Effect of Excess and low intake of Calcium, Phosphorus, Magnesium, Sodium and Potassium</p> <p>Micro Minerals: Functions, sources and RDA, Effect of Excess and low intake of Iron, Iodine Fluorine & Zinc</p>	10
V*	<ul style="list-style-type: none"> ● Controlling Techniques: Weights and measures, standard and household measures for raw and cooked foods. ● Classify foods on the basis of nutrients: -Protein, Iron, Calcium, Vitamin A, Vitamin C ● Planning, Calculation of nutritive value and Preparation of the following <ol style="list-style-type: none"> 1. Paranthas/Poories – (simple & stuffed) 2. Sandwiches 3. Soups 4. Desserts 5. Sponge Cake 6. Main Course Dishes (any 2) ● Planning and preparing nutrient rich dishes: Protein, calcium, iron & vitamin A 	28
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Srilakshmi, B. (2017). Nutrition Science. New Age International Limited, Publishers, New Delhi.
2. Agarwal,A. and Udipi, S. (2014). Text Book of Human Nutrition, Jaypee Medical Publication, New Delhi.
3. Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
4. ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
5. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi.
6. Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
7. SunetraRoday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
8. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
9. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home Science
Semester	II
Name of the Course	Family Resource Management
Course Code	B-23 HSC-202
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC(Core Course)
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand the concept of human and non-human resources and its functions. 2.To acquaint students with the skills of time management. 3.To skill students about work simplification techniques and energy management. 4.To impart knowledge about savings, investments, budget and energy management. <hr style="width: 20%; margin-left: auto; margin-right: auto;"/> <p style="text-align: center;">5*To provide practical training of resources, time, money and energy management.</p>

Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter</u>The examiner will set nine questions in all, selecting four questions from each section/unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u>The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	1. Definition, concept and objectives of home management 2. Process of Management: Planning, organizing, controlling and evaluation 3. .Resources: Meaning, classification and characteristics		10

II	<p>4. Motivating factors of management:</p> <p>A. Values: Definition, classification and characteristics B. Goals: Definition, classification and characteristics C. Standards: Definition, classification and characteristics</p> <p>5. Decision making:</p> <p>a) Definition & importance of decision making b) Types of decision c) Steps in decision making process</p>	10
III	<p>6. Time Management:</p> <p>a) Tools in Time management b) Process of management of time</p> <p>7. Energy Management: Types of efforts, Types of fatigue and various ways to overcome fatigue.</p> <p>8. Work Simplification:</p> <p>Definition and Principles of body mechanics Household methods of work simplification</p> <p>9. Ergonomics: Definition and principles of ergonomics</p>	10
IV	<p>10. Money Management:</p> <p>a) Sources of Money: Wages, Salary, Rent, Profits, Interests b) Types of Income: i)Regular and Irregular income ii) Money income, Real income & psychic income c) Budget: Definition and types of budget d) Savings and investments: Meaning, objectives and types (in brief)</p>	10

V*	<ol style="list-style-type: none"> 1. Preparation of Portfolio : Market survey to study the famous brands of Food, clothing, sports and kitchen equipments. 2. Identification of CERTIFICATION MARKS issued for different products in India: BIS Hall mark, ISI mark, AGMARK, FPO mark , WOOLMARK, non polluting vehicle mark, organic mark, Ecomark, Hologram, Vegetarian & non vegetarian mark. 3. Event Organization: Application of management process to organize an event (social, cultural or educational etc.) keeping in mind planning, organizing and evaluation. 4. Use,care & maintenance of household & recreational equipment(Cooking gas stove, induction, juicer, mixer and grinder, microwave oven, mobile phones, computer and laptop). 5. Identification of immediate, short term and long-term goals of individual and families 6. Listing out human, non-human and community resources. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Mann, M.K. (2004). Home Management for Indian Families. Kalyani Publisher, Ludhiana. 2. Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur. 3. Nickell, P. and Dorsey, J.M. (1970). Management of Family Living. Wiley Eastern, New Delhi 4. Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi. 5. Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana. 6. Home Management- A Textbook of Home Science for Senior Students. The Educational Planning Group, Arya Publishing House, Karol Bagh, New Delhi. 	

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home science
Semester	II
Name of the Course	Extension Education and Communication
Course Code	B-23 HSC-203
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC (Core Course)
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)

Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1.To understand the concept of extension education and its importance 2.To acquaint students with the types of extension teaching methods 3.To impart knowledge about various rural development programs and various ongoing schemes by government and non-government organizations 4.To gain knowledge about communication , it's importance and types. <hr/> <ol style="list-style-type: none"> 5*.To acquit students with planning, organizing & evaluating any event.. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours

I	Extension education: Meaning, principles, objectives and scope of extension education. Role and qualities of an extension education worker. Difference between formal education and non formal education	8
II	<p>Extension teaching Methods: Its importance and types.</p> <p>Individual contact method: Farm & home visit, telephone calls, personal letters,</p> <p>Group contact method: Demonstration, Group meeting and discussion, Conference, seminars and workshops, field trips and campaigns.</p> <p>Mass contact method: Print media, Electronic media, Internet based media and Exhibition.</p>	11
III	<p>Types of development programs and organizations (established year, objectives and beneficiaries) : DWCRA, TRYSEM, Mid Day Meal Programme, Beti Bachao Beti Padhao, PMRY, Skill India, ICDS, MGNREGA, DRDA.</p> <p>Role of National and International Organizations in Development : FAO, WHO, ICMR, UNICEF, UNESCO, ICAR, NIPCID & NIN</p>	12
IV	<p>Communication: Concept, Importance, elements of Communication and barriers to communication.</p> <p>Types of Communication: (Formal & Informal).</p> <p>Role of Photography in communication</p>	9

V*	<ul style="list-style-type: none"> ● Preparation of Audio-Visual aids: charts/poster, pamphlets, flipbooks, leaflets. ● Use of following software for making IEC material (presentations, flyer, cards): Word processor (Microsoft word / Google Docs), Presentation software (Microsoft PowerPoint / Google Slides, Canva) ● Field visit to get the field experience of family status (with special reference to women living in rural/urban slum areas). ● To plan and demonstrate the educational aid for uplifting the living standard of children in rural/urban slum areas. <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> ● Preparing a skit/role play on any social issue and making a short video to disseminate a message. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		End Term Examination: <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Bhalla, C.L.(2009). Audio Visual Aids in Education. Cornell University.
2. Chitambar, J.B. (2008). Introductory Rural Sociology. New Age International(P) Limited.
3. Dhamma, O.P and Bhatnagar, O.P (2003). Education and Communication for development. Oxfords IBH, New Delhi.
4. Golahait, S. B. (2010). Rural Development programmes in India: Problems and Prospects. Altar Publishing House.
5. Jain, M.(2011).Rural Development Programs in India. Deep and Deep Publications
6. Ray, G.L. (2004). Extension education and Management. Kalyani Publisher, New Delhi.
7. Reddy, A.A.(2001).Extension Education. Bapatla : Sri Lakshmi Press.
8. Sachdeva, D.R. and Bhushan, V. (2007). An Introduction to Sociology. Kitab Mahal Agency, Delhi.
9. Sehgal, S. and Raghuvanshi, R.S. (2007). Textbook of Community Nutrition. ICAR, New Delhi.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home Science
Semester	II
Name of the Course	Housing and Space Management
Course Code	B-23 HSC-204
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M (Minor)
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)

Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To learn the relationships that characterize art and design practice in building a house. 2. To enable the students to explore theories and modern methods of interior space planning and management . 3. To encourage learning of traditional and contemporary housing materials, technical processes and methods of modern construction. 4. To impart knowledge and skills for making different floor plans for different income groups. <hr/> <ol style="list-style-type: none"> 5*. To gain practical knowledge of space planning in house, house plans and their signs and modern methods of house construction. 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks: 20(T)+15(P)=35		Time: 3hrs	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			

Unit	Topics	Contact Hours
I	<p>Concept and importance of housing, housing needs of family, advantage and disadvantage of owned and rented house.</p> <p>Choice of site for house and factors affecting site selection</p>	4
II	Brief introduction of conventional and non- conventional building material for construction of a house.	3
III	Types of house plan: floor, elevation, structural, perspective and landscape.	3
IV	Principles of space planning: aspect, orientation, grouping, privacy, roominess, prospect, light, ventilation, flexibility, circulation and economy.	4
V*	<p>Prepare graphs on space planning for different rooms: living room, dining room, bedroom and kitchen.</p> <p>Presentation of Signs used for reading house plans for LIG, MIG and HIG through illustration.</p> <p>Prepare a portfolio on modern methods of house construction: Precast Cladding Panels, Twin Wall Technology, Precast Concrete Foundation and modular kitchen.</p>	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.: - ● Mid-Term Exam: 06 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: - ● Seminar/Demonstration/Viva-voce/Lab records etc.: 05 ● Mid-Term Exam: - 	<p>End Term Examination:</p> <p>20</p> <p>15</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Dr. N. Kumara Swamy & A. Kameswara Rao (2019), Building Planning And Drawing, Charotar Publishing House Pvt. Ltd. 2. Dr. Brinda Singh (2020), Grah prabandh Evam aantrik sajja (Home Management & Interior Decoration), Panchsheel Prakashan. 3. Dr. Bhargava B. (2007), Principles of art, University Book House Pvt. Ltd. 4. Goldstein, H. and Goldstein, V (1967): Art in Everyday life; New Delhi: Oxford and IBH publishing company . 5. Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books. 6. Adler, David. (2004), Metric Handbook planning & Design, Architectural press. 7. Kumar, Sushil (2008), Building Construction, Standard publisher. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Home Science		
Semester	III		
Name of the Course	Basics of clothing construction and apparel designing		
Course Code	B-23 HSC- 301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Acquire the knowledge of application of elements of arts and principles of design in clothing construction and techniques of dress designing. 2. Students get aware about the fabric construction techniques and Non woven fabrics. 3. Gains information about the methods of developing design. 4. Students understand the concept of fashion, figure types and fitting. <hr/> <p>5*Students gain practical knowledge of drafting, cutting and stitching of basic children's garments.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
<p><u>Instructions for Paper-Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all,selecting atleast one question from each unit and the compulsory question as well.</p>		
Unit	Topics	Contact Hours
I	Importance of apparel designing & its role in personality development. Application of elements of arts and principles of designs in clothing construction Types of designs: Structural & decorative . Wardrobe Planning:Principles,steps involved and Importance.	10
II	Fabric construction : <ul style="list-style-type: none"> ● Weaving : Parts and function of loom ● Types of weaves(plain, twill and their variation, satin and sateen weave.) Knitting : Types, characteristics, stitches used in knitting Non wovens fabrics: Felting, bonding, netting, braiding, laces	10

III	<p>Anthropometry: Definition, Importance and equipment required</p> <ul style="list-style-type: none"> ● Types of anthropometric measurements (vertical, horizontal, girth/round measurement) ● Care to be taken while taking body measurement <p>Methods of developing design/ pattern:</p> <ul style="list-style-type: none"> ● Drafting: Drafting tools, techniques, advantages and disadvantages of drafting. ● Paper pattern: Types, principles, advantages and disadvantages of paper pattern. ● Draping: Techniques of draping and advantages and disadvantages of draping. <p>Preparation of fabric: Preshrinking, Straightening the grain, Pressing, Identify Face and back, Square up, Marking, Pinning, types of markings,</p> <p>Methods and Precautions for cutting, Sewing & Finishing</p>	11
IV	<p>Fashion : Concept ,Importance and terminology { Fad ,style, classic ,silhouette vogue ,haute couture,niche ,brand}.</p> <p>Fashion cycle and fashion favoring and retarding factors.</p> <p>Figure Analysis and fitting: Figure types, Common fitting problems, reason for poor fitting and their remedies.</p>	9
V*	<p>Prepare samples of different types of weaves.</p> <p>Prepare a sample of knitting (any two).</p> <p>Prepare a sample consisting of ten basic embroidery stitches : Stem stitch, Chain stitch, Feather stitch, Herringbone, stitch,Satin stitch, Lazy daisy stitch, French knots, Bullions stitch, Cross stitch, Long and short stitch.</p> <p>Drafting of child’s bodice block.& sleeves block.</p> <p>Cutting and stitching of napkins, bib, jhabla.</p>	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Sushma Gupta, Neeru Garg and Renu Saini Test book of clothing and textiles and laundry Kalyani Pub. 2. Doongaji S., Deshpande R., 1989. Basic processes and clothing construction. 2nd ed. New raj book depot, New delhi. 3. Nornia D'Souza, 1998. Fabric Care, New Age International Pvt. Ltd., New Delhi 4. G.J. Sumathi, 2022. Elements of fashion and apparel design, New Age International Publishers2cc 5. Ireland Patric, 1972. Basic Fashion Design ,London, B.T. Bastford Ltd. 6. W.S. Murphy, 2003. Textile weaving and design, Abhishek Publication. 7. Hideaka Chijiwa, Colour Harmony- A Guide to creative colour combination 8. Dantiyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publishers. 	

*Applicable for courses having practical component.

Session: 2023-24	
Part A – Introduction	
Subject	Bachelor of Home Science
Semester	III
Name of the Course	Food Science
Course Code	B-23 HSC-302
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC(Core Course)
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	12th pass
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire knowledge of various concepts of food science. 2. To know the importance of various food groups. 3. To equip with different cooking methods and techniques used while food preparation. 4. To impart knowledge about improving nutritional quality of various foods. <hr style="width: 20%; margin-left: auto; margin-right: auto;"/> <p>5*. To impart practical knowledge to students to prepare recipes using different cooking methods</p>

Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Food - definition & classification of food Functions of Food: Physiological, psychological, social & emotional Food Groups and food guide pyramid along with its importance. Basic food groups - composition and nutritional contributions of the following food groups: a) Cereals b)Pulses c)Fruits and Vegetables	10
II	Composition and nutritional contributions of the	10

	<p>following food groups:</p> <p>a) Milk and Milk Products</p> <p>b) Nuts and Oilseeds</p> <p>c) Meat, Fish, Poultry & Egg</p> <p>d) Major spices of India & Sugar and Jaggery</p>	
III	<p>Definition, objectives and principles of cooking of food.</p> <p>Different methods of cooking- their merits and demerits.</p> <p>A. Moist heat method: Boiling, simmering, stewing, pressure cooking, poaching & blanching</p> <p>B. Dry heat method: Roasting, baking, toasting, steaming, grilling, frying</p> <p>C. Other methods of cooking: Microwave cooking & solar cooking</p> <p>Effect on cooking and heat on nutritive values of foods.</p>	11
IV	<p>Improving nutritional quality of foods using methods:</p> <ul style="list-style-type: none"> ● Germination: Method, advantages & disadvantages ● Fermentation: Method, advantages & disadvantages ● Supplementation : Methods & various supplementary foods ● Fortification : Meaning & importance ● Enrichment 	09
V*	<ol style="list-style-type: none"> 1. Controlling Techniques: Weights and measures 2. Common Cookery Terms and their uses in cooking 3. Planning, Calculation of nutritive value and Preparation of the following <ol style="list-style-type: none"> 1. Rice - Pulao and sweet rice 2. Snacks - Indian & International using 	30

Ltd.: New Delhi.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	III		
Name of the Course	Life Span Development-I		
Course Code	B-23HSC-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To analyze major developmental milestones for children from conception through early childhood. in the areas of physical, psychological, cognitive, and language development. 2. To know about the stages of prenatal development and the significance of prenatal care. 3. To examine and evaluate the role of mobile and television in early years of life. 4. To Apply lifespan psychological concepts to the solutions of current issues and problems of prenatal development, infant and mother care. <hr/> <p>5*. To acquire professional skills in the field of Human Development.</p>		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			
Unit	Topics	Contact Hours	
I	Life span development during prenatal stage:Conception, signs of pregnancy and discomforts during pregnancy. Teratology and hazards to prenatal development. Stages of prenatal development:Prenatal growth and activities in first, second and third trimesters of pregnancy.	9	
II	The birth process: Stages of delivery of baby and placenta. Types of birth or child delivery methods. Complications during delivery.	9	
III	Developmental milestones of infancy (0-2 years):Physical and motor development, social and emotional development, cognitive and language development. Physical Characteristics of the neonate, reflex actions, screening test for newborn (APGAR scale). Rearing and care of the infant-feeding, weaning, sleeping, bathing and toilet training. Common diseases and immunization during infancy. Types of parenting styles and family ecology	12	
IV	Developmental milestones of early childhood (3-6 years): Physical and motor development, social and emotional development, cognitive and language development. Role of family, peers and multimedia in socialization of a child. Advantages and disadvantages of mobile phones and television in a young child's life.	10	

V*	<ul style="list-style-type: none"> ● Observing children in various settings: a) Home setting (b) School setting (c) Outside of Home ● Preparation of a questionnaire related to problems and complications during pregnancy and care of infants. ● Visit a Gynecology Centre / Maternity Hospital, filling the questionnaire from pregnant women and mothers, report writing and presentation. ● Visit to an Anganwadi: observing children and facilities available, plotting growth monitoring chart & interpretation and report writing along with presentation. 	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ol style="list-style-type: none"> 1. Hurlock, Elizabeth B. (2017). Developmental Psychology, A life-span approach. Fifth Edition. Tata McGraw Hill Publishing Company Ltd. New Delhi. 2. Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi. 3. Hurlock, Elizabeth B. (2017). Child Development Sixth Edition. MC-Graw Hill Book Co. New Delhi. 4. Berk, Laura E (2022). Child Development. 9th edition, Prentice Hall of India, Private Ltd. New Delhi. 5. Lerner Hultsch (1983): Human Development a life span perspective, New York, McGraw Hill Book, Co. 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	III		
Name of the Course	Hygiene & human physiology		
Course Code	B-23 HSC- 304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M 3		
Level of the course (As per Annexure-I)	100 -199		
Prerequisite for the course (if any)	B.Sc. Home science Ist yr.		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To gain knowledge about symptoms, prevention and treatment of various diseases. 2. To understand the importance of hygiene and health. 3. To learn about human anatomy. 4. To understand the physiological functions of the human body. <hr/> <p>5* To learn practical skills on preventing disease by creating awareness.</p>		
Credits	Theory	Practical	Total

	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)		
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u>			
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.			
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.			
Unit	Topics		Contact Hours
I	Definition of hygiene, Types of hygiene (Personal, environmental, domestic & food hygiene), Physical health, Factors affecting health: Eating & drinking habits, Body posture, sleep, exercise & games, cleanliness of body and cleanliness of House; Immunity - Definition and types of immunity, vaccination schedule		9
II	Causes, symptoms & prevention or control of following diseases: a) Diseases spread by insects: Malaria & Dengue; b) Diseases spread by ingestion: Typhoid, diarrhea & Dysentery c) Diseases spread by droplet infection: T. B. & Chickenpox d) sexually transmitted disease: AIDS		10

III	<p>Animal Cell : Structure & functions of cell organelle; Cell division: Mitosis & meiosis(in brief);</p> <p>Digestive System – Structure and functions of various parts of the alimentary canal;</p> <p>Digestive glands – Salivary Glands, liver, pancreas, gastric glands, intestinal glands.</p>	11
IV	<p>Circulatory system – Structure and functions of heart, functions of blood, blood composition & blood groups</p> <p>Excretory system – Structure and functions of lungs, & skin</p> <p>Endocrine system – Structure and functions of endocrine glands– pituitary, thyroid, Parathyroid & adrenal glands</p>	10
V*	<ul style="list-style-type: none"> ● Prepare a leaflet on prevention of any disease (as mentioned above) for creating awareness. ● Immunization schedule survey in PHC or local hospital and report writing. ● Draw a well labelled diagram of : Digestive system, circulatory system, kidney, lungs & skin ● To organize a one day workshop on Health & hygiene or any other related topic ● To prepare a report of the workshop organized. 	29
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Hygiene and preventive medicine 17th edition(2020) .Yashpal Bedi, CBS Publishers.
2. Home Management and Hygiene - Sweera Relhan, Dinesh Pub.
3. **Textbook of Physiology 7th edition (2017)- A.K Jain. Avichal Publishing Company.**
4. **Comprehensive Textbook Of Medical Physiology Second edition (2019). G.K Pal.Jaypee Brothers Medical Publishers.**
5. **Textbook of Medical Physiology 13th edition (2015).Guyton & Hall; Saunders publishers.**
6. **Textbook of human anatomy and physiology (2018). D.K Sharma & Sameer Rastogi; Mackingee publishers.**

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	IV		
Name of the Course	Advance apparel and textile designing		
Course Code	B-23HSC-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Gain knowledge about different types of finishes given to fabrics. 2. Get acquainted with different types of dyes and methods of dyeing. 3. Acquire the technique of different types of printing. 4. Equipped with the knowledge of laundry process, soap making , stiffening and bluing agents. <hr/> <p>5*Students become able to do the drafting of various sleeves,collars and implement the technique of tie\ dye and printing on fabric ,and acquire knowledge of the process of stain removal.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper-Setter:The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all,selecting atleast one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Fabric finishes: Definition & objectives Classification of Finishes: a) Physical: Singeing, napping, brushing, shearing, sizing, tentering, and calendaring b) Chemical: Mercerising, durable finishes, c) Special-purpose finishes: Wrinkle resistant , water resistant, soil repellent, and flame repellent Bleaching & its Types.	10
II	Dyeing: Definition classification of dyes: (In brief): <ul style="list-style-type: none"> ● On the basis of source of dye: <ul style="list-style-type: none"> a) Natural: vegetable, animal & mineral b) Synthetic dye: Basic, acidic & neutral dye ● On the basis of method of dyeing: Sulphur dyes, direct dyes, Vat dyes, Mordant dyes & developed dyes ● On the basis of stages of dyeing: Raw stock dyeing, skein dyeing, cloth dyeing Simple dyeing: Principles and methods of dyeing, faults in dyeing and remedies Resist dyeing: tie and dye, batik and screen	11
III	Printing: definition, classification.	10

	<p>Methods of printing:</p> <ul style="list-style-type: none"> • Hand printing: block, stencil, screen • Machine printing: roller, screen, discharge, resist and printing. <p>Care (Darning, mending & renovation) and storage of fabrics.</p> <p>Dry cleaning: Principle, process (in brief) and advantages.</p>	
IV	<p>Laundry: Process of laundry, laundry equipment and their</p> <p>Stain removal:</p> <ul style="list-style-type: none"> • Types of stains & methods of removing stains(absorbent & chemical methods) • Removal of different stains(tea, coffee, fruits, blood, oil/ ghee, turmeric, colour, egg, ink, iron rust, lipstick, nail paint, sweat, perfume & stain of hot iron) <p>Soaps and Detergents: Types and manufacture of soap and detergents.</p> <p>Stiffening agent and blueing agent.</p>	9
V*	<p>Drafting of sleeves: puff, umbrella, raglan, ruffle, kimono.</p> <p>Drafting of collars: baby collar, flat peter pan, raised peter-pan, chinese band and sailor's collar.</p> <p>Drafting and Construction of children's garment</p> <ul style="list-style-type: none"> • Frock (any one) – A line / gathered / party wear. <p>Prepare samples and one article of tie & dye.</p> <p>Prepare a sample of Batik.</p> <p>Prepare samples of Block, Stencil and Screen printing.</p> <p>Prepare samples of Darning, mending (patching) and renovation.</p> <p>Removal of different types of stains : Tea, coffee, oil/ ghee, curry, blood, ink, iron rust, lipstick, nail paint.</p>	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Sushma Gupta, Neeru Garg and Renu Saini Test book of clothing and textiles and laundry Kalyani Pub. 2. Doongaji S., Deshpande R., 1989. Basic processes and clothing construction. 2nd ed. New raj book depot, New delhi. 3. Nornia D'Souza, 1998. Fabric Care, New Age International Pvt. Ltd., New Delhi 4. G.J. Sumathi, 2022. Elements of fashion and apparel design, New Age International Publishers 2cc 5. Ireland Patric, 1972. Basic Fashion Design, London, B.T. Bastford Ltd. 6. W.S. Murphy, 2003. Textile weaving and design, Abhishek Publication. 7. Hideaka Chijiwa, Colour Harmony- A Guide to creative colour combination 8. Dantyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publishers. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	IV		
Name of the Course	EARLY CHILDHOOD AND SPECIAL NEED CHILDREN		
Course Code	B-23HSC-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC (Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To sensitize the students to the special group of society whose needs are special in nature. 2. To understand the needs, educational provisions and attitude of society toward mentally retard, physically challenged and gifted children. 3. To get theoretical and practical knowledge about different types of early childhood education centers and their importance. 4. To acquaint with skills of establishing preschools by learning principles of programme planning and historical development of early childhood education <hr/> <p>5*. To learn methods of child study and acquire professional skills in the field of Human Development.</p>		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T) +10(P) =30 End Term Exam Marks: 50(T) +20(P) =70	Time:3 hrs(T) 4 hrs(P)		
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question. <u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.			
Unit	Topics		Contact Hours
I	Importance, objectives, scope of early childhood education Types of early childhood education centers (laboratory nursery school, Montessori school, Anganwadi) Preschool program: components of ECCE, importance of Curriculum, principles of preschool program planning, activities in preschool program.		10
II	Importance of play in early childhood, types and functions of play and Selection of play equipment (outdoor and indoor) Meaning of Disability, impairment, handicapped and disorder with reference to special need children. Physical impairment (locomotor, autism, speech, cerebral palsy);Classification,causes and identification.		9
III	Sensory impairment (visual, hearing); Classification,causes and identification. Learning impairment (dyslexia);Classification, causes and symptoms.		9
IV	Intellectual impairment (mental retardation, gifted children): Classification, causes, symptoms. Educational provision for children with various disabilities. Government schemes related to special needs children.		12
V*	<ul style="list-style-type: none"> ● Report writing on working of preschool or nursery and case study of preschool children. ● Report writing based on survey of welfare agencies working for special need children ● Observation of disability in childhood (any one); observation and report writing in School, outdoor 		30

	<p>circumstances/ home setting</p> <ul style="list-style-type: none"> ● Preparation of creative art activity file, chart/poster, storybook and poem book etc. for normal and special need children (one each) ● Preparation of baby records /albums. ● Preparation of teaching aid and its practical use in nursery school settings. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi 2. Berk, Laura E (2017). Child Development. Prentice Hall of India, Private Ltd. New Delhi 3. Berdine, W.H., Blackhurst, AE (1985): An introduction to special education (second ed.) Lexington, Harper Collins, 4. Hallahan, D.P. & Kauffman, J.M. (1991): Introduction to exceptional children (fifth ed.) Boston, Allyn and Bacon, 5. Loring J. & Burn, G. (eds) (1978): Integration of handicapped children in society, London, Routledge & Kegan Paul 6. Narasimhan, M.C.& Mukherjee, A.K.(1986): Disability; a continuing challenge 7. Werner,D.(1994): Disabled Village Children, (Indian edition), Voluntary Health Association of India, 10. See Felett: C. (1980): A curriculum for preschools, Columbus: charles E. Merrill Publishing company 		

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home science
Semester	IV
Name of the Course	Food microbiology & biochemistry
Course Code	B-23 HSC- 403
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC (Core Course)
Level of the course (As per Annexure-I	100 -199
Pre-requisite for the course (if any)	B.Sc. Home science Ist yr.
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand various causes of food spoilage and knowledge about microorganisms, their beneficial and harmful effects on food. 2. To equip with the principles of food preservation 3. To impart knowledge about digestion ,absorption and metabolism of major nutrients. 4. To gain knowledge about nucleic acids and enzymes. <hr/> <p>5*.To learn the skills of preserving food by using various processing techniques</p>

Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100		Time: 3 hrs(T)	
Internal Assessment Marks: 20(T) +10(P) =30		4 hrs(P)	
KuEnd Term Exam Marks: 50(T) +20(P) =70			
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.</p>			
Unit	Topics	Contact Hours	
I	<ul style="list-style-type: none"> ● Classification of foods on the basis of shelf life ● Food Spoilage, its causes and preventive measures ● Microorganisms: Types, beneficial and harmful effects on food. ● Food storage: Household & commercial food storage 	10	
II	<ul style="list-style-type: none"> ● Principles of food preservation. Bactericidal and Bacteriostatic ● Methods of Food preservation: a) by use of low temperature b) by use of high temperature c) by use of preservatives d) by use of moisture removing techniques ● Food adulteration (in brief) 	10	
III	<ul style="list-style-type: none"> ● Digestion, absorption & metabolism of carbohydrates ● Digestion, absorption & metabolism of Fat ● Digestion, absorption & metabolism of proteins 	10	

IV	<ul style="list-style-type: none"> ● Digestion, absorption & metabolism of Nucleic acids ● Enzymes: Definition, classification, chemical nature & factors affecting enzyme activity 	10
V*	<p>1. Assessment of nutritional status of your own family by using dietary and anthropometric measurements.</p> <p>2. Preparation, calculation of nutritive value and end point test (wherever applicable) of following products</p> <ul style="list-style-type: none"> ● Jam ● Jelly ● Murabba ● Pickle sour & sweet ● Tomato Ketchup ● Drying of vegetables ● Squash/ Sharbat ● Fruit candy 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 		End Term Examination: <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ol style="list-style-type: none"> 1. Madigan MT, Martinko JM, Dunlap PV and Clark DP. (2014). Brock Biology of Microorganisms. 14th edition. Pearson International Edition 2. Campbell, MK (2012) Biochemistry, 7th ed., Published by Cengage Learning 3. Maria Parloa (2009), canned fruit, preserves and jellies: Household methods of preparation, US Department of Agriculture, Washington. 		

4. Shafiur, Rahman, M. (2007), Handbook of Food Preservation, 2 nd edition, CRC press, New Delhi
5. Nelson DL and Cox MM (2008) Lehninger Principles of Biochemistry, 5th Edition., W.H. Freeman and Company,
6. Khader, V.(2011) Text book on Food Storage & Preservation. Kalyani Publishers, New Delhi
7. Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
8. Reddy SR and Reddy SM. (2005). Microbial Physiology. Scientific Publishers India
9. U. Satyanarayana and U. Chakrapani Biochemistry ,4th edition ,june 2013
10. Pant, M.C. (latest edition): Essentials of Biochemistry, Kedar Nath, Ram Nath & Co.
11. Outlines of Biochemistry, Wiley Eastern Pvt. Ltd.
12. Principles of Biochemistry by J.L. Jain

*Applicable for courses having practical component.

Annexure

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	I		
Name of the Course	Basics of Home science I		
Course Code	B-23 HSC-105		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire knowledge of various concepts of food & nutrition science. 2. To enable the students to have basic knowledge of textiles fibres, yarn and various stitches 3. To have knowledge of and basic concepts related to human development 4. To have knowledge of family resource Management and extension education <hr/> <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Introduction to Home science: Concept and its job opportunities Basic terminology: Food, nutrients, nutrition, health, balanced diet, malnutrition (over & undernutrition), Classification and Function of Food Carbohydrate, Protein, Fat: Source, Function & effect of deficiency	10
II	Definition and Classification and uses of Textile fibers: (Cotton, Jute, Wool, Silk, Rayon, Nylon and Polyester) . Yarn: Definition and classification(simple, novelty and complex). Sewing machine: Parts and Functions, Care and Maintenance	8
III	Human Growth and Development: Meaning and concept Factors influencing growth & development Developmental milestones of infancy (0-2 years) and early childhood (3-6 years): <ul style="list-style-type: none"> ● Physical and motor development ● Social and emotional development ● Cognitive and language development 	9
IV	Resource Management - Definition and Importance . Process of time, energy and money management. Extension education: meaning and importance Qualities of an extension worker	9

V*	<ul style="list-style-type: none"> ● Cooking terminology ● Cooking of following recipes: Paratha, Pulao, Raita, Sandwich, manchurian, chocolates. ● Basic stitches: Hemming, buttonhole stitch, blanket stitch, running stitch ● Prepare a play material for infants/preschoolers ● Prepare immunization chart for a child up to 5 years. 	28
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: -- ● Seminar/Demonstration/Viva-voce/Lab records etc.:5 ● Mid-Term Exam: -- 		End Term Examination: 35 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Srilakshmi, B. (2001) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi.
- Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi.
- Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
- Saraswathi, T.S. & Kaur, B. (1993): The development of Children, New York: Scientific American Books.
- Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi.
- Tara L. Kuther (2022). Lifespan Development: Lives in Context. A Topical Approach, Second Edition. Western Connecticut State University, USA.
- Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur.
- Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi.
- Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana.
- Sushma Gupta, Neeru Garg and Renu Saini, 2013. Text book of clothing, textiles and laundry Kalyani Pub.
- Ray, G.L. (2004). Extension education and Management. Kalyani Publisher, New Delhi.
- Reddy, A.A.(2001). Extension Education. Bapatla : Sri Lakshmi Press.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	II		
Name of the Course	Basics of Home science II		
Course Code	B-23 HSC-205		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ul style="list-style-type: none"> ● To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients ● To gain knowledge about clothing & fabric construction ● To gain knowledge about development during childhood and adolescence. ● To learn the relationships that characterize art and design practice and impart knowledge about consumer education <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Micro Nutrients: Definition and Classification of Vitamin and Mineral, Source, Requirement and deficiency of Vitamin: A,D, E, K, B, C (in brief) Source, Requirement, Deficiency of Minerals: Calcium, Iron, Iodine, Sodium, Potassium	7
II	Factors affecting selection of clothing., weaving-definition and different types of weaves Meaning and Objectives of application of Finishes Different types of Finishes- Wrinkle resistant , water resistant, soil repellent, and flame repellent finishes	8
III	Major physical , motor, emotional and cognitive development milestones through middle school age. Role of the family and community in socialization of the child. Developmental changes during adolescence: social, emotional, cognitive and moral development.	6
IV	Importance of interior decoration, Elements of arts and principles of design. Consumer protection act & consumer rights, Standardized marks{ AGMARK, FPO, WOOL MARK, ECOMARK, ISI}	9
*V	<ul style="list-style-type: none"> ● Preparation of vitamin rich recipes and sponge cake ● Prepare samples of basic weaves ● Prepare a teaching aid for children ● Prepare a color wheel ● Make illustration of following Standardized marks: AGMARK, FPO, WOOL MARK, ECOMARK, ISI 	30

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	III		
Name of the Course	Basics of Home Science III		
Course Code	B-23 HSC-305		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To obtain knowledge about dietary management of diseases and modifications of normal diet for therapeutic purposes and preservation. 2.To impart knowledge about traditional embroideries of India and stain removal 3.To inculcate the skills of effective guidance & counseling 4.To impart knowledge about traditional embroideries of India and stain removal <hr/> <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4

Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.		
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.		
Unit	Topics	Contact Hours
I	Meal planning: its meaning & principles; Planning diet for school going children & adolescents; Food preservation; principles and home scale methods	8
II	Traditional embroideries of India: Chikankari, phulkari, kantha, chamba and kasuti. Soaps and Detergents, Starches, Blues and Bleaches Stain removal-Classification of Stains, Methods of Removing different types of Stain	7
III	Physical changes, health problems and adjustments in old age Guidance: meaning and its types Skills and characteristics of effective counseling	9
IV	Various color schemes and its application.Table etiquettes and Table setting – formal and informal Communication- meaning, importance and types .Major nutritional problems in India; PEM, IDD, Anemia	8
V*	<ul style="list-style-type: none"> ● Prepare a counseling aid for children ● Preparation of chocolate cake & pineapple cake ● Make rangoli/alpana on floor ● Prepare samples of embroidery stitches / tie & dye 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: -- ● Seminar/Demonstration/Viva-voce/Lab records etc.:5 ● Mid-Term Exam: -- 	<p>End Term Examination:</p> <p>35</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Srilakshmi, B. (2001) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. ● Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. ● Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd. ● Saraswathi, T.S. & Kaur, B. (1993): The development of Children, New York: Scientific American Books. ● Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi. ● Tara L. Kuther (2022).Lifespan Development: Lives in Context. A Topical Approach,Second Edition.Western Connecticut State University, USA. ● Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur. ● Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi. ● Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana. ● Sushma Gupta, Neeru Garg and Renu Saini, 2013. Text book of clothing,textiles and laundry Kalyani Pub. ● Ray, G.L. (2004). Extension education and Management. Kalyani Publisher, New Delhi. ● Reddy, A.A.(2001).Extension Education. Bapatla : Sri Lakshmi Press. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	II		
Name of the Course	Frozen Food Technology		
Course Code	B23-SEC-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	SEC		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand the concept and types of freezing 2.To get knowledge about process of freezing and recent techniques 3.To get knowledge about effect of freezing on various parameters of food quality 4.To understand freezing and thawing of fruits & vegetables <hr/> <p>5*.To impart practical knowledge about preparation, storage and packaging of frozen foods.</p>		
Credits	Theory	Practical	Total

	2	1	3
Contact Hours	2	2	4
Max. Marks:75 Internal Assessment Marks:15(T) +5(P)=20 End Term Exam Marks: 35(T) +20(P)=55		Time:3hrs	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	Freezing: need and effectiveness of freezing as food preservation, advantages and limitations of Frozen Food Quick and slow freezing, disadvantages of slow freezing Points to be kept in mind while selecting freezing method		10
II	Pre- treatment prior to freezing: blanching, dehydro freezing and osmotic dehydration. Freezing Technology: a) air or Still freezing b) air blast freezing c) Fluidized bed freezing d) indirect contact freezing e) Immersion freezing f) cryogenic freezing g)Tunnel freezing		11
III	Physical changes in Frozen Food. Effect of Freezing on texture, colour and flavour of food. Effect of freezing on principal constituents of food: a) Water. b) Protein , lipids And carbohydrates. c) Vitamins And minerals.		11

IV	Method of freezing fruits and vegetables. Introduction to thawing, changes during thawing and its effect on food .Future trends in frozen food technology.	10
V*	<ol style="list-style-type: none"> 1. To study basic equipments used for freezing 2. To learn the process of blanching :Boiling method & steam method 3. To freeze vegetables: Peas, corns, beans, carrot, tomato or any seasonal vegetables 4. To freeze fruits: apples, strawberries, mango, pineapple or any seasonal fruits 5. Storing in bags 6. Preparation of ice cream 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.: 04 ● Mid-Term Exam: 07 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: Nil ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: NA 		End Term Examination: 35 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- <http://practicalaction.org/evaporative-cooling-in-india>.
- http://www.akamaiuniversity.us/PJST10_2_935.pdf
- <http://www.fao.org/climatechange/17850-0c63507f250b5a65147b7364492c4144d.pdf>
- Mudambi, S.V. and Rajagopal, M.V. 2001. Fundamentals of Foods & Nutrition. New Age International (P) Ltd. Publishers, New Delhi. 405p.
- Parker, R. 2003. Introduction to food science. Delmar Thomson Learning, New York. 636p.
- Roy, S.K. and Khardi, D.S. 1985. Zero Energy Cool Chamber. India Agricultural Research Institute, New Delhi, India. Research Bulletin No.43: 23-30.
- Tucker, G. and Featherstone, S. 2011. Essentials of thermal processing. John Wiley and Sons., Oxford. 288p

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Home science
Semester	IV
Name of the Course	Indian Food Nutrition
Course Code	B23-VAC-327
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/V AC)	VAC
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream

Course Learning Outcomes(CLO):	After completing this course, the learner will be able to:		
	<ol style="list-style-type: none"> 1. To have knowledge about the food pyramid and benefits of traditional Indian foods. 2. To know the importance of functional foods & probiotics. 3.To get knowledge about cereal and millet based convenience foods. 4.Role of Indian spices, fruits & vegetables in Indian diets <hr/> 5*. NA		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	2
Max. Marks:50 Internal Assessment Marks:15(T) End Term Exam Marks: 35(T)		Time:3 hrs.	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours

I	Understanding Indian food, types of Indian foods and foods consumed in different regions of India. Advantages of traditional Indian diets. Indian food pyramid: a way to balanced diet, My plate concept	7
II	Food terminology : functional food, nutraceuticals, convenience foods, health food, designer food, probiotics, , prebiotics, intermediate moisture foods, hurdle Technology Present & future scope of functional foods Use of traditional fermented food as a source of probiotics	6
III	Cereal based traditional Food; snack foods: Fried, fermented & traditional sweets, ready to cook convenience foods. Millet based traditional food: nutritive value of millet, convenience foods of millet	8
IV	Major healthy foods in Indian cuisine Health benefits of major Indian spices Fruit and Vegetable based convenience foods	7
V*		
Suggested Evaluation Methods		
Internal Assessment: > Theory ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 > Practicum ● Class Participation: NA ● Seminar/Demonstration/Viva-voce/Lab records etc.: NA ● Mid-Term Exam: NA		End Term Examination: 35 NA
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi.
2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi.
3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi.
4. SunetraRoday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
5. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
6. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai.
7. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi.
8. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi.

*Applicable for courses having practical component.

Session: 2023-24	
Part A – Introduction	
Subject	Bachelor of Home science
Semester	IV
Name of the Course	Baking Techniques
Course Code	B23-VOC-103
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	VOC
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream

Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 1.To have knowledge of ingredients used in baking 2.To know about role of leavening and Moistening agents 3.To obtain knowledge about cake preparation, their faults and decoration ideas. 4. To enable the students to have knowledge of breadmaking _____ 5*.To have practical knowledge of baking and preparation of bakery items.		
Credits	Theory	Practical	Total
	2	2	4
Contact Hours	2	4	6
Max. Marks:100		Time:3hrs(T)	
Internal Assessment Marks:15(T) +15(P)=30		4hrs(P)	
End Term Exam Marks: 35(T) +35(P)=70			
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.			
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.			
Unit	Topics		Contact Hours

I	Introduction to Bakery, different bakery products, Bakery equipments. Basic Materials Used in Bakery and their role in baking. Flours And Flour Mixtures: Types of flours & suitability of flours for bakery products, flour selection, properties and specifications	07
II	Egg, Fats & oils: Types & functions of fats & oils in bakery products. Sweeteners: Types of sugars & functions. Leavening agents: Types; a) Biological leaveners b) Chemical leaveners c) Commonly used leavening agents .Moistening Agents	08
III	Cakes: Different types of cakes. Cake making techniques & General Precautions in cake preparation . Cake decoration and Cake faults & causes	07
IV	Some terms used in Process of Bread making: Fermentation, leavening, Pouching the dough, Fermentation of the sponge, Dividing & scaling, Rounding, Intermediate proofing, Moulding, Pan proofing, Baking the bread, Slicing & packaging. Essential and optional Ingredients used in bread .Bread quality: External and Internal Characteristics	08
V*	<ul style="list-style-type: none"> ● Study of various types of baking equipments; ● Type of baking ingredients, flour, yeast, salt and their uses; ● Preparation and cost calculation of different types of bakery products: Traveller's cake, Pineapple cake, Coffee walnut cake, Biscuit & Nan khatai, Pizza, Pastry, Garlic Bread, Red velvet cake and Muffins ● Cake decoration 	52
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation:04 ● Seminar/presentation/assignment/quiz/class test etc.:04 ● Mid-Term Exam:07 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation:05 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam:NA 	<p>End Term Examination:</p> <p>35</p> <p>35</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Dubey, S.C. (2017). Basic Baking, 5th Edition, ChanakyaMudrakPvt. Ltd., New Delhi. ● Rainact, AL. (2013). Basic Food Preparation – Complete Manual, 3rd Edition, Orient Longman Pvt Ltd., Mumbai ● Manay, S &Shanaksharaswami, M. (2014).Foods : Facts and Principles, New Age Publishers, New Delhi 	

*Applicable for courses having practical component.

KURUKSHETRA UNIVERSITY KURUKSHETRA



Scheme of Examinations and Syllabus for Under-Graduate Programme

Bachelor of Fashion Designing Interdisciplinary SCHEME-D

**Under Multiple Entry-Exit,
Internship and CBCS-LOCF in
accordance to NEP-2020**

w.e.f. 2023-24 (in phased manner)

SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A1 4 credits	B23-FDS-101	Basics of design & illustration	3	3	20	50	70	3 hrs.
		Basics of design & Illustration Lab	1	2	10	20	30	4 hrs.
CC-B1 4 credit	B23-FDS-102	Basics of Sewing	3	3	20	50	70	3 hrs.
		Basics of Sewing Lab	1	2	10	20	30	4 hrs.
CC-C1 4 credit	B23-FDS-103	Textile Science & Care	3	3	20	50	70	3 hrs.
		Textile Science & Care lab	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-HSE-101	Home and Interior Décor	2	2	15	35	50	3 hrs.
MDC-1 3 credits	From the courses offered by D/C/I							
AEC-1 2 credit	From available AEC-1 pool list of 2 credits as per NEP							
SEC-1 3 credit	From available SEC-1 pool list of 2 credits as per NEP							
VAC-1 2 credit	From available VAC-1 pool list of 2 credits as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A2 4credit	B23-FDS-201	Concept of Fashion	3	3	20	50	70	3 hrs.
		Concept of Fashion Lab	1	2	10	20	30	4 hrs.
CC-B2 4 credit	B23-FDS-202	Basics of Clothing Construction	3	3	20	50	70	3 hrs.
		Basics of Clothing Construction Lab	1	2	10	20	30	4 hrs.
CC-C2 4 credit	B23-FDS-203	Fabric Construction	3	3	20	50	70	3 hrs.
		Fabric Construction Lab	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-HSE-201	Nutrition Science	2	2	15	35	50	3hrs.
MDC-2 3 credits	From the courses offered by D/C/I							
AEC-2 2 credit	From available AEC-2 pool list of 2 credits as per NEP							
SEC-2 3 credit	From available SEC-2 pool list of 2 credits as per NEP							
VAC-2 2 credit	From available VAC-2 pool list of 2 credits as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A3 4 credit	B23-FDS-301	Indian Traditional Art	3	3	20	50	70	3 hrs.
		Indian Traditional Art lab	1	2	10	20	30	4 hrs.
CC-B3 4 credit	B23-FDS-302	Women Clothing-I	3	3	20	50	70	3 hrs.
		Women Clothing-I Lab	1	2	10	20	30	4 hrs.
CC-C3 4 credit	B23-FDS-303	Apparel Production Techniques	3	3	20	50	70	3 hrs.
		Apparel Production Techniques Lab	1	2	10	20	30	4 hrs.
CC-M3 4 credit	B23-FDS-304	Branding & Sales Promotion	3	3	20	50	70	3 hrs.
		Branding & Sales Promotion Lab	1	2	10	20	30	4 hrs.
MDC-3 3 credits	From the courses offered by D/C/I							
AEC-3 2 credit	From available AEC-3 pool list of 2 credits as per NEP							
SEC-3 3 credit	From available SEC-3 pool list of 2 credits as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A4 4 credit	B23-FDS-401	Textile Chemistry	3	3	20	50	70	3 hrs.
		Textile Chemistry Lab	1	2	10	20	30	4 hrs.
CC-B4 4 credit	B23-FDS-402	Women Clothing- II	3	3	20	50	70	3 hrs.
		Women Clothing- II Lab	1	2	10	20	30	4 hrs.
CC-C4 4 credit	B23-FDS-403	Apparel Production-Draping & Grading	3	3	20	50	70	3 hrs.
		Apparel Production-Draping & Grading Lab	1	2	10	20	30	4 hrs.
CC-M4(V) 4 credit (2+2)		From available VOC-4 pool list of 4 credits as per NEP						
AEC-4 2 credit		From available AEC-4 pool list of 2 credits as per NEP						
VAC-3 2 credit		From available VAC-4 pool list of 2 credits as per NEP						

Internship of 4 credits of 4-6 weeks duration after 4th semester (if not done after 2nd sem)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-FDS-501	Traditional Costumes	3	3	20	50	70	3 hrs.
		Traditional Costumes Lab	1	2	10	20	30	4 hrs.
CC-B5 4 credit	B23-FDS-502	Men's Clothing	3	3	20	50	70	3 hrs.
		Men's Clothing Lab	1	2	10	20	30	4 hrs.
CC-C5 4 credit	B23-FDS-503	Fabric Ornamentation Techniques	3	3	20	50	70	3 hrs.
		Fabric Ornamentation Techniques Lab	1	2	10	20	30	4 hrs.
CC-M5 (V) 4credit (2+2)		From available VOC-5 pool list of 4 credits as per NEP						
Skill enhancement course	INTERNSHIP #4 credits							

#4 credits of internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of the students who pursue three year UG Programme without taking exit option

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A6 4 credit	B23-FDS-601	Marketing & Merchandising	3	3	20	50	70	3 hrs.
		Marketing & Merchandising Lab	1	2	10	20	30	4 hrs.
CC-B6 4 credit	B23-FDS-602	Crochet & Macrame Making	3	3	20	50	70	3 hrs.
		Crochet & Macrame Making Lab	1	2	10	20	30	4 hrs.
CC-C6 4 credit	B23-FDS-603	Dyeing & Printing	3	3	20	50	70	3 hrs.
		Dyeing & Printing Lab	1	2	10	20	30	4 hrs.
CC-M6 4 credit	B23-HSE-601	Family Dynamics and Counselling	3	3	20	50	70	3 hrs.
		Family Dynamics and Counselling Lab	1	2	10	20	30	4 hrs.
CC-M7(V) 4credit (2+2)		From available CC-M7(V) pool list of 4 credits as per NEP						

SEMESTER-7

BACHELOR OF FASHION DESIGNING (HONOURS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-FDS-701	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-FDS-702	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-FDS-703	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-FDS-704	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-FDS-705	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-FDS-706	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-FDS-707	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER-8

BACHELOR OF FASHION DESIGNING (HONOURS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-FDS-801	Fabric Construction and Woven Fabric Analysis	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FDS-802	Textile Testing & Quality Control	4	4	30	70	100	3 hrs.
CC-H6 4 credit	B23-FDS-803	Apparel & Textile Designing	4	4	30	70	100	3 hrs.
DSE-H2 4 credit	B23-FDS-804	Fashion Retailing & Branding	4	4	30	70	100	3 hrs.
Select one option	B23-FDS-805	Social and Psychological Aspects of Clothing	4	4	30	70	100	3 hrs.
PC-H2 4 credit	B23-FDS-806	Textile Testing, Designing and Fashion Illustration	4	8	30	70	100	6 hrs.
CC-HM2 4 credit	B23-FDS-807	Entrepreneurship Management	4	4	30	70	100	3 hrs.

OR

SEMESTER-7

BACHELOR OF FASHION DESIGNING (HONOURS WITH RESEARCH)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-FDS-701	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-FDS-702	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-FDS-703	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-FDS-704	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-FDS-705	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-FDS-706	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-FDS-707	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER-8**BACHELOR OF FASHION DESIGNING (HONOURS WITH RESEARCH)**

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-FDS-801	Fabric Construction and Woven Fabric Analysis	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FDS-802	Textile Testing & Quality Control	4	4	30	70	100	3 hrs.
Project/Dissertation 12 credit	B23-FDS-808	Project/Dissertation	8+4	-	-	300	300	-
CC-HM2 4 credit	B23-FDS-809	Entrepreneurship Management	4	4	30	70	100	3 hrs.

Semester 1

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Fashion designing		
Semester	I		
Name of the Course	Basics of Design and Illustration		
Course Code	B23-FDS-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various concepts of fashion illustration 2.To know the concept of colours and its importance 3.To acquire knowledge about principals of design 4.To impart knowledge about fashion figures 5*.To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5 Hrs
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks :50(TH) 20(P) =70		Time:3hrs(T) 4hrs(P)	
Part B-Contents of the Course			

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to art media and its applications – different art media like pencils, pencil colours, crayons, poster colours, erasers, acrylic rendering and shading skills • Design – definition and types. 	12
II	<ul style="list-style-type: none"> • Elements of art and design – line, form, shape, space, size, texture and colour. • Principles of design – harmony, proportion, balance, rhythm and emphasis. 	9
III	Colour, dimension of colour, hue, value, intensity, colour schemes- their importance and application. <ul style="list-style-type: none"> • Introduction and brief history of fashion illustrations. 	12
IV	<ul style="list-style-type: none"> • Fashion model drawing – basic human proportion, body figures and shapes and sketching postures • Optical illusions created through elements of art and principles of design. 	12
V*	<ul style="list-style-type: none"> • The basic drawing and rendering of equipment using pencils, crayons, poster colours, water colours, pencil colours • Figure Stylization – Illustrations – Basic croquis, division of the body to make the 8, 10 and 12 head croquis (front, side and ¾th profile) • Figure in motion- normal standing, walking, running and sitting • Figure drawing in S, T, X, Y poses. • Colour – Preparation of colour wheel, grey scales, colour schemes, tints and shades. • Creation of motifs using different forms and shapes. • Designing of following motifs and its types in different colour ways <ol style="list-style-type: none"> a. Geometrical b. Realistic c. Natural d. Stylized 	30

Semester 1

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	1		
Name of the Course	Basics of Sewing		
Course Code	B23-FDS-102		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To make students get aware about basic sewing skills. 2. To impart knowledge about sewing , pressing . 3. To enhance creative skills. 4. To make sure students about sewing and constructing the garments. <p>5* To enhance students skills in sewing and impart knowlegde about various sewing projects</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(TH)10(P) =30 End Term Exam Marks:50(TH)20(P) =70		Time:3hrs (TH) 4hrs (P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to Sewing, Sewing Equipments and their function. • Terminology: Stitches, Grain, Grainline, Off-grain, On-Grain, Bias, Seamallowances, Seams, Measuring Tools. • Sewing machine, its Parts and their Function. • Threading a machine. Common problems and methods to overcome. 	12
II	<ul style="list-style-type: none"> • Introduction to Industrial Sewing machine, its different types and their Function. • Temporary & Permanent Stitches - Temporary stitches: basting- even, uneven and diagonal. Permanent stitches: hemming, slip stitching, blanket, and fagoting. Making terminologies & symbols (notches, punch/circles,) Pattern information (grain, part, piece, cut symbols) seam allowance, fabric terms (grain, Bowing). • Explain Seams & Seam Finishes , type of seam finishes and their application 	12
III	<ul style="list-style-type: none"> • Define Fullness and its types - Darts, Tucks, Pleats, Gathers, Shirring, Ruffles and Godets • Yokes – Definitions, purpose with and without fullness, applications and construction. • Sleeves – definition, terms and types. 	12
IV	<ul style="list-style-type: none"> • Collars – definition, terms, types and styles. • Different types of Pockets. • Different types of Skirts. 	9

<p>V*</p>	<p>Sample Making of the following basic hand stitches:</p> <ul style="list-style-type: none"> ○ Temporary Stitches: Basting- Even & Uneven, Diagonal, Slip and Pin basting ○ Permanent: Running, Hemming, Backstitch, Whipping and Button hole <p>Machine Stitching:</p> <p>Seams: Topstitch seam, Counter, Lapped seam, Run n fell seam and French seam</p> <p>Finishes: Edge stitched, Overcast and Bound seam</p> <p>Facing(straight and bias) & Bindings</p> <p>Sample Making of the following :</p> <p>Pleats- Knife, Inverted, Accordion and Box pleats</p> <p>Darts- Half and Full dart</p> <p>Neck Lines- Round, Square, V Shape etc.</p> <p>Tucks- Pin, Cross</p> <p>Gathers- By Hand & Machine, elastic and bobbin elastic</p> <p>Placket-Continuous wrap placket, two piece placket, kurta placket, trouser fly and slit opening</p> <p>Pocket–Inseam pocket, Kurta pocket and Patch pocket</p> <p>Fasteners –Buttons & button hole, Shirt buttons- with and without shank, Press buttons, Hooks & eye and Zippers (close ended, open ended and concealed)</p>	<p>30</p>
<p>SuggestedEvaluationMethods</p>		
<p>InternalAssessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 10 ● Seminar/Demonstration/Viva-voce/Lab records etc.:NA ● Mid-Term Exam: -- 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
<p>PartC-Learning Resources</p> <p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Cutting & Sewing Theory, GayathriVerma&Kapil Dev, Asian Publishers, 2015 2. Garment Technology for Fashion Designers, Gerry Conklin, Wiley-Blackwell, USA, 2012 3. Garment Manufacturing Technology, EIRI Board, Engineers India Research Institute 4. Donaghy Deshpande. Basic Process and Clothing construction. Raj Prakash an. 		

5. Colton. (1987). Complete Guide to Sewing by Readers Digest.
6. Readers Digest sewing Book.

*Applicable for courses having practical component.

Semester 1

Session: 2023-24	
PartA – Introduction	
Subject	Bachelor of Fashion Designing
Semester	1
Name of the Course	Textile Science and Care
Course Code	B23-FDS-103
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C1
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (ifany)	12 TH
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To create awareness on textile science. 2. To impart knowledge about different types of textiles fibers natural and manmade fibers. 3. To enhance skills of the students in fiber identification. 4. To make students aware of fabric care. <hr style="width: 50%; margin-left: 0;"/> <p>5*.To enhance skills in lab by various experiments and</p>

	get deep knowledge of textiles.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(TH)10(P) =30 End Term Exam Marks:50(TH) 20(P) = 70		Time:3hrs(TH) 4hrs(P)	
PartB-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	Terminology- Fibre, Yarns, Linear Density, Strength, Crease recovery, abrasion resistance, drapability, tensile strength, static charge, thermal conductivity. Introduction to textile fibers, classification of fibers based on sources and origin, basic textile terminology. Properties of textile fibers.		12
II	Manufacturing process and properties of various natural cellulosic fibres- cotton & linen. Manufacturing process and properties of various natural protein fibers-wool & silk. Manufacturing process and properties of regenerated and modified cellulosic fibre. Rayon Acetate		12
III	Manufacturing process of man-made synthetic fibers:- Polyamide – Nylon 66, Nylon 6 Polyester Acrylic Classification of yarns :- carded and combed yarns, woolen&		12

• Mid-Term Exam:	
PartC-Learning Resources	
Recommended Books/e-resources/LMS:	
<p>Vilensky “Textile Science” CBS publisher, New Delhi, 1999. Grosicki, Z: “Watson’s Textile Design and color” Blackwell Science, U.K.,1998. Mishra S.P., “A text book of fiber science and technology, New Age Intt., Delhi 2000. GoswamiB.c. “Textile Yarns”, Technology, structure and applications”, Mc graw Hill. Pizzoto’s J.J., “Fabric Science”, Fairchild publication, New York.</p>	

*Applicable for courses having practical component.

SEMESTER-1

Session: 2023-24	
PartA – Introduction	
Subject	Bachelor of Fashion Designing
Semester	1
Name of the Course	Home and Interior Decor
Course Code	B23-HSE-101
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (ifany)	12 TH

Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. To make students aware of needle work . 2. To get knowledge about different manual skills with needles. 3. To make students more efficient for doing intricate work manually. 4. To make aware of different types of needle craft all over the India. <hr/> 5*. To make students aware of needle work and get knowledge about different manual skills with needles		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	3 Hrs
Max. Marks:50 Internal Assessment Marks:15(TH) End Term Exam Marks:35(TH)		Time: 3 hrs(T)	
Part B-Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	Objectives of interior decoration, importance of elements of art in interior decoration. Types of design: structural and decorative and its application. Elements of art: line, form, texture, light, pattern, colour, space and its application in interior decoration		10

II	<p>Principles of design: Rhythm, balance, proportion, emphasis, harmony and its application in interior decoration</p> <p>Colour: Properties of colour, psychological effect of colour, color schemes and its application in the interior of a house.</p> <p>Lighting: a) Types and requirement for various activities b) Lighting fixtures in the home</p>	10
III	<p>Table setting and table manners: Informal and formal table settings (buffet style, Indian style restaurant style, Cafe style)</p> <p>Furniture: Types of furniture, furniture arrangement for different areas (bedroom, drawing room, dining room, kitchen and its types)</p> <p>Factors affecting the selection and purchase of furniture, care and maintenance of furniture.</p>	10
IV	<p>Flower arrangement:a) Different types of Flower arrangement b) Accessories used and points to be considered for flower arrangement c) Flower decoration for different occasions</p> <p>Furnishings: a) Soft Furnishing (curtains, cushions, pillow and material for upholstered furniture) b) Wall treatment and its types c) Window treatment and decoration d) Types of floor coverings</p>	10
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:00 ● Mid-Term Exam: 06 		<p>End Term Examination:</p> <p>20</p> <p>15</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Seetharaman P.(2019), Interior Design And Decoration,India:CBS.
2. M.Pratap Rao (2020),Interior Design: Principles And Practice, India, Standard Publishers and Distributors Pvt Ltd
3. Frida Ramstedt (2020), The Interior Design Handbook: Furnish, Decorate, and Style Your Space,Clarkson Potter publishing.
4. Dr. Bhargava B. (2007), Principles of art,University Book House Pvt. Ltd.
5. Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.
6. Riley &Bayen., (2003), The Elements of Design, Mitchell Beazley.
7. Rutt Anna Hong (1961): Home furnishing,Wiley Eastern Pvt.Ltd.
8. Bhat Pranav and Goenka Shanita (1990): The foundation of art and Design, Bombay: Lakhani Book Depot.

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary

fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

Semester 2
Bachelor of Fashion Designing

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	2		
Name of the Course	Concept of fashion		
Course Code	B23-FDS-201		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various concepts of fashion 2.To know the concept of origin of clothing 3.To equip with different fashion theories 4.To impart knowledge about fashion Psychology <hr/> 5*.to impart knowledge to students about the different styles of fashion		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T) +20(P) =70		Time:3hrs(T) 4hrs (P)	

PartB-Contents of the Course

Instructions for Paper- Setter :The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	<p>Fashion terminology/ Terms related to the fashion industry –fashion, style, fad, classic, boutique, trends, designer, silhouette, Hi- Fashion, Fashion/selling seasons and collection, chic Custom made , mannequin , fashion , show, trend, forecasting, high fashion, fashion cycle, haute couture, couture, couturier, fashion director, fashion editor, line, knock-off avantgarde, bridge, buying house, apparel, fashion merchandising, pre –a –porter, sample. Fashion origin and evolution. Fashion cycle and differentiation on the basis of length of fashion cycle.</p> <p>Types of fashion: haute couture, Prêt-a-porter and Mass Fashion.</p>	12
II	<p>Elements of design –line, shape or form, colour , size and texture. Application of structural and decorative design in a dress, selection and application of trimmings and decorations. Principles of design -balance –formal and informal, rhythm-through repetition, radiation and gradation, emphasis, harmony and proportion.</p> <p>Application of principles of design in a dress.</p> <p>Design-definition and types– structural and decorative design, requirements of a good structural and decorative design. Colour-definition, colour theories-prang colour chart, Dimensions of colour-hue, value, and intensity. Standard colour harmonies-application in dress design.</p> <p>Principles of fashion.</p>	12

III	<p>Levels of Fashion Acceptance-Fashion leader, fashion role model, fashion follower, Fashion victims.</p> <p>Fashion theories- trickle down, trickle across and bottom up theory.</p> <p>Factors affecting and influencing fashion</p>	12
IV	<p>Fashion Inspiration and categories / Fashion seasons and their duration</p> <p>International Fashion center's and Worldwide Popular Fashion designers</p> <p>Study of Indian designers – Tamil Nadu, Maharashtra, Rajasthan, Karnataka and Uttar Pradesh and International designers – France, Germany, U.S, United Kingdom and Italy (any one popular designer)</p>	9
V*	<p>* illustrate</p> <ul style="list-style-type: none"> • outfit for a special occasion • outfit for different climate • long -term fashion style • short-term fashion style • clothing of any two eras • casual wear for women by using lines ,shapes ,and textures • using crayons and poster colour draw fashion cycle stages 	30

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <p>Reference Link: https://swayam.gov.in/ Learner support Material: NPTEL, Swayam (https://swayam.gov.in), E-library, E-books, online PDF material etc.</p> <p>Reference Books:</p> <ol style="list-style-type: none"> 1. Kathryn Mikelvey, “Fashion source book”, Blackwed science, UK 2. Sharon Le Fate, “Inside Fashion Design”, Harper and Row Pub. NY. 3. Carter L, “The changing World of Fashion,” G.P. Panama’s Sons, NY 4. Second skin, “Horn MJ, 1981, 5. Study of clothing, “Houghm Mifflin Company, Bosien 6. Kafgen Mary, Individuality in clothing, Houghton Mifflin Company 7. Dynamics of fashion by Elaine stone 	

*Applicable for courses having practical component.

SEMESTER 2

Session: 2023-24	
Part A – Introduction	
Subject	B.SC Fashion Designing
Semester	2
Name of the Course	Basics of Clothing Construction

Course Code	B23-FDS-202		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th Pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: Understand the fundamentals of professional sewing and apparel construction techniques. Students learn basic cutting, sewing and finishing by hand and by machine		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+ 20(P)=70		Time:3hrs(T) 4hrs(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Principles of clothing:- Socio- Psychological aspects of clothing. <ul style="list-style-type: none"> • How dress affects behaviour • First impression • Fabric Preparation. • Handling special fabrics. <p>Suitability of different fabrics for different garments</p>		12
II	<ul style="list-style-type: none"> • Terminology related to skirts, trousers, collars, sleeves. • Clothing for different age groups. • Clothing for different occasions. 		12

III	<ul style="list-style-type: none"> Fabric estimation and its importance. Principles of fitting, factors to be considered while fitting, common fitting problems, remedying fitting defects. Flow chart of garment manufacturing. 	9
IV	ACCESSORIES:- Labels, Lining, interlining facing & interfacing, Wadding, Lace, Braid, elastic, hook and loop fastening , shoulder pads, eyelets and laces, zip fasteners, buttons .	12
V*	<p>Drafting of Basic Bodice Block and sloper making of:-</p> <ul style="list-style-type: none"> Children - Front/Back <p>Yoks- Round, square, symmetrical and asymmetrical Collars- Peter pan, shawl, sailor, mandarin, cape collar, stand and fall.</p> <p>Construct Types of Sleeves and Sleeve Finishes</p> <ul style="list-style-type: none"> Basic sleeve types, Half sleeve, Full sleeve, 3/4 sleeve <p>Set in sleeves</p> <p>(i) Plain (ii) Puffsleeve (iii) Flaresleeve (iv) Cap sleeve</p> <p>Drafting and construction of Layette set :- Bib, Diaper, Panty, Bloomer, Jhabla</p>	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> Theory <ul style="list-style-type: none"> Class Participation: 05 Seminar/presentation/assignment/quiz/class test etc.:05 Mid-Term Exam: 10 Practicum <ul style="list-style-type: none"> Class Participation: Seminar/Demonstration/Viva-voce/Lab records etc.:10 Mid-Term Exam: NA 		<p>End Term Examination</p> <p>50</p> <p>20</p>

PartC-Learning Resources

Recommended Books/e-resources/LMS:

Text books:

- Carp and Latham. The Technology of Clothing Manufacture.
- Greff and Strom. Concepts of Clothing.
- Thomas Anna Jacob: “The Art of Sewing”. New Delhi, USB Publisher Distributors Ltd.1994.
- Reader’s Digest “Complete Guide to Sewing”.1995.
- Cooklin Grey. Garment Technology for Fashion Designer, Blackwell Science, 1997
- Thomas Anna Jacob, “The art of sewing”, USB publishers New Delhi, 1994.
- Readers Digest sewing book.
- Verma G., cutting & tailoring theory", Asian publishers Delhi, 1999.
- Cooklin G ,Garment Technology for Fashion Designers” Blackwell publishing ,1977

*Applicable for courses having practical component.

SEMESTER-2

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of fashion designing		
Semester	2		
Name of the Course	Fabric Construction		
Course Code	B23-FDS-203		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C2		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	12 TH PASS		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be learnTo create awareness on conversion of yarns, and fibres, into a fabric having characteristics determined by the materials and methods employed. Most fabrics are presently produced by some method of interlacing, such as weaving or knitting		
Credits	Theory	Practical	Total

	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+ 10(P)=30 End Term Exam Marks: 50(T) + 20(P)=70	Time:3hrs (T) 4hrs(P)		
Part B-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics	Contact Hours	
I	* Terminology- Woven Fabric, Warp, Weft, Fabric Balance, Fabric Weight, Blended Fabric, Fabric Density, Selvedge & its types. *Different methods of Fabric Formation- Weaving, Knitting, Felting, Bonding, Lace-Making, Knotting. *Introduction to Weaving Preparatory- Winding, Wrapping, Sizing & Pirn Winding.	12	
II	*Introduction of Looms & its Parts *Basic Loom- <ul style="list-style-type: none"> • Parts of a simple looms & its Functions • Basic motion of Weaving *Different Types of Looms <ul style="list-style-type: none"> • Shuttle Loom • Shuttleless Loom (Rapier, Gripper, Multiphase, Air jet, Water jet) 	12	
III	*Preparation of yarns for weaving *Weaving- Plain Weave, Twill weave & Satin, influence of these weaves on fabric characteristics. *Plain Weave- Warp & Weft, Basket, Rib & their influence on fabric characteristics.	12	
IV	* Twill weave- Pointed, Herring Bone & Diamond Twill. Regular & Irregular Satin weaves and their application in Fabric. Fancy Decorative Weaves - Dobby, Jacquard, pile, Leno, Swivel & Double Weave. *Woven Fabric Defects- Float, Lashing in, Missing End, Selvedge Defects.	9	
V*	1. To Prepare the sample on the hand loom <ul style="list-style-type: none"> • Plain, Twill & Satin • Pile Cut 2. Prepare sample of Macrame Knots <ul style="list-style-type: none"> • Half Hitch Knot, Double Hitch Knot 	30	

	<ul style="list-style-type: none"> • Square Knot, Overhand Knot • Lark’s Head Knot, Reverse Lark’s head Knot <p>3. Preparation of a articles using above Techniques. 4. Visit to Textile Industry in India.</p>	
SuggestedEvaluationMethods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> • Theory <ul style="list-style-type: none"> • Class Participation:05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
PartC-Learning Resources		
<ul style="list-style-type: none"> • Recommended Books/e-resources/LMS: Thomas Anna Jacob,“The art of sewing”,USB publisher New Delhi, 1994. • Readers Digest sewing book. • Verma G., “Cutting & tailoring theory”, Asian publishers Delhi, 1999. • Cooklin G, “Garment Technology for Fashion Designers”, Blackwell publishing, 1977. • Corbman,“Textile Fibre to Fabric”, Mc Graw Hill(1967). 		

*Applicable for courses having practical component.

SEMESTER-2

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion designing		
Semester	2		
Name of the Course	Nutrition Science		
Course Code	B23-HSE-201		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC – M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 TH PASS		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to create awareness for fashion forecasting as the utilizing trend data, brands can improve their product ranges, understand their target market and stay ahead even in troubling times.		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	2	0	2
Max. Marks:50		Time:3hrs(T)	
Internal Assessment Marks:15(T)			
End Term Exam Marks: 35(T)			
Part B-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	To create awareness for fashion forecasting as the utilizing trend data, brands can improve their product ranges, understand their target market and stay ahead even in troubling times.		6
II	Research Process in Forecasting o Primary Sources, Secondary Sources, Tertiary Sources,		6

	Tracking Sales, Competition, Demographics o Value and Lifestyle, Publication, Forecasting Services, Plethora Influences, Observation posts o New Technology, Fashion of involvement, New uses of Products, Old neighborhoods, Related Industries	
III	Fashion forecasting agencies o Forecasting Agencies & their functions o Seasons collection o Interpreting the forecast in to the theme o Color Forecasting, Direction of Fashion change	6
IV	Selection theme based forecasting o Consumer Research, Steps in Developing a Forecast, Research theme o Use keywords, Explain keywords, Work on Indian market (casual, formal, party, leisure) o Inspiration board, Mood board, Sales Forecasting o Seasonal trend analysis color, silhouettes and detailing, material and textures, print and graphics, accessories trend	6
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> • Theory <ul style="list-style-type: none"> • Class Participation: 04 • Seminar/presentation/assignment/quiz/class test etc.:00 • Mid-Term Exam: 06 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:05 • Mid-Term Exam: NA 		End Term Examination: 20 15
Part C-Learning Resources		
Recommended Books/e-resources/LMS: Brannon Evelyn L., "Fashion Forecasting", Fairchild Books, New York, 3rd Edition, 2010 2. Perna Rita, "Fashion Forecasting", Fairchild Books, New York, 1992 1. Raymond Martin, "The Trend Forecasters Handbook", Laurence King, UK, 2010 2. Nirupama, Pundir, Fashion Technology-Today and Tommorrow, Mittal publications, New Delhi, 2007		

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

Semester 3
Bachelor of Fashion Designing

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	3		
Name of the Course	Indian Traditional Arts		
Course Code	B23-FDS-301		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th Pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1. To Impart Knowledge About 2. Indian Traditional Arts 3. Indian Embroideries 4. Various Indian Traditional Textiles <hr/> 5* To Impart Knowledge to Students About the Different Traditional Arts		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Study the following traditional arts of India:- Pattachitra, Warli Art, Tanjore Art, Gond Art, Mandala, Lippan Art	9
II	Introduction, stitches, motifs, base fabrics, thread, techniques and colour combination used in embroideries of following: <ul style="list-style-type: none">• Kutch Kathiawari and Sindhi of Gujrat• Phulkari of Punjab• Kantha of Bengal• Chikankari of Lucknow• Kasida of Kashmir• Kasuti of Karnatak	12
III	Traditional textiles: Importance and history of hand woven textiles. Brocades, Jamavar, Dacca muslin and Jamdani, Chanderi, Maheshwari, Kanjivaram, kotaDoria and Baluchari. Resist printed textiles: Bandhani, Patola, Ikat and Pochampalli. Block Printed :Dabu, Sanganeri, Ajrakh, Batik Painted textile: Kalamkari and Madhubani. Regional variations in symbolic motifs.	12
IV	Woven shawls of Kashmir, Himachal Pradesh and North Eastern States.	12

	Floor Coverings- Carpets and Durries Textile surface ornamentation by beads, applique and ribbon.	
V*	<p>Prepare samples of following:</p> <ul style="list-style-type: none"> ● Basic embroidery stitches. ◇ Kasuti of Karnatka ◇ Chikankari of Uttar Pradesh ◇ Kantha of Bengal ◇ Kashida of Kashmir ◇ Phulkari of Punjab. ◇ Kutch of Gujarat. ◇ Sindhi of Sind. ● Prepare 5 samples of Tie & Dye (Cotton & Silk). ● Block printing, Batik, Stencil, Screen & Fabric painting. <p>Prepare any two articles using any technique of surface ornamentation</p>	30
Suggested Evaluation Methods		
	<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 05 > Practicum <ul style="list-style-type: none"> ● Class Participation: 0 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

REFERENCES

- Pandit, S. 1976. Indian Embroidery: Its Variegated Charms. Baroda.
- Mehta, R.J. 1970. Masterpieces of Indian Textiles. Bombay, D.B. Taraporevala Sons and Co. Pvt.Ltd.
- Gillow. Indian Textiles.
- Lehri, R.M. Indian Embroideries.
- Ghosh. Ikat Textiles of India
- Shailza, D. Naik. Traditional Embroideries of India
 - SodhiaManmeet, "Dress Designing", Kalyani publishers, New Delhi.
 - Lynton Linda, " The Sari", Thames &Hadson.
 - Anand M.R., "Textiles & Embroideries of India " Marg Publication Bombay, 1965.
- NaikShailaja D, " TraditionalEmbroideries of India" APH Publisher Corporation, New Delhi, 1996.
- Chattopadhyay K, " Indian Embroidery", Wiley Eastern Ltd., New Delhi,

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	3		
Name of the Course	Women Clothing- I		
Course Code	B23-FDS -302		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B3		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	12 th Pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire Knowledge of Various Concepts of Fashion 2. To Know the Concept of origin of clothing 3. To equip with different fashion theories 4. To impart knowledge to the students and making them perfect in drafting and construction of various no article <hr style="width: 20%; margin-left: 0;"/> <p>5* To impart knowledge to students about the different styles of women's clothes.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Body measurements: anthropometric measures and methods of taking proper body measurements for different garments. General principles of clothing construction Factors affecting clothing requirements	12
II	Selection of fabric for different garments according to different figure type Handling of special fabrics such as plaid, checks, stripes denims etc. Types of fitting problems, factors to be considered while identifying fitting problems .	12
III	Clothing of women for different occasions Importance of scarves in women clothing Importance of accessories in women clothing	9
IV	Planning assembly of women's wear; assessing quality at various stages of garment assembly Classification of women's wear Brands in women's wear	12
V*	Drafting of basics skirt block Preparation of different types of skirt: A- line skirt Circular skirt Gored skirt Drafting and construction of petticoat Drafting and construction of simple kameez Drafting and construction of any type of salwar Drafting and construction of simple plazo/ sharara	30

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <ul style="list-style-type: none"> • Theory • Class Participation: 05 • Seminar/presentation/assignment/quick class test etc.; 05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ Demonstration Viva-voce Lab records etc.: 10 	<p>End Examination:</p> <p>50</p> <p>20</p>
<ul style="list-style-type: none"> • Mid-Term Exam: 	
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS':</p> <p>Reference Link: https://swayam.gov.in/ Learner support Material: NP'IVL Swayam (https://swayam.gov.in/), E-library, E-books, online PDF material etc.</p> <p>Reference Books :</p> <ol style="list-style-type: none"> 1. Carr and lather- The of clothing manufacture 2. gains s and Singer sewing machine 3. Gioello and break. Figure types and size ranges 4. Aldrich Winifred. Matric pattern cutting 011 book service 1997. Ko 5. Armstrong Il pattern making for fashion design. Longman 2tng 6. Bray Natalia. More drøs pattern designing jackwell scenes2001 7. Apparelonline.com in 	

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	3		
Name of the Course	Apparel Production Techniques		
Course Code	B23-FDS -303		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C3		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	12 th Pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1. To create an awareness about the types of garment machine available in the industry 2 To develop an understanding about the selection of the right machine for production of the required garment. 3. To expose the students to the latest practices and technological world of garment production		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	<p>Apparel production process</p> <ul style="list-style-type: none"> ○ Pattern, Grading and Marker making ○ Spreading ○ Cutting ○ Ticketing ○ Sewing ○ Finishing ○ Quality checking 	12
II	<p>Spreading and Cutting operations, machines and their functions</p> <p>Marker planning: drawing & reproduction of the marker</p> <p>Spreading of the fabric to form a lay</p> <p>Cutting of the fabric</p> <p>Sorting , numbering, ticketing, bundling</p>	12
III	<p>Stitching operations with its specialized machines</p> <p>Components of sewing: needle, throat plate, feed dog and threads etc</p> <p>Seam types: classification</p> <p>Stitch types: classification</p> <p>Sewing machine needles and threads</p> <p>Sewing machines: single lock machines, buttonhole & buttoning machine, bar tacking</p>	9
IV	<p>Finishing & Packaging</p> <p>Importance of Pressing</p> <p>Equipments for pressing</p> <p>Fusing Machinery & Requirements of Fusing</p> <p>Packaging Shipping & Merchandising Packaging</p> <p>Packaging Tags & Fasteners</p> <p>Garment Finishing and Inspection</p>	12

	Attaching Buttons: Marking & Sewing Labels Cleaning Final Touches	
V*	<ul style="list-style-type: none"> ❖ Body Ideals, Infants, Children, Man, Woman, (Standard Measurement) ❖ Preparing Basics Blocks, Front Back, Sleeve, Skirt, Trouser, for Woman. ❖ Developing draft for men's garments, men's shirt, Trouser ❖ Introduction to grading drafting and grading of basic block ❖ Development of variation in sleeves and bodies combination (at least 5) ❖ Procedure for grading block to various sizes children – bodies block sleeves, skirts, trouser, ❖ Make samples of fasteners, placket, center button closing, asymmetrical closing 	30
Suggested Evaluation Methods		
Internal Assessment:	<ul style="list-style-type: none"> • Theory • Class Participation: 05 • Seminar/presentation/assignment/quick class test etc.,; 05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ Demonstration viva-voce lab records etc.: 10 	End Examination: 50
• Mid-Term Exam: NA		20

PartC-Learning Resources

Recommended Books/e-resources/LMS':

REFERENCES:

1. Bheda, R. Managing Productivity in the Apparel Industry. New Delhi: CBS publishers and Distributers 2003.
2. Cooklin G., Garment for Fashion Designers. United Kingdom: Blackwell Publishing Limited 1997.
3. Cooklin G., Introduction to Clothing Manufacture. United Kingdom: Blackwell Publishing Limited. (Second Edition) 2006.
4. Giocello, D.A. and B. Prerke Fashion Production Terms. New York Fairchild Publication 2004.
5. Solinger, J.. Apparel Manufacturing Analysis. New York: Textile Book Publishers Inc. 1961
6. Care, H. and B.Latham, The Technology of clothing Manufacture United Kingdom: Blackwell Science Limited 2004.

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24

Part A – Introduction

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	3		
Name of the Course	BRANDING AND SALES PROMOTION		
Course Code	B23-FDS-304		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th Pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: <ul style="list-style-type: none">• To impart knowledge regarding branding process.• To know about various brands and brand management.• To learn various fashion promotional techniques <hr/>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(TH) 10(P)=30 End Term Exam Marks:50(TH) 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<p>Branding:</p> <ul style="list-style-type: none"> ○ Meaning, definition and importance of branding in fashion industry ○ Fashion branding(FAQ) ○ Creating content for fashion brand. ○ Building a brand (step by step guide) 	12
II	<p>Brand Management:</p> <ul style="list-style-type: none"> ● Steps and technique; ● Rules of Branding ● Benefits of building a strong Brand ● Pillars of Branding 	12
III	<p>Sales Promotion:</p> <ul style="list-style-type: none"> ○ Definition and importance of Sales Promotion ○ Various Sale promotion techniques and methods ○ Components of sales promotion ○ Factors affecting and retarding sales promotion 	9
IV	<p>Goals of sales promotion:</p> <ul style="list-style-type: none"> ● Marketing and Branding together ● Various government policies of branding <p>Role of branding in promoting sales</p>	12

V*	<ul style="list-style-type: none"> ❖ Window Display for a specific store and boutique according to different occasions and seasons ❖ Sourcing of fabrics, fasteners, and trims ❖ Survey on famous brands available in Market ❖ Layout Design and illustration for different kinds of store display. 	30
Suggested Evaluation Methods		
Internal Assessment:	<ul style="list-style-type: none"> • Theory • Class Participation: 05 • Seminar/presentation/assignment/quick class test etc.; 05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ Demonstration viva-voce lab records etc.: 10 	End Examination: 50 20
• Mid-Term Exam:		
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS':</p> <p>REFERENCES:</p> <ul style="list-style-type: none"> • Fashion promotion: Building a brand through marketing and communication (by Gwyneth moore) • Marketing fashion (by Harriet posner) • Fashion brands (by Mark Tungate) • Fashion branding and communication edited by ByoungHoJin and Elena • Luxury fashion branding (by Uche Okonkwo) • Fashion branding Unraveled (by Kaled K. Hameide) 		

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students.

Semester 4

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	4		
Name of the Course	Textile Chemistry		
Course Code	B23-FDS-401		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A4		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	12 th pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various kinds of textile chemicals and their uses 2.To know the concept of textile chemistry 3.To acquire knowledge about principals of desig 4.To impart knowledge about fashion figures <hr/> 5*.To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)10(P)=30 End Term Exam Marks:50(TH)20(p)=70		Time:3hrs(T) 4hrs(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics	Contact Hours	
I	<ul style="list-style-type: none"> ● Introduction to textile fibers, classification of fibers based on sources and origin, basic textile terminology. ● Primary and secondary properties of various fibers. ● Sequence of operations & purposes of short/long staple yarn manufacturing ● process, introduction & objectives of opening & cleaning, carding, combing, drawing, ● roving and spinning. 	12	
II	<ul style="list-style-type: none"> ● Different methods and types of spinning. ● Introduction, Manufacturing & Properties of different natural and man-made fibers:- ● Cotton, Wool, silk, rayon, acetate and triacetate, polyamide (Nylon-6, nylon- 6.6) ● acrylics, modacrylic, elastomeric fibre. 	9	
III	<ul style="list-style-type: none"> ● <input type="checkbox"/> Classification of Yarns: Carded and Combed yarns, woolen & worsted yarns, ● filament and spun yarns. ● <input type="checkbox"/> Yarn Properties – linear density, size, twist in yarn, crimp twist direction, strength ● and uniformity. ● <input type="checkbox"/> Textured yarns – type 	12	
IV	<p>Textured yarns – types and application, Fancy Yarns – types and uses.</p> <ul style="list-style-type: none"> ● <input type="checkbox"/> Physical properties of Fabric – strength, abrasion resistance, crease recovery, ● stiffness, drapability, static charge, thermal conductivity, air permeability, water ● repellency, thickness, shrink resistance, pilling resistance. ● <input type="checkbox"/> Methods of determining the physical properties and 	12	

SEMESTER-4

Session: 2023-24

Part A – Introduction

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	4		
Name of the Course	Women Clothing II		
Course Code	B23-FDS-402		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 TH		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To impart knowledge about terminology related to women clothing 2. To enhance skills in drafting and construction 3. To get students aware of clothing for special needs <hr/> <ol style="list-style-type: none"> 4. 5*. To make them capable of doing drafting, constructing of women clothing 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time:3hrs 4hrs	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	Terminology used in Drafting & Pattern Making Flat Pattern Making, Template Working Patterns, Production Patterns, Design Specification Sheet, Pattern Chart, Cost-Sheet, Grain, Dart, Dart legs, Dart intake, Vertical Lines, Horizontal Lines, Symmetric and Asymmetric Lines, Style Number, Pattern Size. A Study of Tools & Equipments Measuring Tools Marking Tools Cutting Tools	12
II	Developing paper patterns: a) Understanding the commercial paper pattern. b) Layout on different fabrics, widths & types.	12
III	Fitting – factors affecting good fit, common problems encountered and remedies for fitting defects (upper and lower garments) Clothing for people with special needs. a) Maternity and lactation period b) Old age	9
IV	<ul style="list-style-type: none"> ● A study of Anthropometric List of Measurements Taking Body Measurement Standard Size Chart ● Pattern Development : Drafting, Flat Patterns, Slash and Spread and Pivot Methods ● Fabric Estimations and its importance ● Fitting: Good Fitting, Fitting Problems and their solution. ● Basics of Commercial Paper Pattern Pattern Envelop 	12

SEMESTER-4

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	4		
Name of the Course	Apparel Production- Draping and Grading		
Course Code	B23-FDS-403		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of techniques of draping of fabrics 2. To know the design and construct garments using the principles of draping. 3.To acquire knowledge about grading 4. To know the method of garment construction according Industrial level <hr/> 5*.To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50 (TH), 20 (P)=70		Time:3hrs(T) 4hrs(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics	Contact Hours	
I	<ul style="list-style-type: none"> ● Fitting - Introduction, principles of fitting, types of garments fit, standards for a good fit, fitting, body scanner. ● Pattern alteration techniques - Introduction, methods of alteration technique, importance. Pivot, slash and spread method (length, width, front, back, sleeve, shirt, skirt, trousers) 	12	
II	<ul style="list-style-type: none"> ● Introduction to pattern development, manual and computerized pattern development, marker making Introduction, mini marker, marker plan development and marker efficiency. ● Pattern layout - Definitions, principles, types of layouts, importance of pattern layout. ● Fabric estimation - Definition, types of estimation, importance of fabric estimation. 	12	
III	<ul style="list-style-type: none"> ● Draping: - definition, terminology, principles of draping, preparation and uses, measurement and tools used in draping. ● Basic Draping techniques: - front & back bodice, front & back skirt. ● Dart location and manipulation. 	12	
IV	<ul style="list-style-type: none"> ● Grading - Introduction, definition, grading terminologies, principles, types, sizes, grade rules and points, manual and computerized grading, importance, advantages, and disadvantages. 	9	

7. MckelvyKathrynanadMunslow Janine. Illustrating Fashion, Blackwell Publishing. 2004.
8. Ray Smith. Drawing Figures. Dorling Kindersley. 1994

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

**KURUKSHETRA
UNIVERSITY KURUKSHETRA**



**Scheme of Examinations and
Syllabus for Under-Graduate
Programme**

**Bachelor of FASHION &
APPAREL DESIGNING**

Interdisciplinary SCHEME-D

**Under Multiple Entry-Exit,
Internship and CBCS-LOCF
in accordance to NEP-2020**

w.e.f. 2023-24 (in phased manner)

SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A1 4 credits	B23-FAD-101	Basics of design & illustration	3	3	20	50	70	3 hrs.
		Basics of design & Illustration Lab	1	2	10	20	30	4 hrs.
CC-B1 4 credit	B23-FAD-102	Basics of Sewing	3	3	20	50	70	3 hrs.
		Basics of Sewing Lab	1	2	10	20	30	4 hrs.
CC-C1 4 credit	B23-FAD-103	Textile Science & Care	3	3	20	50	70	3 hrs.
		Textile Science & Care lab	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-HSE-101	Home and Interior Décor	2	2	15	35	50	3 hrs.
MDC-1 3 credits	From the courses offered by D/C/I							
AEC-1 2 credit	From available AEC-1 pool list of 2 credits as per NEP							
SEC-1 3 credit	From available SEC-1 pool list of 3 credits as per NEP							
VAC-1 2 credit	From available VAC-1 pool list of 2 credits as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A2 4 credit	B23-FAD-201	Concept of Fashion	3	3	20	50	70	3 hrs.
		Concept of Fashion Lab	1	2	10	20	30	4 hrs.
CC-B2 4 credit	B23-FAD-202	Basics of Clothing Construction	3	3	20	50	70	3 hrs.
		Basics of Clothing Construction Lab	1	2	10	20	30	4 hrs.
CC-C2 4 credit	B23-FAD-203	Fabric Construction	3	3	20	50	70	3 hrs.
		Fabric Construction Lab	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-HSE-201	Nutrition Science	2	2	15	35	50	3hrs.
MDC-2 3 credits	From the courses offered by D/C/I							
AEC-2 2 credit	From available AEC-2 pool list of 2 credits as per NEP							
SEC-2 3 credit	From available SEC-2 pool list of 3 credits as per NEP							
VAC-2 2 credit	From available VAC-2 pool list of 2 credits as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A3 4 credit	B23-FAD-301	Indian Traditional Art	3	3	20	50	70	3 hrs.
		Indian Traditional Art lab	1	2	10	20	30	4 hrs.
CC-B3 4 credit	B23-FAD-302	Women Clothing-I	3	3	20	50	70	3 hrs.
		Women Clothing-I Lab	1	2	10	20	30	4 hrs.
CC-C3 4 credit	B23-FAD-303	Apparel Production Techniques	3	3	20	50	70	3 hrs.
		Apparel Production Techniques Lab	1	2	10	20	30	4 hrs.
CC-M3 4 credit	B23-FAD-304	Branding & Sales Promotion	3	3	20	50	70	3 hrs.
		Branding & Sales Promotion Lab	1	2	10	20	30	4 hrs.
MDC-3 3 credits	From the courses offered by D/C/I							
AEC-3 2 credit	From available AEC-3 pool list of 2 credits as per NEP							
SEC-3 3 credit	From available SEC-3 pool list of 3 credits as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A4 4 credit	B23-FAD-401	Textile Chemistry	3	3	20	50	70	3 hrs.
		Textile Chemistry Lab	1	2	10	20	30	4 hrs.
CC-B4 4 credit	B23-FAD-402	Women Clothing- II	3	3	20	50	70	3 hrs.
		Women Clothing- II Lab	1	2	10	20	30	4 hrs.
CC-C4 4 credit	B23-FAD-403	Apparel Production- Draping & Grading	3	3	20	50	70	3 hrs.
		Apparel Production- Draping & Grading Lab	1	2	10	20	30	4 hrs.
CC-M4(V) 4 credit (2+2)		From available VOC-4 pool list of 4 credits as per NEP						
AEC-4 2 credit		From available AEC-4 pool list of 2 credits as per NEP						
VAC-3 2 credit		From available VAC-4 pool list of 2 credits as per NEP						

Internship of 4 credits of 4-6 weeks duration after 4th semester(if not done after 2ndsem)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-FAD-501	Traditional Costumes	3	3	20	50	70	3 hrs.
		Traditional Costumes Lab	1	2	10	20	30	4 hrs.
CC-B5 4 credit	B23-FAD-502	Men's Clothing	3	3	20	50	70	3 hrs.
		Men's Clothing Lab	1	2	10	20	30	4 hrs.
CC-C5 4 credit	B23-FAD-503	Fabric Ornamentation Techniques	3	3	20	50	70	3 hrs.
		Fabric Ornamentation Techniques Lab	1	2	10	20	30	4 hrs.
CC-M5 (V) 4credit (2+2)		From available VOC-5 pool list of 4 credits as per NEP						
Skill enhancement course	INTERNSHIP #4 credits							

#4 credits of internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of the students who pursue three-year UG Programme without taking exit option

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A6 4 credit	B23-FAD-601	Marketing & Merchandising	3	3	20	50	70	3 hrs.
		Marketing & Merchandising Lab	1	2	10	20	30	4 hrs.
CC-B6 4 credit	B23-FAD-602	Crochet & Macrame Making	3	3	20	50	70	3 hrs.
		Crochet & Macrame Making Lab	1	2	10	20	30	4 hrs.
CC-C6 4 credit	B23-FAD-603	Dyeing & Printing	3	3	20	50	70	3 hrs.
		Dyeing & Printing Lab	1	2	10	20	30	4 hrs.
CC-M6 4 credit	B23-HSE-601	Family Dynamics and Counselling	3	3	20	50	70	3 hrs.
		Family Dynamics and Counselling Lab	1	2	10	20	30	4 hrs.
CC-M7(V) 4credit (2+2)		From available CC-M7(V) pool list of 4 credits as per NEP						

SEMESTER-7

BACHELOR OFFASHION & APPAREL DESIGNING (HONOURS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-FAD-701	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-FAD-702	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-FAD-703	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-FAD-704	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-FAD-705	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-FAD-706	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-FAD-707	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER-8

BACHELOR OF FASHION & APPAREL DESIGNING (HONOURS)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-FAD-801	Fabric Construction and Woven Fabric Analysis	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FAD-802	Textile Testing & Quality Control	4	4	30	70	100	3 hrs.
CC-H6 4 credit	B23-FAD-803	Apparel & Textile Designing	4	4	30	70	100	3 hrs.
DSE-H2 4 credit	B23-FAD-804	Fashion Retailing & Branding	4	4	30	70	100	3 hrs.
Select one option	B23-FAD-805	Social and Psychological Aspects of Clothing	4	4	30	70	100	3 hrs.
PC-H2 4 credit	B23-FAD-806	Textile Testing, Designing and Fashion Illustration	4	8	30	70	100	6 hrs.
CC-HM2 4 credit	B23-FAD-807	Entrepreneurship Management	4	4	30	70	100	3 hrs.

OR

SEMESTER-7

BACHELOR OFFASHION & APPAREL DESIGNING (HONOURS WITH RESEARCH)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H1 4 credit	B23-FAD-701	Historic Textiles and Costumes	4	4	30	70	100	3 hrs.
CC-H2 4 credit	B23-FAD-702	Advanced Apparel Construction	4	4	30	70	100	3 hrs.
CC-H3 4 credit	B23-FAD-703	Dyeing & Printing in Textiles	4	4	30	70	100	3 hrs.
DSE-H1 4 credit Select one option	B23-FAD-704	Textile chemistry	4	4	30	70	100	3 hrs.
	B23-FAD-705	Textile Industry in India	4	4	30	70	100	3 hrs.
PC-H1 4 credit	B23-FAD-706	Apparel Construction and Designing Techniques	4	8	30	70	100	6 hrs.
CC-HM1 4 credit	B23-FAD-707	Computer Application in Pattern Making	4	4	30	70	100	3 hrs.

SEMESTER-8

BACHELOR OF FASHION & APPAREL DESIGNING (HONOURS WITH RESEARCH)

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-H4 4 credit	B23-FAD-801	Fabric Construction and Woven Fabric Analysis	4	4	30	70	100	3 hrs.
CC-H5 4 credit	B23-FAD-802	Textile Testing & Quality Control	4	4	30	70	100	3 hrs.
Project/Dissertation 12 credit	B23-FAD-808	Project/Dissertation	8+4	-	-	300	300	-
CC-HM2 4 credit	B23-FAD-809	Entrepreneurship Management	4	4	30	70	100	3 hrs.

Semester 1

Session: 2023-24			
PartA - Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	I		
Name of the Course	Basics of Design and Illustration		
Course Code	B23-FAD-101		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various concepts of fashion illustration 2.To know the concept of colours and its importance 3.To acquire knowledge about principals of design 4.To impart knowledge about fashion figures 5*.To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5 Hrs
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks :50(TH) 20(P) =70		Time:3hrs(T) 4hrs(P)	
PartB-Contentsofthe Course			

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to art media and its applications – different art media like pencils, pencil colours, crayons, poster colours, erasers, acrylic rendering and shading skills • Design – definition and types. 	12
II	<ul style="list-style-type: none"> • Elements of art and design – line, form, shape, space, size, texture and colour. • Principles of design – harmony, proportion, balance, rhythm and emphasis. 	9
III	Colour, dimension of colour, hue, value, intensity, colour schemes- their importance and application. <ul style="list-style-type: none"> • Introduction and brief history of fashion illustrations. 	12
IV	<ul style="list-style-type: none"> • Fashion model drawing – basic human proportion, body figures and shapes and sketching postures • Optical illusions created through elements of art and principles of design. 	12
V*	<ul style="list-style-type: none"> • The basic drawing and rendering of equipment using pencils, crayons, poster colours, water colours, pencil colours • Figure Stylization – Illustrations – Basic croquis, division of the body to make the 8, 10 and 12 head croquis (front, side and ¾th profile) • Figure in motion- normal standing, walking, running and sitting • Figure drawing in S, T, X, Y poses. • Colour – Preparation of colour wheel, grey scales, colour schemes, tints and shades. • Creation of motifs using different forms and shapes. • Designing of following motifs and its types in different colour ways <ol style="list-style-type: none"> a. Geometrical b. Realistic c. Natural d. Stylized 	30

Semester 1

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	1		
Name of the Course	Basics of Sewing		
Course Code	B23-FAD-102		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B1		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (ifany)	12 th pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To make students get aware about basic sewing skills. 2. To impart knowledge about sewing , pressing . 3. To enhance creative skills. 4. To make sure students about sewing and constructing the garments. <p>5* To enhance students skills in sewing and impart knowlegde about various sewing projects</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(TH)10(P) =30 End Term Exam Marks:50(TH)20(P) =70		Time:3hrs (TH) 4hrs (P)	

PartB-Contentsofthe Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to Sewing, Sewing Equipments and their function. • Terminology: Stitches, Grain, Grainline, Off-grain, On-Grain, Bais, Seamallowances, Seams, Measuring Tools. • Sewing machine, its Parts and their Function. • Threading a machine. Common problems and methods to overcome. 	12
II	<ul style="list-style-type: none"> • Introduction to Industrial Sewing machine, its different types and their Function. • Temporary & Permanent Stitches - Temporary stitches: basting- even, uneven and diagonal. Permanent stitches: hemming, slip stitching, blanket, and fagoting. Making terminologies & symbols (notches, punch/circles,) Pattern information (grain, part, piece, cut symbols) seam allowance, fabric terms (grain, Bowing). • Explain Seams & Seam Finishes , type of seam finishes and their application 	12
III	<ul style="list-style-type: none"> • Define Fullness and its types - Darts, Tucks, Pleats, Gathers, Shirring, Ruffles and Godets • Yokes – Definitions, purpose with and without fullness, applications and construction. • Sleeves – definition, terms and types. 	12
IV	<ul style="list-style-type: none"> • Collars – definition, terms, types and styles. • Different types of Pockets. • Different types of Skirts. 	9

V*	<p>Sample Making of the following basic hand stitches:</p> <ul style="list-style-type: none"> ○ Temporary Stitches: Basting- Even & Uneven, Diagonal, Slip and Pin basting ○ Permanent: Running, Hemming, Backstitch, Whipping and Button hole <p>Machine Stitching:</p> <p>Seams: Topstitch seam, Counter, Lapped seam, Run n fell seam and French seam</p> <p>Finishes: Edge stitched, Overcast and Bound seam</p> <p>Facing(straight and bias) & Bindings</p> <p>Sample Making of the following :</p> <p>Pleats- Knife, Inverted, Accordion and Box pleats</p> <p>Darts- Half and Full dart</p> <p>Neck Lines- Round, Square, V Shape etc.</p> <p>Tucks- Pin, Cross</p> <p>Gathers- By Hand & Machine, elastic and bobbin elastic</p> <p>Placket-Continuous wrap placket, two piece placket, kurta placket, trouser fly and slit opening</p> <p>Pocket–Inseam pocket, Kurta pocket and Patch pocket</p> <p>Fasteners –Buttons & button hole, Shirt buttons- with and without shank, Press buttons, Hooks & eye and Zippers (close ended, open ended and concealed)</p>	30
SuggestedEvaluationMethods		
<p>InternalAssessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Cutting & Sewing Theory, GayathriVerma&Kapil Dev, Asian Publishers, 2015 2. Garment Technology for Fashion Designers, Gerry Conklin, Wiley-Blackwell, USA, 2012 3. Garment Manufacturing Technology, EIRI Board, Engineers India Research Institute 4. Donaghy Deshpande. Basic Process and Clothing construction. Raj Prakash an. 		

5. Colton. (1987). Complete Guide to Sewing by Readers Digest.
6. Readers Digest sewing Book.

*Applicable for courses having practical component.

Semester 1

Session: 2023-24	
PartA–Introduction	
Subject	Bachelor of Fashion & Apparel Designing
Semester	1
Name of the Course	Textile Science and Care
Course Code	B23-FAD-103
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (ifany)	12 TH
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To create awareness on textile science. 2. To impart knowledge about different types of textiles fibers natural and manmade fibers. 3. To enhance skills of the students in fiber identification. 4. To make students aware of fabric care. <hr style="width: 50%; margin-left: 0;"/> <p>5*.To enhance skills in lab by various experiments and</p>

	get deep knowledge of textiles.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(TH)10(P) =30 End Term Exam Marks:50(TH) 20(P) = 70		Time:3hrs(TH) 4hrs(P)	
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	Terminology- Fibre, Yarns, Linear Density, Strength, Crease recovery, abrasion resistance, drapability, tensile strength, static charge, thermal conductivity. Introduction to textile fibers, classification of fibers based on sources and origin, basic textile terminology. Properties of textile fibers.		12
II	Manufacturing process and properties of various natural cellulosic fibres- cotton & linen. Manufacturing process and properties of various natural protein fibers-wool & silk. Manufacturing process and properties of regenerated and modified cellulosic fibre. Rayon Acetate		12
III	Manufacturing process of man-made synthetic fibers:- Polyamide – Nylon 66, Nylon6 Polyester Acrylic Classification of yarns :- carded and combed yarns, woolen &		12

	worsted yarns, filaments and spun yarns. Yarn properties, linear density, size, twist in yarn, crimp yarn direction, strength & uniform.	
IV	Textile yarn:- Types and application, fancy yarns- Types & Uses. Physical Properties of Fabric- Strength, Abrasion Resistance, Crease Recovery, Stiffness, Drapability, Static Charge, Air Permeability, Water Repellency, Thickness, Shrink Resistance, Pilling Resistance. Methods of determining the physical properties and interpretation of test results.	9
V*	1. Fiber Identification: - Visual, Burning, Microscopic & Solubility test. 2. Fiber blend Analysis. 3. Identification of types of yarn. 4. Evaluation of thread count. 5. Evaluation of dimensional stability of fabric. 6. Evaluation of color fasteners to Washing, Ironing & Sunlight. 7. Evaluation of Crimp & Twist in yarn. 8. Remove of different stains from fabric surface. 9. Washing & finishing of Fabric made of cotton.	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 		End Term Examination: 50 20

• Mid-Term Exam:	
PartC-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <p>Vilensky “Textile Science” CBS publisher, New Delhi, 1999. Grosicki, Z: “Watson’s Textile Design and color” Blackwell Science, U.K.,1998. Mishra S.P., “A text book of fiber science and technology, New Age Intt., Delhi 2000. GoswamiB.c. “Textile Yarns”, Technology, structure and applications”, Mc graw Hill. Pizzoto’s J.J., “Fabric Science”, Fairchild publication, New York.</p>	

*Applicable for courses having practical component.

SEMESTER-1

Session: 2023-24	
PartA– Introduction	
Subject	Bachelor of Fashion & Apparel Designing
Semester	1
Name of the Course	Home and Interior Decor
Course Code	B23-HSE-101
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	12 TH

Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. To make students aware of needle work . 2. To get knowledge about different manual skills with needles. 3. To make students more efficient for doing intricate work manually. 4. To make aware of different types of needle craft all over the India. <hr/> 5*.To make students aware of needle work and get knowledge about different manual skills with needles		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	3 Hrs
Max. Marks:50 Internal Assessment Marks:15(TH) End Term Exam Marks:35(TH)		Time: 3hrs(T)	
PartB-Contentsofthe Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	Objectives of interior decoration, importance of elements of art in interior decoration. Types of design: structural and decorative and its application. Elements of art: line, form, texture, light, pattern, colour, space and its application in interior decoration		10

II	<p>Principles of design: Rhythm, balance, proportion, emphasis, harmony and its application in interior decoration</p> <p>Colour: Properties of colour, psychological effect of colour, color schemes and its application in the interior of a house.</p> <p>Lighting: a) Types and requirement for various activities b) Lighting fixtures in the home</p>	10
III	<p>Table setting and table manners: Informal and formal table settings (buffet style, Indian style restaurant style, Cafe style)</p> <p>Furniture: Types of furniture, furniture arrangement for different areas (bedroom, drawing room, dining room, kitchen and its types)</p> <p>Factors affecting the selection and purchase of furniture, care and maintenance of furniture.</p>	10
IV	<p>Flower arrangement:a) Different types of Flower arrangement b) Accessories used and points to be considered for flower arrangement c) Flower decoration for different occasions</p> <p>Furnishings: a) Soft Furnishing (curtains, cushions, pillow and material for upholstered furniture) b) Wall treatment and its types c) Window treatment and decoration d) Types of floor coverings</p>	10
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:00 ➤ Mid-Term Exam: 06 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 		<p>End Term Examination: 20</p> <p>15</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Seetharaman P.(2019), Interior Design And Decoration,India:CBS.
2. M.Pratap Rao (2020),Interior Design: Principles And Practice, India, Standard Publishers and Distributors Pvt Ltd
3. Frida Ramstedt (2020), The Interior Design Handbook: Furnish, Decorate, and Style Your Space,Clarkson Potter publishing.
4. Dr. Bhargava B. (2007), Principles of art,University Book House Pvt. Ltd.
5. Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.
6. Riley &Bayen., (2003), The Elements of Design, Mitchell Beazley.
7. Rutt Anna Hong (1961): Home furnishing,Wiley Eastern Pvt.Ltd.
8. Bhat Pranav and Goenka Shanita (1990): The foundation of art and Design, Bombay: Lakhani Book Depot.

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary

fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

Semester 2
Bachelor of Fashion & Apparel Designing

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	2		
Name of the Course	Concept of fashion		
Course Code	B23-FAD-201		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various concepts of fashion 2.To know the concept of origin of clothing 3.To equip with different fashion theories 4.To impart knowledge about fashion Psychology <hr/> 5*.to impart knowledge to students about the different styles of fashion		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T) +20(P) =70		Time:3hrs(T) 4hrs (P)	

PartB-Contentsofthe Course

Instructions for Paper- Setter :The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	<p>Fashion terminology/ Terms related to the fashion industry –fashion, style, fad, classic, boutique, trends, designer, silhouette, Hi- Fashion, Fashion/selling seasons and collection, chic Custom made , mannequin , fashion , show, trend, forecasting, high fashion, fashion cycle, haute couture, couture, couturier, fashion director, fashion editor, line, knock-off avantgarde, bridge, buying house, apparel, fashion merchandising, pre –a –porter, sample. Fashion origin and evolution. Fashion cycle and differentiation on the basis of length of fashion cycle.</p> <p>Types of fashion: haute couture, Prêt-a-porter and Mass Fashion.</p>	12
II	<p>Elements of design –line, shape or form, colour , size and texture. Application of structural and decorative design in a dress, selection and application of trimmings and decorations. Principles of design -balance –formal and informal, rhythm-through repetition, radiation and gradation, emphasis, harmony and proportion.</p> <p>Application of principles of design in a dress.</p> <p>Design-definition and types– structural and decorative design, requirements of a good structural and decorative design. Colour-definition, colour theories-prang colour chart, Dimensions of colour-hue, value, and intensity. Standard colour harmonies-application in dress design.</p> <p>Principles of fashion.</p>	12

III	<p>Levels of Fashion Acceptance-Fashion leader, fashion role model, fashion follower, Fashion victims.</p> <p>Fashion theories- trickle down, trickle across and bottom up theory.</p> <p>Factors affecting and influencing fashion</p>	12
IV	<p>Fashion Inspiration and categories / Fashion seasons and their duration</p> <p>International Fashion center's and Worldwide Popular Fashion designers</p> <p>Study of Indian designers – Tamil Nadu, Maharashtra, Rajasthan, Karnataka and Uttar Pradesh and International designers – France, Germany, U.S, United Kingdom and Italy (any one popular designer)</p>	9
V*	<p>* Illustrate</p> <ul style="list-style-type: none"> • outfit for a special occasion • outfit for different climate • long -term fashion style • short-term fashion style • clothing of any two eras • casual wear for women by using lines ,shapes ,and textures • using crayons and poster colour draw fashion cycle stages 	30

Suggested Evaluation Methods	
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	End Term Examination: 50 20
PartC-Learning Resources	
Recommended Books/e-resources/LMS: Reference Link: https://swayam.gov.in/ Learner support Material: NPTEL, Swayam (https://swayam.gov.in), E-library, E-books, online PDF material etc. Reference Books: <ol style="list-style-type: none"> 1. Kathryn Mikelvey, “Fashion source book”, Blackwed science, UK 2. Sharon Le Fate, “Inside Fashion Design”, Harper and Row Pub. NY. 3. Carter L, “The changing World of Fashion,” G.P. Panama’s Sons, NY 4. Second skin, “Horn MJ, 1981, 5. Study of clothing, “Houghm Mifflin Company, Bosien 6. Kafgen Mary, Individuality in clothing, Houghton Mifflin Company 7. Dynamics of fashion by Elaine stone 	

*Applicable for courses having practical component.

SEMESTER 2

Session: 2023-24	
PartA – Introduction	
Subject	B.SC Fashion & Apparel Designing
Semester	2
Name of the Course	Basics of Clothing Construction

Course Code	B23-FAD-202		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th Pass		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to: Understand the fundamentals of professional sewing and apparel construction techniques. Students learn basic cutting, sewing and finishing by hand and by machine		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+ 20(P)=70		Time:3hrs(T) 4hrs(P)	
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Principles of clothing:- Socio- Psychological aspects of clothing. <ul style="list-style-type: none"> • How dress affectsbehaviour • First impression • Fabric Preparation. • Handling special fabrics. <p>Suitability of different fabrics for different garments</p>		12
II	<ul style="list-style-type: none"> • Terminology related to skirts, trousers, collars, sleeves. • Clothing for different age groups. • Clothing for different occasions. 		12

III	<ul style="list-style-type: none"> • Fabric estimation and its importance. Principles of fitting, factors to be considered while fitting, common fitting problems, remedying fitting defects. • Flow chart of garment manufacturing. 	9
IV	ACCESSORIES:- Labels, Lining, interlining facing & interfacing, Wadding, Lace, Braid, elastic, hook and loop fastening , shoulder pads, eyelets and laces, zip fasteners, buttons .	12
V*	<p>Drafting of Basic Bodice Block and sloper making of:-</p> <ul style="list-style-type: none"> • Children - Front/Back <p>Yoks- Round, square, symmetrical and asymmetrical Collars- Peterpan, shawl, sailor, mandarin, cape collar, stand and fall.</p> <p>Construct Types of Sleeves and Sleeve Finishes</p> <ul style="list-style-type: none"> • Basic sleeve types, Half sleeve, Full sleeve, 3/4 sleeve <p>Set insleeves</p> <p>(i) Plain (ii) Puffsleeve (iii) Flaresleeve (iv) Cap sleeve</p> <p>Drafting and construction of Layette set :- Bib, Diaper, Panty, Bloomer, Jhabla</p>	30
Suggested Evaluation Methods		
<p>InternalAssessment:</p> <ul style="list-style-type: none"> • Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination</p> <p>50</p> <p>20</p>

PartC-Learning Resources

Recommended Books/e-resources/LMS:

Text books:

- Carp and Latham. The Technology of Clothing Manufacture.
- Greff and Strom. Concepts of Clothing.
- Thomas Anna Jacob: “The Art of Sewing”. New Delhi, USB Publisher Distributors Ltd.1994.
- Reader’s Digest “Complete Guide to Sewing”.1995.
- Cooklin Grey. Garment Technology for Fashion Designer, Blackwell Science, 1997
- Thomas Anna Jacob, “The art of sewing”, USB publishers New Delhi, 1994.
- Readers Digest sewing book.
- Verma G., cutting & tailoring theory", Asian publishers Delhi, 1999.
- CooklinG ,Garment Technology for Fashion Designers” Blackwell publishing ,1977

*Applicable for courses having practical component.

SEMESTER-2

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	2		
Name of the Course	Fabric Construction		
Course Code	B23-FAD-203		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C2		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	12 TH PASS		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be learnTo create awareness on conversion of yarns, and fibres, into a fabric having characteristics determined by the materials and methods employed. Most fabrics are presently produced by some method of interlacing, such as weaving or knitting		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+ 10(P)=30 End Term Exam Marks:50(T) + 20(P)=70	Time:3hrs (T) 4hrs(P)		
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics	Contact Hours	
I	* Terminology- Woven Fabric, Warp, Weft, Fabric Balance, Fabric Weight, Blended Fabric, Fabric Density, Selvedge & its types. *Different methods of Fabric Formation- Weaving, Knitting, Felting, Bonding, Lace-Making, Knotting. *Introduction to Weaving Preparatory- Winding, Wrapping, Sizing & Pirn Winding.	12	
II	*Introduction of Looms & its Parts *Basic Loom- <ul style="list-style-type: none"> • Parts of a simple looms & its Functions • Basic motion of Weaving *Different Types of Looms <ul style="list-style-type: none"> • Shuttle Loom • Shuttleless Loom (Rapier, Gripper, Multiphase, Air jet, Water jet) 	12	
III	*Preparation of yarns for weaving *Weaving- Plain Weave, Twill weave & Satin, influence of these weaves on fabric characteristics. *Plain Weave- Warp & Weft, Basket, Rib & their influence on fabric characteristics.	12	
IV	* Twill weave- Pointed, Herring Bone & Diamond Twill. Regular & Irregular Satin weaves and their application in Fabric. Fancy Decorative Weaves - Dobby, Jacquard, pile, Leno, Swivel & Double Weave. *Woven Fabric Defects- Float, Lashing in, Missing End, Selvedge Defects.	9	
V*	1. To Prepare the sample on the hand loom <ul style="list-style-type: none"> • Plain, Twill & Satin • Pile Cut 2. Prepare sample of Macrame Knots <ul style="list-style-type: none"> • Half Hitch Knot, Double Hitch Knot 	30	

	<ul style="list-style-type: none"> • Square Knot, Overhand Knot • Lark’s Head Knot, Reverse Lark’s head Knot <p>3. Preparation of a articles using above Techniques. 4. Visit to Textile Industry in India.</p>	
Suggested Evaluation Methods		
<p>InternalAssessment:</p> <ul style="list-style-type: none"> • Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
PartC-Learning Resources		
<ul style="list-style-type: none"> • Recommended Books/e-resources/LMS: Thomas Anna Jacob,“The art of sewing”,USB publisher New Delhi, 1994. • Readers Digest sewing book. • Verma G., “Cutting & tailoring theory”, Asian publishers Delhi, 1999. • Cooklin G, “Garment Technology for Fashion Designers”, Blackwell publishing, 1977. • Corbman,“Textile Fibre to Fabric”, Mc Graw Hill(1967). 		

*Applicable for courses having practical component.

SEMESTER-2

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	2		
Name of the Course	Nutrition Science		
Course Code	B23-HSE-201		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC – M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 TH PASS		
CourseLearningOutcomes(CLO):	After completing this course, the learner will be able to create awareness for fashion forecasting as the utilizing trend data, brands can improve their product ranges, understand their target market and stay ahead even in troubling times.		
Credits	Theory	Practical	Total
	2	0	2
Contact Hours	2	0	2
Max. Marks:50		Time:3hrs(T)	
Internal Assessment Marks:15(T)			
End Term Exam Marks: 35(T)			
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	To create awareness for fashion forecasting as theutilising trend data, brands can improve their product ranges, understand their target market and stay ahead even in troubling times.		6
II	Research Process in Forecasting o Primary Sources, Secondary Sources, Tertiary Sources,		6

	Tracking Sales, Competition, Demographics o Value and Lifestyle, Publication, Forecasting Services, Plethora Influences, Observation posts o New Technology, Fashion of involvement, New uses of Products, Old neighborhoods, Related Industries	
III	Fashion forecasting agencies o Forecasting Agencies & their functions o Seasons collection o Interpreting the forecast in to the theme o Color Forecasting, Direction of Fashion change	6
IV	Selection theme based forecasting o Consumer Research, Steps in Developing a Forecast, Research theme o Use keywords, Explain keywords, Work on Indian market (casual, formal, party, leisure) o Inspiration board, Mood board, Sales Forecasting o Seasonal trend analysis color, silhouettes and detailing, material and textures, print and graphics, accessories trend	6
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> • Theory <ul style="list-style-type: none"> • Class Participation: 04 • Seminar/presentation/assignment/quiz/class test etc.:0 • Mid-Term Exam: 06 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:05 • Mid-Term Exam: NA 		End Term Examination: 20 15
PartC-Learning Resources		
Recommended Books/e-resources/LMS: Brannon Evelyn L., “Fashion Forecasting”, Fairchild Books, New York, 3rd Edition, 2010 2. Perna Rita, “Fashion Forecasting”, Fairchild Books, New York, 1992 1. Raymond Martin, “The Trend Forecasters Handbook”, Laurence King, UK, 2010 2. Nirupama, Pundir, Fashion Technology-Today and Tommorow, Mittal publications, New Delhi, 2007		

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

Semester 3
Bachelor of Fashion & Apparel Designing

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	3		
Name of the Course	Indian Traditional Arts		
Course Code	B23-FAD-301		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th Pass		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. To Impart Knowledge About 2. Indian Traditional Arts 3. Indian Embroideries 4. Various Indian Traditional Textiles <hr style="width: 50%; margin-left: 0;"/> 5* To Impart Knowledge to Students About the Different Traditional Arts		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Study the following traditional arts of India:- Pattachitra, Warli Art, Tanjore Art, Gond Art, Mandala, Lippan Art	9
II	Introduction, stitches, motifs, base fabrics, thread, techniques and colour combination used in embroideries of following: <ul style="list-style-type: none">• Kutch Kathiawari and Sindhi of Gujrat• Phulkari of Punjab• Kantha of Bengal• Chikankari of Lucknow• Kasida of Kashmir• Kasuti of Karnatak	12
III	Traditional textiles: Importance and history of hand woven textiles. Brocades, Jamavar, Dacca muslin and Jamdani, Chanderi, Maheshwari, Kanjivaram, kotaDoria and Baluchari. Resist printed textiles: Bandhani, Patola, Ikat and Pochampalli. Block Printed :Dabu, Sanganeri, Ajrakh, Batik Painted textile: Kalamkari and Madhubani. Regional variations in symbolic motifs.	12
IV	Woven shawls of Kashmir, Himachal Pradesh and North Eastern States.	12

	Floor Coverings- Carpets and Durries Textile surface ornamentation by beads, applique and ribbon.	
V*	<p>Prepare samples of following:</p> <ul style="list-style-type: none"> ● Basic embroidery stitches. ◇ Kasuti of Karnatka ◇ Chikankari of Uttar Pradesh ◇ Kantha of Bengal ◇ Kashida of Kashmir ◇ Phulkari of Punjab. ◇ Kutch of Gujarat. ◇ Sindhi of Sind. ● Prepare 5 samples of Tie & Dye (Cotton & Silk). ● Block printing, Batik, Stencil, Screen & Fabric painting. <p>Prepare any two articles using any technique of surface ornamentation</p>	30
Suggested Evaluation Methods		
<p>InternalAssessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>

PartC-Learning Resources

Recommended Books/e-resources/LMS:

REFERENCES

- Pandit, S. 1976. Indian Embroidery: Its Variegated Charms. Baroda.
- Mehta, R.J. 1970. Masterpieces of Indian Textiles. Bombay, D.B. Taraporevala Sons and Co. Pvt.Ltd.
- Gillow. Indian Textiles.
- Lehri, R.M. Indian Embroideries.
- Ghosh. Ikat Textiles of India
- Shailza, D. Naik. Traditional Embroideries of India
 - SodhiaManmeet, "Dress Designing", Kalyani publishers, New Delhi.
 - Lynton Linda, " The Sari", Thames &Hadson.
 - Anand M.R., "Textiles & Embroideries of India " Marg Publication Bombay, 1965.
- NaikShailaja D, " TraditionalEmbroideries of India" APH Publisher Corporation, New Delhi, 1996.
- Chattopadhyay K, " Indian Embroidery", Wiley Eastern Ltd., New Delhi,

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24			
PartA – Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	3		
Name of the Course	Women Clothing- I		
Course Code	B23-FAD-302		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th Pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire Knowledge of Various Concepts of Fashion 2. To Know the Concept of origin of clothing 3. To equip with different fashion theories 4. To impart knowledge to the students and making them perfect in drafting and construction of various no article <hr/> <p>5* To impart knowledge to students about the different styles of women's clothes.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Body measurements: anthropometric measures and methods of taking proper body measurements for different garments. General principles of clothing construction Factors affecting clothing requirements	12
II	Selection of fabric for different garments according to different figure type Handling of special fabrics such as plaid, checks, stripes denims etc. Types of fitting problems, factors to be considered while identifying fitting problems .	12
III	Clothing of women for different occasions Importance of scarves in women clothing Importance of accessories in women clothing	9
IV	Planning assembly of women's wear; assessing quality at various stages of garment assembly Classification of women's wear Brands in women's wear	12
V*	Drafting of basics skirt block Preparation of different types of skirt: A- line skirt Circular skirt Gored skirt Drafting and construction of petticoat Drafting and construction of simple kameez Drafting and construction of any type of salwar Drafting and construction of simpleplazo/ sharara	30

Suggested Evaluation Methods	
<p>Internal Assessment:</p> <ul style="list-style-type: none"> • Theory • Class Participation:05 • Seminar/presentation/assignment/quick class test etc.;05 • Mid-Term Exam:10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ DERNONSTRATION Viva-voce Lab records etc.:10 	<p>End Examination: 50</p> <p>20</p>
<ul style="list-style-type: none"> • Mid-Term Exam:NA 	
PartC-Learning Resources	
<p>Recommended Books/e-resources/LMS':</p> <p>Reference Link: https://swayam.gov.in/ Learner support Material: NP'IVL Swayam (https://swayarn.gov.in), E-library, E-books, online PDF material etc.</p> <p>Reference Books :</p> <ol style="list-style-type: none"> 1. Carr and lather- The of clothing manufacture 2. gains s and Singer sewing machine 3. Gioello and break. Figure types and size ranges 4. Aldrich Winifred. Matric pattern cutting 011 book service 1997. Ko 5. Armstrong Il pattern making for fashion design. Longman 2tng 6. Bray Natalia. More drø's pattern designing lackwell scenes2001 7. Apparelonline.com in 	

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	3		
Name of the Course	Apparel Production Techniques		
Course Code	B23-FAD-303		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th Pass		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. To create an awareness about the types of garment machine available in the industry 2 To develop an understanding about the selection of the right machine for production of the required garment. 3. To expose the students to the latest practices and technological world of garment production		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	<p>Apparel production process</p> <ul style="list-style-type: none"> ○ Pattern, Grading and Marker making ○ Spreading ○ Cutting ○ Ticketing ○ Sewing ○ Finishing ○ Quality checking 	12
II	<p>Spreading and Cutting operations, machines and their functions</p> <p>Marker planning: drawing & reproduction of the marker</p> <p>Spreading of the fabric to form a lay</p> <p>Cutting of the fabric</p> <p>Sorting, numbering, ticketing, bundling</p>	12
III	<p>Stitching operations with its specialized machines</p> <p>Components of sewing: needle, throat plate, feed dog and threads etc</p> <p>Seam types: classification</p> <p>Stitch types: classification</p> <p>Sewing machine needles and threads</p> <p>Sewing machines: single lock machines, buttonhole & buttoning machine, bar tacking</p>	9
IV	<p>Finishing & Packaging</p> <p>Importance of Pressing</p> <p>Equipments for pressing</p> <p>Fusing Machinery & Requirements of Fusing</p> <p>Packaging Shipping & Merchandising Packaging</p> <p>Packaging Tags & Fasteners</p> <p>Garment Finishing and Inspection</p> <p>Attaching Buttons: Marking & Sewing</p> <p>Labels</p>	12

	Cleaning Final Touches	
V*	<ul style="list-style-type: none"> ❖ Body Ideals, Infants, Children, Man, Woman, (Standard Measurement) ❖ Preparing Basics Blocks, Front Back, Sleeve, Skirt, Trouser, for Woman. ❖ Developing draft for men’s garments, men’s shirt, Trouser ❖ Introduction to grading drafting and grading of basic block ❖ Development of variation in sleeves and bodies combination (at least 5) ❖ Procedure for grading block to various sizes children – bodies block sleeves, skirts, trouser, ❖ Make samples of fasteners, placket, center button closing, asymmetrical closing 	30
Suggested Evaluation Methods		
Internal Assessment:	<ul style="list-style-type: none"> • Theory • Class Participation:05 • Seminar/presentation/assignment/quick class test etc.,;05 • Mid-Term Exam:10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ Demonstration viva-voce lab records etc.:10 	End Examination: 50
• Mid-Term Exam:NA		20
PartC-Learning Resources		

Recommended Books/e-resources/LMS':

REFERENCES:

1. Bheda, R. Managing Productivity in the Apparel Industry. New Delhi: CBS publishers and Distributers 2003.
2. Cooklin G., Garment for Fashion Designers. United Kingdom: Blackwell Publishing Limited 1997.
3. Cooklin G., Introduction to Clothing Manufacture. United Kingdom: Blackwell Publishing Limited. (Second Edition) 2006.
4. Giocello, D.A. and B. Prerke Fashion Production Terms. New York Fairchild Publication 2004.
5. Solinger, J.. Apparel Manufacturing Analysis. New York: Textile Book Publishers Inc. 1961
6. Care, H. and B.Latham, The Technology of clothing Manufacture United Kingdom: Blackwell Science Limited 2004.

*Applicable for courses having practical component.

SEMESTER-3

Session: 2023-24

PartA– Introduction

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	3		
Name of the Course	BRANDING AND SALES PROMOTION		
Course Code	B23-FAD-304		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th Pass		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ul style="list-style-type: none">• To impart knowledge regarding branding process.• To know about various brands and brand management.• To learn various fashion promotional techniques		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(TH) 10(P)=30 End Term Exam Marks:50(TH) 20(P)=70		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<p>Branding:</p> <ul style="list-style-type: none"> ○ Meaning, definition and importance of branding in fashion industry ○ Fashion branding(FAQ) ○ Creating content for fashion brand. ○ Building a brand (step by step guide) 	12
II	<p>Brand Management:</p> <ul style="list-style-type: none"> ● Steps and technique; ● Rules of Branding ● Benefits of building a strong Brand ● Pillars of Branding 	12
III	<p>Sales Promotion:</p> <ul style="list-style-type: none"> ○ Definition and importance of Sales Promotion ○ Various Sale promotion techniques and methods ○ Components of sales promotion ○ Factors affecting and retarding sales promotion 	9
IV	<p>Goals of sales promotion:</p> <ul style="list-style-type: none"> ● Marketing and Branding together ● Various government policies of branding <p>Role of branding in promoting sales</p>	12

V*	<ul style="list-style-type: none"> ❖ Window Display for a specific store and boutique according to different occasions and seasons ❖ Sourcing of fabrics, fasteners, and trims ❖ Survey on famous brands available in Market ❖ Layout Design and illustration for different kinds of store display. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> • Theory • Class Participation:05 • Seminar/presentation/assignment/quick class test etc.; 05 • Mid-Term Exam:10 • Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/ Demonstration viva-voce lab records etc.:10 		End Examination: 50 20
<ul style="list-style-type: none"> • Mid-Term Exam:NA 		
PartC-Learning Resources		
Recommended Books/e-resources/LMS': REFERENCES: <ul style="list-style-type: none"> • Fashion promotion: Building a brand through marketing and communication (by Gwyneth moore) • Marketing fashion (by Harriet posner) • Fashion brands (by Mark Tungate) • Fashion branding and communication edited by ByounghoJin and Elena • Luxury fashion branding (by Uche Okonkwo) • Fashion branding Unraveled (by Kaled K. Hameide) 		

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students.

Semester 4

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	4		
Name of the Course	Textile Chemistry		
Course Code	B23-FAD-401		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A4		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of various kinds of textile chemicals and their uses 2.To know the concept of textile chemistry 3.To acquire knowledge about principals of desig 4.To impart knowledge about fashion figures <hr/> 5*. To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total
	3	1	4

Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)10(P)=30 End Term Exam Marks:50(TH)20(p)=70		Time:3hrs(T) 4hrs(P)	
PartB-Contentsofthe Course			
<u>Instructions for Paper- Setter</u>			
Unit	Topics	Contact Hours	
I	<ul style="list-style-type: none"> ● Introduction to textile fibers, classification of fibers based on sources and origin, basic textile terminology. ● Primary and secondary properties of various fibers. ● Sequence of operations & purposes of short/long staple yarn manufacturing ● process, introduction & objectives of opening & cleaning, carding, combing, drawing, ● roving and spinning. 	12	
II	<ul style="list-style-type: none"> ● Different methods and types of spinning. ● Introduction, Manufacturing & Properties of different natural and man-made fibers: - ● Cotton, Wool, silk, rayon, acetate and triacetate, polyamide (Nylon-6, nylon- 6.6) ● acrylics, modacrylic, elastomeric fibre. 	9	
III	<ul style="list-style-type: none"> ● <input type="checkbox"/> Classification of Yarns: Carded and Combed yarns, woolen & worsted yarns, ● filament and spun yarns. ● <input type="checkbox"/> Yarn Properties – linear density, size, twist in yarn, crimp twist direction, strength ● and uniformity. ● <input type="checkbox"/> Textured yarns – type 	12	
IV	<p>Textured yarns – types and application, Fancy Yarns – types and uses.</p> <ul style="list-style-type: none"> ● <input type="checkbox"/> Physical properties of Fabric – strength, abrasion resistance, crease recovery, ● stiffness, drapability, static charge, thermal conductivity, air permeability, water ● repellency, thickness, shrink resistance, pilling resistance. ● <input type="checkbox"/> Methods of determining the physical properties and 	12	

	interpretation of test results	
V*	<input type="checkbox"/> <input type="checkbox"/> Fiber identification – visual, burning, microscopic and solubility test. <input type="checkbox"/> <input type="checkbox"/> Fibre blends analysis. <input type="checkbox"/> <input type="checkbox"/> Measurement and interpretation of yarn count, direct and indirect yarn. <input type="checkbox"/> <input type="checkbox"/> Identification of type of yarn. <input type="checkbox"/> <input type="checkbox"/> Evaluation of thread count and dimensional stability of fabric. <input type="checkbox"/> <input type="checkbox"/> Evaluation of color fastness to washing and ironing. <input type="checkbox"/> <input type="checkbox"/> Evaluation of crimp and twist in yarn.	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: Na 		End Term Examination: 50 20
PartC-Learning Resources		
Recommended Books/e-resources/LMS: <input type="checkbox"/> <input type="checkbox"/> Vilensky. "Textile Science", CBS publisher, New Delhi, 1999. <input type="checkbox"/> <input type="checkbox"/> Grosicki, Z. "Watson's Textile Design and Color" Blackwell Science, U.K., 1998. <input type="checkbox"/> <input type="checkbox"/> Mishra, S.P. "A textbook of fiber science and technology, New Age Intt., Delhi 2000. <input type="checkbox"/> <input type="checkbox"/> Goswami, B.C. "Textile Yarns", Technology, structure, and applications", Mc graw Hill. <input type="checkbox"/> <input type="checkbox"/> Pizzoto's J.J. "Fabric Science", Fairchild Publication, New York.		

*Applicable for courses having practical component.

SEMESTER-4

Session: 2023-24

Part A–Introduction

Subject	Bachelor of Fashion & Apparel Designing		
Semester	4		
Name of the Course	Women Clothing II		
Course Code	B23-FAD-402		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-B4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 TH		
Course Learning Outcomes (CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> To impart knowledge about terminology related to women clothing. To enhance skills in drafting and construction To get students aware of clothing for special needs <hr/> <ol style="list-style-type: none"> 5*. To make them capable of doing drafting, constructing of women clothing 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T), 20(P)=70		Time:3hrs 4hrs	

PartB-Contentsofthe Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well

Unit	Topics	Contact Hours
I	Terminology used in Drafting & Pattern Making Flat Pattern Making, Template Working Patterns, Production Patterns, Design Specification Sheet, Pattern Chart, Cost-Sheet, Grain, Dart, Dart legs, Dart intake, Vertical Lines, Horizontal Lines, Symmetric and Asymmetric Lines, Style Number, Pattern Size. A Study of Tools & Equipments Measuring Tools Marking Tools Cutting Tools	12
II	Developing paper patterns: a) Understanding the commercial paper pattern. b) Layout on different fabrics, widths & types.	12
III	Fitting – factors affecting good fit, common problems encountered and remedies for fitting defects (upper and lower garments) Clothing for people with special needs. a) Maternity and lactation period b) Old age	9
IV	<ul style="list-style-type: none"> ● A study of Anthropometric List of Measurements Taking Body Measurement Standard Size Chart ● Pattern Development: Drafting, Flat Patterns, Slash and Spread and Pivot Methods ● Fabric Estimations and its importance ● Fitting: Good Fitting, Fitting Problems and their solution. ● Basics of Commercial Paper Pattern Pattern Envelop 	12

SEMESTER-4

Session: 2023-24			
PartA– Introduction			
Subject	Bachelor of Fashion & Apparel Designing		
Semester	4		
Name of the Course	Apparel Production- Draping and Grading		
Course Code	B23-FAD-403		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-C4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (ifany)	12 th pass		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1.To acquire knowledge of techniques of draping of fabrics 2.To know the design and construct garments using the principles of draping. 3.To acquire knowledge about grading 4. To know the method of garment construction according Industrial level_____		
	5*. To impart students knowledge about sketching and designing on sheet		
Credits	Theory	Practical	Total

	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:50 (TH), 20 (P)=70		Time:3hrs(T) 4hrs(P)	
Part B-Contents of the Course			
<u>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</u>			
<u>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well</u>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> ● Fitting - Introduction, principles of fitting, types of garments fit, standards for a good fit, fitting, body scanner. ● Pattern alteration techniques - Introduction, methods of alteration technique, importance. Pivot, slash and spread method (length, width, front, back, sleeve, shirt, skirt, trousers) 		12
II	<ul style="list-style-type: none"> ● Introduction to pattern development, manual and computerized pattern development, marker making Introduction, mini marker, marker plan development and marker efficiency. ● Pattern layout - Definitions, principles, types of layouts, importance of pattern layout. ● Fabric estimation - Definition, types of estimation, importance of fabric estimation. 		12
III	<ul style="list-style-type: none"> ● Draping: - definition, terminology, principles of draping, preparation and uses, measurement and tools used in draping. ● Basic Draping techniques: - front & back bodice, front & back skirt. ● Dart location and manipulation. 		12
IV	<ul style="list-style-type: none"> ● Grading - Introduction, definition, grading terminologies, principles, types, sizes, grade rules and points, manual and computerized grading, importance, advantages, and disadvantages. 		9

V*	<p>Draping: - definition, terminology, principles of draping, preparation and uses, measurement and tools used in draping.</p> <ul style="list-style-type: none"> · Basic Draping techniques: - front & back bodice, front & back skirt. · Dart location and manipulation. · Designing the garment using the following construction features: - <ol style="list-style-type: none"> 1. Gathers. 2. Pleats. 3. Cowl & fancy necklines. 4. Collars. · Designing and construction of following garments using different construction and decorative features: - <ol style="list-style-type: none"> 1. Shirt/ Top (female / male) 2. Skirt. 3. Gown. · Preparation of one dress using draping techniques 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Fashion Illustration, Anna Kiper, David & Charles Book, 2011 2. Fashion Illustration Children, Patric, John Ireland, BT Bastford Ltd, 2005 3. New Fashion Illustration (New Illustration Series) English, Paperback, Martin Dawber 2006 4. Bina Ablng. Fashion Sketch Book. Fairchild Publications.1994. 5. Druid Elisabeth and Pace Tiziana. Figure Drawing for Fashion Design. Peplin Press.2004 6. Ireland Patrick John. Fashion Design Drawing and Presentation. Batsford. 2005. 		

7. MckelvyKathrynanadMunslow Janine. Illustrating Fashion, Blackwell Publishing. 2004.
8. Ray Smith. Drawing Figures. Dorling Kindersley. 1994

*Applicable for courses having practical component.

ANNEXURE-I

Levels of Courses

Levels of Courses: Courses shall be coded based on the learning outcomes, level of difficulty, and academic rigor. The coding structure is as follows:

0-99: Pre-requisite courses required to undertake an introductory course which will be a pass or fail course with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

100-199: Foundation or introductory courses that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher level coursework.

200-299: Intermediate-level courses including subject-specific courses intended to meet the credit requirements for minor or major areas of learning. These courses can be part of a major and can be pre-requisite courses for advanced-level major courses.

300-399: Higher-level courses which are required for majoring in a disciplinary/interdisciplinary area of study for the award of a degree.

400-499: Advanced courses which would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship projects at the undergraduate level or First year Postgraduate theoretical and practical courses.

500-599: Courses at first-year Master's degree level for a 2-year Master's degree Programme

600-699: Courses for second-year of 2-year Master's or 1-year Master's degree programme

700 -799 & above: Courses limited to doctoral students

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KURUKSHETRA UNIVERSITY
KURUKSHETRA



Scheme of Examinations and Syllabus

for

Under-Graduate Programme

Bachelor of Interior Design

Interdisciplinary Scheme - D

Under Multiple Entry-Exit, Internship and CBCS-LOCF in
Accordance to NEP-2020

w.e.f. 2023-24 (In Phased Manner)

Department of Home Science

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examinations and Syllabus for Under-Graduate Programme
Under Multiple Entry-Exit, Internship and CBCS-LOCF in Accordance to NEP-2020
W.E.F. 2023-24 (In Phased Manner)
Bachelor of Interior Design

SEMESTER 1								
Course	Paper(s)	Nomenclature of Paper	Credits	Hours/ week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A1 @ 4 Credit	B23-IDS-101	Interior Design (Principles)-1	3	3	20	50	100	3 Hours
		Interior Design (Principles)-1 –Lab	1	2	10	20		4 Hours
CC-B1 @ 4 Credit	B23-IDS-102	Materials and construction Details-1	3	3	20	50	100	3 Hours
		Materials and construction Details-1-Lab	1	2	10	20		4 Hours
CC-C1 @ 4 Credit	B23-IDS-103	Drawing Techniques & Graphics	3	3	20	50	100	3 Hours
		Drawing Techniques &Graphics-Lab	1	2	10	20		4 Hours
CC-M1 @2 Credit	B23-IDS-104	Art & Drawing	1	1	10	20	50	3 Hours
		Art & Drawing – Practical	1	2	5	15		4 Hours
MDC-1 @ 3 Credit		From the Courses offered by D/C/I						
AEC-1 @ 2 Credit		From available AEC-1 pool list of two credits as per NEP						
SEC-1 @ 3 Credit		From available SEC-1 pool list of three credits as per NEP						
VAC-1 @ 2 Credit		From available VAC-1 pool list of two credits as per NEP						

SEMESTER 2								
Course	Paper(s)	Nomenclature of paper	Credits	Hours/week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A2 @ 4 Credit	B23-IDS-201	Interior Design-II	3	3	20	50	100	3 Hours
		Interior Design-II – Lab	1	2	10	20		4 Hours
CC-B2 @ 4 Credit	B23-IDS-202	Materials and construction Details –II	3	3	20	50	100	3 Hours
		Materials and construction Details -II – Lab	1	2	10	20		4 Hours
CC-C2 @ 4 Credit	B23-IDS-203	Furniture Design Workshop	3	3	20	50	100	3 Hours
		Furniture Design Workshop -Lab	1	2	10	20		4 Hours
CC-M2 @ 2 Credit	B23-IDS-204	Advanced Graphics	1	1	10	20	50	3 Hours
		Advanced Graphics Practical	1	2	5	15		4 Hours
MDC-2 @ 3Credit		From the Courses offered by D/C/I						
AEC- 2 @ 2 Credit		From available AEC-2 pool list of two credits as per NEP						
SEC- 2 @ 3 Credit		From available SEC-2 pool list of three credits as per NEP						
VAC- 2 @ 2 Credit		From available VAC-2 pool list of two credits as per NEP						

Internship of 4 credits of 4-6 weeks' duration after 2 semester

SEMESTER 3

Course	Paper(s)	Nomenclature of paper	Credits	Hours/week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A3 @ 4 Credit	B23-IDS-301	Interior Design— III	3	3	20	50	100	3 Hours
		Interior Design— III Lab	1	2	10	20		4 Hours
CC-B3 @ 4 Credit	B23-IDS-302	Materials and construction Details –III	3	3	20	50	100	3 Hours
		Materials and construction Details –III-Lab	1	2	10	20		4 Hours
CC-C3 @ 4 Credit	B23-IDS-303	Building Services- I (Water Supply & Sanitation)	3	3	20	50	100	3 Hours
		Building Services - I (Water Supply & Sanitation) Lab	1	2	10	20		4 Hours
CC-M3 @4 Credit	B23-IDS-304	Sculpture Making	3	3	20	50	100	3 Hours
		Sculpture Making Practical	1	2	10	20		4 Hours
MDC-3 @ 3 Credits		From the Courses offered by D/C/I						
AEC-3 @ 2 Credit		From available AEC-3 pool list of two credits as per NEP						
SEC-3 @ 3 Credit		From available SEC-3 pool list of three credits as per NEP						

SEMESTER 4

Course	Paper(s)	Nomenclature of paper	Credits	Hours/week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A4 @4 Credit	B23-IDS-401	Interior Design-IV	3	3	20	50	100	3 Hours
		Interior Design-IV Lab	1	2	10	20		4 Hours
CC-B4 @ 4 Credit	B23-IDS-402	Materials and construction Details –IV	3	3	20	50	100	3 Hours
		Materials and construction Details –IV Lab	1	2	10	20		4 Hours
CC-C4 @ 4 Credit	B23-IDS-403	Building Services- II (Electrical Systems & Lighting)	3	3	20	50	100	3 Hours
		Building Services- II (Electrical Systems & Lighting) – Lab	1	2	10	20		4 Hours
CC-M4 (V) @4 Credit		From available CC-M4 (V) pool list of four credits as per NEP						
AEC-4 @ 2 Credit		From available AEC-4 pool list of two credits as per NEP						
VAC-3 @ 2 Credit		From available VAC-3 pool list of two credits as per NEP						

Internship of 4 credits of 4-6 weeks' duration after 4th semester (If not done in 2nd Semester)

SEMESTER 5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/ week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A5 @4 Credit	B23-IDS-501	Interior Design – V	3	3	20	50	100	3 Hours
		Interior Design – V Lab	1	2	10	20		4 Hours
CC-B5 @ 4 Credit	B23-IDS-502	Materials and construction Details –V	3	3	20	50	100	3 Hours
		Materials and construction Details –V Lab	1	2	10	20		4 Hours
CC-C5 @ 4 Credit	B23-IDS-503	Building services- III (HVAC, Fire Safety & Security Systems)	3	3	20	50	100	3 Hours
		Building services- III (HVAC, Fire Safety & Security Systems) Lab	1	2	10	20		4 Hours
CC-M5 (V) @4 Credit	B23-IDS-504	From available CC-M5 (V) pool list of four credits as per NEP						
Skill Enhancement Course		Internship # 4 credits						

Four credits of internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of the students who pursue 3 year UG Programme without taking exit option.

SEMESTER 6

Course	Paper(s)	Nomenclature of paper	Credits	Hours/week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A6 @4 Credit	B23-IDS-601	Interior Design - VI	3	3	20	50	100	3 Hours
		Interior Design– VI Lab	1	2	10	20		4 Hours
CC-B6 @ 4 Credit	B23-IDS-602	Interior Project Management	3	3	20	50	100	3 Hours
		Interior Project Management Lab	1	2	10	20		4 Hours
CC-C6 @ 4 Credit	B23-IDS-603	Professional Practice	3	3	20	50	100	3 Hours
		Professional Practice Lab	1	2	10	20		4 Hours
CC-M6 @4 Credit	B23-IDS-604	Computer Applications	3	3	20	50	100	3 Hours
		Computer Applications Practical	1	2	10	20		4 Hours
CC-M7(V) @4 Credit	From available CC-M7(V) pool list of four credits as per NEP							

SEMESTER 1

Session: 2023-24

Part A - Introduction

Session: 2023-24			
Part A - Introduction			
Subject	INTERIOR DESIGN-I (PRINCIPLES)		
Semester	I		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	The objective of the course is to provide a clear understanding about the basic design elements and principles to be followed while designing any space using different standards, materials and technologies. It enables the students to understand the visual composition in an interior space with color schemes, textures, light, shadow etc. Introduction to human dimensions, functions, space – activities, space standards, relationships of a simple single living unit to understand the minimum space requirement by individual to perform various activities.		
Credit	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks : 20(T) + 10(P) = 30 End Term Exam Marks : 50(TH) + 20(P) = 70		Time : 3hrs(T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set eight questions in all, selecting two questions from each unit.

Instructions for the candidate: The candidate will have to attempt five questions in all, selecting atleast one question from each unit.

t	Topics	Contact Hours
I	<p>Principles of visual composition</p> <p>Symmetry, Asymmetry, Repetition, Rhythm, Background, Foreground, Sense of Direction, Harmony, Balance and Proportion.</p>	10
II	<p>Elements of visual composition</p> <p>Dots, Lines, Planes, Patterns, Shapes, Colors, Textures, Levels, Light, and Fenestration, Exploring color schemes, Textures and Texture schemes.</p>	11
III	<p>Anthropometrics Study</p> <p>Human dimensions anthropometry in various postures (in applied form), their relation to everyday utilities like the table, chair, bed, sink etc . To make measured drawing of a bedroom with anthropometrical reference.</p>	11
IV	<p>Design Exercise</p> <p>Design of Anthropometrics Cell with minimum space requirements of single unit for a single person and study the interior spaces by making 3-D views (axonometric and isometric). This exercise will include areas like living area, sleeping area, washroom, cooking area with furniture layout in 2-D drawings including elevations covering an area of 25-50 sqm. Using various principles of design, textures and color schemes.</p>	10
V*	<ul style="list-style-type: none"> • Practice making 2 dimensional compositions on paper using different mediums and physical models using different materials. • Application of elements/principles of visual composition. 	28
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Drawing a Creative Process, Francis D.K. Ching
- Design Drawing + CD, Francis D.K. Ching
- Architecture Graphics, Francis D.K. Ching 4th Edition
- Interior design & space planning, Dechiara Pabero Zelnik
- Interior design illustrated, Francis D.K. Ching
- Home Plumbing (The David & Charles Manual of), Ernest Hall
- House Book (The Complete Guide to Home Design), Terence Conran
- Illustration + Perspectives (In Pantone Colors), Eiji Mitooka
- Architectural Graphic standards editor, Boaz Joseph
- Neufert's Architect's data
- Time Saver standards for building types, Joseph D.C. and John Callender.
- Kitchen & Bath, Montse Zapata
- Bed room, Lestey Taylor
- The Curtain Book, Mitchll Beazlty
- Interior Design Visual, Maureen Mitton 2nd Edition
- 100 Bright Ideas For color, Sue Rose

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	MATERIALS & CONSTRUCTION DETAILS - I		
Semester	I		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	The objective of this course is to make the students understand of all the available materials, which are used in designing the various different interior spaces. It gives a fair knowledge of different furnishings and finishes used for all the interior surfaces of the space.		
Credit	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks : 20(T) + 10(P) = 30 End Term Exam Marks : 50(TH) + 20(P) = 70		Time : 3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set six questions in all, selecting three questions from each unit.</p> <p><u>Instructions for the candidate:</u> The candidate will have to attempt four questions in all, selecting atleast two questions from each unit.</p>			

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Timber, cane, bamboo – characteristics of good timber, defects, applications of timber finishes in timber. • Wood – Plywood, block boards, particle board, medium density fibre etc. – their properties, process of manufacture, tools and technology of its application and quality assessment, finishes to reconstituted wood, - lamination, polishing etc. 	9
II	<ul style="list-style-type: none"> • Masonry – Mud; bricks; building tiles - roof, floor and wall tiles; stones; clay; lime, sand, mortars, cement and aggregate; concrete; gypsum based plaster etc. 	11
III	<ul style="list-style-type: none"> • Paints– Protective coating paints. Types of paints, Composition, functions, preparation and application method, painting on different surfaces, defects in painting etc. • Varnishes (Oil and spirit) – Various types and methods of application. 	11
IV	<ul style="list-style-type: none"> • Insulation Materials – Various insulating materials, their properties and applications. Surface finishes for wood products and derivatives etc. Coatings – clear and pigmented finishes technical or protective coatings etc. 	9
V*	<ul style="list-style-type: none"> • Execute a market survey of different materials in terms of furnishes and finishes (Flooring material/finishes, wall material/finishes, roofing material /finishes). • Formulate a case study of an existing house to study its interiors along with furnishes and finishes used in it. 	30
Suggested Evaluation Methods		

Session: 2023-24			
Part A - Introduction			
Subject	DRAWING TECHNIQUES & GRAPHICS-I		
Semester	I		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC	CC-C1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To familiarize the students with basic knowledge of good drafting and lettering techniques and visualizing geometrical forms through plans sections & elevations.		
Credit	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks : 20(T) + 10(P) = 30 End Term Exam Marks : 50(TH) + 20(P) = 70		Time : 3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.</p> <p><u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.</p>			

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Line, lettering and Dimensioning • Drafting techniques, principles of good drafting. • Scales & its use in the Architectural drawing. • Representation of material and Architectural Elements through Graphic Symbols 	10
II	<ul style="list-style-type: none"> • Projections of point, lines, planes & development of surfaces and Solids in various positions. • Principles of projection, methods of orthographic projection study of Architectural Plans, Elevation and Section 	10
III	<ul style="list-style-type: none"> • Pictorial View: Oblique, Isometric, Axonometric views of solid composition & buildings • Definitions of perspective (picture plane, stationery point etc.) 	10
IV	<ul style="list-style-type: none"> • Perspective: - Normal Eye view & Birds eye view. • One point & Two point perspective of building forms.(Exterior only) • Perspectives having more than 2 vanishing points. 	10
V*	<ul style="list-style-type: none"> • Visualize geometric forms in daily life and present them in the form of drawings/ sketches/ photographs. • 3D Composition using solid shapes with suitable material of student's choice. 	30
Suggested Evaluation Methods		

Session: 2023-24			
Part A - Introduction			
Subject	ART & DRAWING		
Semester	I		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To familiarize the students with different mediums like pencil, charcoal, crayons, pastel, water colours, pen and ink, poster colour etc.		
Credit	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3 Hrs.
Max. Marks: 50 Internal Assessment Marks : 10(T) + 5(P) = 15 End Term Exam Marks : 20(TH) + 15(P) =35		Time : 3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Introduction of drawing equipment's, materials and methods of using them. ● Scale & its application for drawing geometric shapes ● Lettering different styles ● Free-hand sketching: 200 (submit at the final submission) 	7
II	<ul style="list-style-type: none"> ● Exercise to develop the free hand skills of drawing lines, circles, cubes etc. ● Different strokes in pencil by using different grades, Tonal values, different textures etc. 	6
III	<ul style="list-style-type: none"> ● Indoor and outdoor sketching, Shading & rendering - Using furniture, human being, vehicles, animals, birds, trees (natural & manmade objects) etc. 	8
IV	<ul style="list-style-type: none"> ● Develop the ability to draw and colour with different mediums -Still live, landscape, interior etc. with (natural & manmade objects). 	7
V*	<ul style="list-style-type: none"> ● Making compositions on paper using different mediums 	28
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:00 ● Mid-Term Exam: 06 > Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: NA 		End Term Examination: 20 15
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- A History Of Fine Arts in India & the West,Edith Tomory
- Interior Design & space Planning, DechiriaPabero Zelnik
- Interior Design Illustrate,Francis D.K. Ching
- Islamic Architecture in Interior, Satish Grover
- History of art by janson H.W., published by Newyork, 1978.
- A history of fine arts in India and the west orient by Tomory Edith, Published by Longman, 1995
- The Best Interior India,Anuradha Mahindra
- Indian Interior AngelikaTaschen
- Sir Fletcher B. A history of Architecture

SEMESTER 2

Session: 2023-24			
Part A - Introduction			
Subject	INTERIOR DESIGN-II		
Semester	II		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>The objective of the course is to provide a clear understanding about the design procedures and techniques of interior design of spaces with different activities and uses, using different standards, materials and technologies. It enables the students to understand the visual design in an interior space with color schemes, textures, light, shadow etc. The exercise to be executed in this course enable the students to design the space interiors for a two storey building with the required services, infrastructure, furniture layout, circulation, open-built and exterior-interior relationship in and around the plot boundaries.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter:The examiner will set eight questions in all, selecting two questions from each unit.

Instructions for the candidate: The candidate will have to attempt five questions in all, selecting atleast one question from each unit.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> Introduction to design problem with the methodology to proceed with the concept, Case studies and data collection through primary and secondary sources, Formulation of concept with client's requirements. 	10
II	<ul style="list-style-type: none"> Introduction to various design aspects like: space configuration, interior circulation, the basic structural requirements, finishes, furniture layout, basic services, and aesthetics. 	10
III	<ul style="list-style-type: none"> Design the interiors of an independent residential unit of minimum area of 150 sqm. 	11
IV	<ul style="list-style-type: none"> Design the interiors for a office space with a floor area of appx. 300sqm. – 400 sqm. Design should be presented in the form of 2D and 3D drawings (plan, elevations, sections and views) rendered with textures, colors, patterns etc. 	9
V*	<ul style="list-style-type: none"> Detailed study of spaces such as living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, lighting and ventilation, etc. Space planning for office interiors – cabinets, conference rooms , open office systems. Integration of spaces and functions in the design of bus shelter/milk booth/ watchman's cabin/ traffic police kiosk/ flower stall/ ATM center, etc. Case study of existing house and analysis of the spaces. 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- A Visual Dictionary of Architecture, Francis D.K. Ching
- Creative Interiors (Design of Enclosed Space), Shashi Jain
- Commercial Interior Perspectives, Graphic – Sha (Editor)
- Design with Wood , Carol Soucek King
- Drywall (Pro Tips for Hanging & Finishing), John D. Wagner
- Graphic Interiors (Space Designed by Graphic Artists), Corina Dean
- Interior design illustrated , Francis D.K. Ching
- Home Plumbing (The David & Charles Manual of), Ernest Hall
- House Book (The Complete Guide to Home Design), Terence Conran
- Illustration + Perspectives (In Pantone Colors),EijiMitooka
- Elements of Architecture, MeissPieree Von
- Architecture: Form, Space and Order, Francis D.K. Ching
- A.J. Metric Handbook, Jan Bilwa and Leslie Fair weather
- Architectural Graphic standards, Boaz Joseph
- The Curtain Book, MitchllBeazlty
- Interior Design Visual, Maureen Mitton 2nd Edition
- 100 Bright Ideas For color, Sue Rose
- Window Fashion, Charles T. Randall
- Illustration + Perspectives (In Pantone Colors), EijiMitooka

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	MATERIALS & CONSTRUCTION DETAILS-II		
Semester	II		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To familiarize the students with construction properties and cases of traditional building materials used in construction. To understand the use of these traditional building materials in simple building works.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Mud and Clay Products: Mud including stabilized earth, Burnt Bricks, Brick Tiles, Brick Ballest and Surkhi, • Stone, Lime, Sand, flyash, Surkhi, Cement, Mortar, Concrete: Classification, Availability, Preparation, Characteristics, Manufacturing and Uses. • Water Proof Materials: Asphalt, Bitumen, and 		10

Recommended Books/e-resources/LMS:

- **Bindra, S.P. and Arora, S.P.-** Building Construction: Planning Techniques and Methods of Construction, 19th ed. DhanpatRai Pub., New Delhi, 2000.
- **Chowdary, K.P.-** Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi,1990.
- **Francis D.Ching-** Building Construction Illustrated, Wiley publishers, 2008.
- **Moxley, R. Mitchell's** Elementary Building Construction, Technical Press Ltd.
- **Rangwala, S.C.-** Building Construction: Materials and Types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
- **Rangwala, S.C. -**Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- **Sushil Kumar.** T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	FURNITURE DESIGN WORKSHOP		
Semester	II		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	The objective of the course is to provide knowledge about analysis of existing piece of furniture in its functional aspect, technical aspects and skill required materials and properties, biomechanical factors and ergonomically consideration, aesthetic consideration and back acing and economical factors consideration.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs(T) 4 hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> Analyzing furniture: Analyzing furniture forms and designing furniture forms scientifically based on ergonomics, material design and working parameters and visual perception of furniture as a single form and as a system in a given interior space. 		10

II	<ul style="list-style-type: none"> • Measurement drawing: Measurement drawing of a piece of a furniture-plan, elevation and detail drawings on proper scale. • History of furniture from early days to industrial revolution 	10
III	<ul style="list-style-type: none"> • Modular Aspect: Modular aspect and approach towards all types of furniture, cost criteria of design furniture for lower income sector society. 	10
IV	<ul style="list-style-type: none"> • Furniture Style: Design and understand Post Independence furniture style 	10
V*	<ul style="list-style-type: none"> • Make a sheet work showcasing ancient furniture into modern furniture. • Measure Drawing of a Piece of Furniture –Draw (With elevations & other details) on full scale. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Window Fashion, Charles T. Randall • Illustration + Perspectives (In Pantone Colors), EijiMitooka • Elements of Architecture, MeissPieree Von 		

Session: 2023-24			
Part A - Introduction			
Subject	ADVANCED GRAPHICS		
Semester	II		
Name of the Course	Bachelor of Interior Design		
Course Code	B23-IDS-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M2		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<ul style="list-style-type: none"> To impart the techniques of rendering in different media and skills of three dimensional visualization and presentation. 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks: 50 Internal Assessment Marks : 10(T) + 5(P) = 15 End Term Exam Marks : 20(TH) + 15(P) =35		Time : 3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set eight questions in all, selecting two questions from each unit.</p> <p><u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> Free hand sketching & rendering of furniture, and interior schemes, landscape etc. Orthographic projections of geometric forms & furniture items. Free-hand sketching: 500 (submit at the final 		7

	submission)	
II	<ul style="list-style-type: none"> • Rendering 2d & 3d with different mediums, colours and techniques -Exercise on still life, composition, pictorial views and landscape, interior, exterior etc. and different views with human beings and others natural & manmade objects 	6
III	<ul style="list-style-type: none"> • Serigraphy (screen Printing) in interior Space & Furniture, Drawing Solids, voids 	8
IV	<ul style="list-style-type: none"> • Models, 3D forms: free standing paper models representing motives, shapes. 	7
V*	Drawing from imagination- <ul style="list-style-type: none"> • Diagramming • Drawing Composition • Concept sketches • Design development sketches • Presentation sketches • Presentation drawings • Graphical presentations 	28
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 04 • Seminar/presentation/assignment/quiz/class test etc.:00 • Mid-Term Exam: 06 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:05 • Mid-Term Exam: NA 		End Term Examination: 20 15
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Architectural Rendering Philip Crowe.. Architectural Rendering Albert &Habe • How to paint & draw Jaxtheimer, Themes & Hudson. • Architectural Rendering by Philip Crowe • Architectural Rendering by Albert &Habe 		

- How to paint & draw by Jaxtheimer
- Colour Fundamentals by Graves MAintland
- Colour for Architects by T Porter, D Mikellides
- Anatomy & Drawing by Victor Perard
- Fundamentels of Drawing by Barrington Barber
- The Big book of Drawing & Painting by Francisco AsensioCerver
- The complete book of Drawing Techniques by peter Stanyer
- Watercolour,Oilcolour&Gouache by Wendey Jelbert& Ian Sidaway

SEMESTER 3

Session: 2023-24			
Part A - Introduction			
Subject	INTERIOR DESIGN-III		
Semester	III		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	The objective of the course is to introduce the students with the different types of exhibition and presentation spaces and the interior design requirements related to them. The course should involve different design ideas and schemes to represent the designing of exhibition spaces, as these are the prime area of designing emerging in the modern world.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time::3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set eight questions in all, selecting two questions from each unit.</p> <p><u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.</p>			

Recommended Books/e-resources/LMS:

- Drawing a Creative Process, Francis D.K. Ching
- Design Drawing + CD, Francis D.K. Ching
- Architecture Graphics, Francis D.K. Ching 4th Edition
- Interior design & space planning, DechiaraPaberoZelnik
- Interior design illustrated, Francis D.K. Ching
- Graphic Interiors
- Space Designed by Graphic Artists, Corina Dean
- Home Plumbing (The David & Charles Manual of), Ernest Hall
- House Book (The Complete Guide to Home Design), Terence Conran
- Illustration + Perspectives (In Pantone Colors), EijiMitooka

Session: 2023-24			
Part A - Introduction			
Subject	MATERIALS & CONSTRUCTION DETAILS-III		
Semester	III		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To introduce and familiarize the students with advanced and speedy building techniques The understanding for the system to be adopted for the construction of large span structures.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> Building Materials -Physical and behavioral properties of materials, their application in the construction of floors, walls, ceilings, walls, doors, windows, staircases, built in furniture, partitions and other interior design components. 		10

II	<ul style="list-style-type: none"> Reinforced Cement Concrete: Types, Mixing, Curing, Water Cement Ratio, and reinforced Brick Concrete, Qualities and workability. 	10
III	<ul style="list-style-type: none"> Prefabrication- Pre-casting methods, materials, on – site and off- site prefabrication, components etc. 	11
IV	<ul style="list-style-type: none"> Introduction to false ceiling with Gypsum, POP, Grid Ceiling, types and fixing methods. 	10
V*	<ul style="list-style-type: none"> Case studies/ market surveys/ visual presentations/ site visits/ drawings. Market surveys to be conducted to find out the commercial and technical names, sizes, codes for materials, testing, fabrication, commercial methods of pricing, billing etc. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> Class Participation: 05 Seminar/presentation/assignment/quiz/class test etc.:05 Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> Class Participation: Seminar/Demonstration/Viva-voce/Lab records etc.:10 Mid-Term Exam: NA 		End Term Examination 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> A Visual Dictionary of Architecture, Francis D.K. Ching Interior design illustrated, Francis D.K. Ching House Book (The Complete Guide to Home Design), Terence Conran Masonry (Concrete, Brick, Stone), Christine Beall Metric Handbook (Planning & Design Data) 2nd Ed. Edited By, David Adle 		

Session: 2023-24			
Part A - Introduction			
Subject	BUILDING SERVICES- I (Water Supply & Sanitation)		
Semester	III		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	The objective of the course is to provide a clear understanding about the Water Supply, Sanitation and waste water disposal system in a building as part of the building services and know the latest market trends and requirements.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			

Unit	Topics	Contact Hours
I	Introduction to Building Services emphasis on Water Supply, Sanitation and Drainage, Water supply and distribution system at building level taking two-story building as example.	10
II	Sanitation disposal, sanitary layout and fixture setting at building level, Toilet & Kitchen layout of a residential building with sanitary fitting & Fixture.	10
III	Piping system / I.C / G.T. and with all its types, Storm water drainage system in a building, Pipes and fittings, materials, size and classification.	11
IV	Under ground, overhead and internal storage tanks and supply lines.	10
V*	<ul style="list-style-type: none"> ● Market survey of all the sanitary products. ● Collect samples of different types and sizes of pipe 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Home Plumbing The David & Charles Manual, Ernest Hall ● Water Supply & Sanitation, Charanjit S. Shah ● The Construction of Building Vol - 1 to 5, R. Barry ● Building Construction, N.L. Arora &, B.R. Gupta ● The Books of Kitchens, Anthony Rowley 		

Session: 2023-24			
Part A - Introduction			
Subject	SCULPTURE MAKING		
Semester	III		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<ul style="list-style-type: none"> • Introduction to sculpture-basic elements and their relationships -Sculptural exercises based on studies from nature, human figures or other areas of contact. • Study of different mediums 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks::20(T)+10(P) End Term Exam Marks:50(T)+20(P)		Time:3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			
Unit	Topics		Contact Hours
I	Types of metal, Lost wax process (Cire Perdue), Dogra/ Baster/ Sand casting process, The Built-up runner & investment, Patina & Coloring.		12

II	Knowledge about foundry, Pit blast furnace, Blast furnace, Gas furnace, Coal furnace, Diesel furnaces, Mould baking Procedure.	10
III	Cement concrete casting, P.O.P. casting, Fiber glass casting, Paper pulp casting. Paper mesh, Ceramic Mural.	9
IV	Stone carving techniques on marble, sand stone, & granite, Understanding about stone carving techniques and tool, Wood carving techniques according to the maquette, Understanding about wood carving techniques and tool, Colouring on wood & seasoning	8
V*	Four to five exercises using different mediums	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Sculpture in plastic arts – Nicholas Roukas ● Modern Sculpture – Harbeart Read ● The complete sculpture of Barbara Hepworth – Alan ● Masterpieces of western sculpture – Howard Hibbard ● Calder – H.H.Arnason ● Principles of metal casting – Richard W. Heine & Philip C. Rosenthal ● Contemporary Stone Sculpture – Donaz Meilach 		

SEMESTER 4

Session: 2023-24			
Part A - Introduction			
Subject	INTERIOR DESIGN-IV		
Semester	IV		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<ul style="list-style-type: none"> The objective of the course is to introduce the students with the Interior design of Primary school and Library. The course should involve different design ideas and schemes to represent the designing, as these are the prime area of designing emerging in the modern world. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time: 3 hrs(T) 4 hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u>The examiner will set eight questions in all, selecting two questions from each unit.</p> <p><u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.</p>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> Applying anthropometry in relation to interior spaces of primary school, Various techniques of creating designs & Color scheme in relation to interiors 	11
II	<ul style="list-style-type: none"> Layout and Constructional details of furniture units used in school and library, Application of color, texture, pattern and their psychological effects in interiors. 	10
III	<p>Primary School & Library</p> <p>Interior Design for specific ideas and select materials appropriate to intended purpose and to understand the visuals and functional characteristics.</p>	12
IV	Interior Model of the space with all furniture, interior details in place and interior finishes with different colors, Textures.	12
V*	<ul style="list-style-type: none"> Collection of samples of material for interiors of various parts of buildings color, texture, modulations and pattern evolution. Material, workmanship, specification etc. Prepare a model of the project. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> Class Participation: 05 Seminar/presentation/assignment/quiz/class test etc.:05 Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> Class Participation: Seminar/Demonstration/Viva-voce/Lab records etc.:10 Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> Drawing a Creative Process, Francis D.K. Ching Design Drawing + CD, Francis D.K. Ching Architecture Graphics, Francis D.K. Ching 4th Edition Interior design & space planning, Dechiara Pabero Zelnik Interior design illustrated, Francis D.K. Ching 		

- Graphic Interiors
- Space Designed by Graphic Artists, Corina Dean
- Home Plumbing (The David & Charles Manual of), Ernest Hall
- House Book (The Complete Guide to Home Design), Terence Conran
- Illustration + Perspectives (In Pantone Colors), Eiji Mitooka

Session: 2023-24			
Part A - Introduction			
Subject	MATERIALS & CONSTRUCTION DETAILS-IV		
Semester	IV		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B4		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To introduce and familiarize the students with advanced and speedy building techniques The understanding for the system to be adopted for the construction of large span structures.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time::3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set eight questions in all, selecting two questions from each unit.

Instructions for the candidate: The candidate will have to attempt five questions in all, selecting atleast one question from each unit.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Metals – Steel, iron, aluminum, bronze, brass, copper – alloys, characteristics, form and uses, properties, definition of terms, methods of working with metals, fixing and joinery in metals, finishing and treatment to metals. • Application of Metals to Built Form and Interiors - Special doors and windows, ventilators – sliding, sliding and folding, revolving, pivoted, rolling, collapsible, dormer, skylights, clerestory etc. 	10
II	<ul style="list-style-type: none"> • Fabrics and Other Furnishing Materials – Fibers, textiles, fabric treatments, carpets, durries, tapestries, draperies, upholstery, wall coverings, etc. – properties, uses and application in the interiors. • Miscellaneous materials such as cork, leather, paper, rexene etc. – their properties, uses and applications in the interiors. A brief overview of green materials. 	11
III	Glazing-Skylights, Curtain walls, Double glazing, Eco Boards, wood and its products	10
IV	Understanding various types of boards and hardware for kitchens cabinets with fittings/ fixtures/accessories and construction details with finishing schedules.	9
V*	Design and construction with fittings/fixtures/details of a bedroom wardrobe with finishes.	30
Suggested Evaluation Methods		

Session: 2023-24			
Part A - Introduction			
Subject	BUILDING SERVICES- II (Electrical Systems & Lighting)		
Semester	IV		
Name of the Course	Bachelor of Interior design		
Course Code	B23-IDS-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C4		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	To initiate students into theory and practice of electrical systems and fixtures. Introduction to reception and distribution of main supply, fittings and accessories.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs(T) 4 hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set eight questions in all, selecting two questions from each unit.			
<u>Instructions for the candidate:</u> The candidate will have to attempt five questions in all, selecting atleast one question from each unit.			
Unit	Topics		Contact Hours
I	Properties of light, distribution of lighting, control points and layout		10
II	Natural/artificial lighting, Lighting of spaces, Lighting		10

**KURUKSHETRA
UNIVERSITY KURUKSHETRA**



Scheme of Examinations and Syllabus

for

Under-Graduate Programme

**Bachelor of Vocation in
Fashion Technology**

Interdisciplinary Scheme-D

Under Multiple Entry-Exit,

Internship and CBCS-LOCF in accordance to NEP-2020

w.e.f. 2023-24 (in phased manner)

Department of Home Science

KURUKSHETRA UNIVERSITY, KURUKSHETRA

**Scheme of Examinations for Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP 2020
w.e.f. 2023-24 (in phased manner),
Bachelor of Vocation in Fashion Technology**

SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A1 4 credit	B23-VFT-101	Concept of Design and Illustration	3	3	20	50	70	3 hrs.
		Concept of Design and Illustration (Practical)	1	2	10	20	30	4 hrs.
CC-B1 4 credit	B23-VFT-102	Sewing Techniques	3	3	20	50	70	3 hrs.
		Sewing Techniques (Practical)	1	2	10	20	30	4 hrs.
CC-C1 4 credit	B23-VFT-103	Indian Traditional Textiles	3	3	20	50	70	3 hrs.
		Indian Traditional Textiles (Practical)	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-VFT-104	Photographic Techniques	1	1	10	20	30	3hrs.
		Photographic Techniques (Practical)	1	2	5	15	20	4hrs.
MDC-1 3 credit	From the courses offered by D/C/1							
AEC-1 2 credit	From Available AEC-1 pool list of two credits as per NEP							
SEC-1 3 credit	From Available SEC-1 pool list of three credits as per NEP							
VAC-1 2 credit	From Available VAC-1 pool list of two credits as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A2 4 credit	B23-VFT-201	Textile Chemistry	3	3	20	50	70	3 hrs.
		Textile Chemistry (Practical)	1	2	10	20	30	4 hrs.
CC-B2 4 credit	B23-VFT-202	Garment Construction	3	3	20	50	70	3 hrs.
		Garment Construction (Practical)	1	2	10	20	30	4 hrs.
CC-C2 4 credit	B23-VFT-203	Weaving &Knitting Technology	3	3	20	50	70	3 hrs.
		Weaving &Knitting Technology (Practical)	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-VFT-204	Computer Applications	1	1	10	20	30	3 hrs.
		Computer Applications (Practical)	1	2	5	15	20	4 hrs.
MDC-2 3 credit	From the courses offered by D/C/1							
AEC-2 2 credit	From Available AEC-2 pool list of two credits as per NEP							
SEC-2 3 credit	From Available SEC-2 pool list of three credits as per NEP							
VAC-2 2 credit	From Available VAC-2 pool list of two credits as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A3 4 credit	B23-VFT-301	Pattern Making, Draping & Grading Techniques	3	3	20	50	70	3 hrs.
		Pattern Making, Draping & Grading Techniques (Practical)	1	2	10	20	30	4 hrs.
CC-B3 4 credit	B23-VFT-302	Quality Control Technology	3	3	20	50	70	3 hrs.
		Quality Control Technology (Practical)	1	2	10	20	30	4 hrs.
CC-C3 4 credit	B23-VFT-303	Fabric Embellishment Techniques	3	3	20	50	70	3 hrs.
		Fabric Embellishment Techniques (Practical)	1	2	10	20	30	4 hrs.
CC-M3 4 credit	B23-VFT-304	Illustration Techniques	3	3	20	50	70	3 hrs.
		Illustration Techniques (Practical)	1	2	10	20	30	4 hrs.
MDC-3 3 credit		From the courses offered by D/C/1						
AEC-3 2 credit		From Available AEC-3 pool list of two credits as per NEP						
SEC-3 3 credit		From Available SEC-3 pool list of three credits as per NEP						

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A4 4 credit	B23-VFT-401	Textile Processing, Printing and Dyeing	3	3	20	50	70	3 hrs.
		Textile Processing, Printing and Dyeing (Practical)	1	2	10	20	30	4 hrs.
CC-B4 4 credit	B23-VFT-402	Product Development	3	3	20	50	70	3 hrs.
		Product Development (Practical)	1	2	10	20	30	4 hrs.
CC-C4 4 credit	B23-VFT-403	Advance Garment Construction	3	3	20	50	70	3 hrs.
		Advance Garment Construction (Practical)	1	2	10	20	30	4 hrs.
CC-M4(V) 4 credit (2+2)		From Available CC-M4(V) pool list of four credit as per NEP						
AEC-4 2 credits		From Available AEC-4 pool list of two credits as per NEP						
VAC-3 2 credit		From Available VAC-3 pool list of two credits as per NEP						

Internship of 4 credits of 4-6 weeks duration after 4th semester (If not done after 2nd - semester)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-VFT-501	Fashion Forecasting	3	3	20	50	70	3 hrs.
		Fashion Forecasting (Practical)	1	2	10	20	30	4 hrs.
CC-B5 4 credit	B23-VFT-502	Line Development	3	3	20	50	70	3 hrs.
		Line Development (Practical)	1	2	10	20	30	4 hrs.
CC-C5 4 credit	B23-VFT-503	Traditional Costumes	3	3	20	50	70	3 hrs.
		Traditional Costumes (Practical)	1	2	10	20	30	4 hrs.
CC-M5 (V) 4 credit (2+2)		From available CC M-5(V) pool list of four credit as per NEP						
Skill Enhancement course		Internship # 4 credits						

Four Credits of Internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of students who pursue 3rd year UG Programme without taking exit option.

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A6 4 credit	B23-VFT-601	Boutique Management	3	3	20	50	70	3 hrs.
		Boutique Management (Practical)	1	2	10	20	30	4 hrs.
CC-B6 4 credit	B23-VFT-602	Fashion Merchandising & Retailing	3	3	20	50	70	3 hrs.
		Fashion Merchandising & Retailing (Practical)	1	2	10	20	30	4 hrs.
CC-C6 4 credit	B23-VFT-603	Portfolio Development	3	3	20	50	70	3 hrs.
		Portfolio Development (Practical)	1	2	10	20	30	4 hrs.
CC-M 6 4 credit	B23-VFT-604	Media and Communication	3	3	20	50	70	3 hrs.
		Media and Communication (Practical)	1	2	10	20	30	4 hrs.
CC-M-7(V) 4 Credits		From available CC M-7(V) pool list of four credit as per NEP						

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	I		
Name of the Course	Concept of Design and Illustration		
Course Code	B23-VFT-101 B23-TFD-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC- A1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand basic concepts of design and illustration. 2. To understand the colour, colour theory and colour psychology. 3. The students will be able to know the Fashion theory, factors affecting fashion and fabric sourcing. 4. To understand the fashion model drawing, knowledge latest fashion, Traditional Indian Textile. <hr/> <p>5*.To impart practical knowledge about preparation of colour wheel and Fashion sketches.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction and Brief History of Fashion Illustration. • Scope of Fashion Illustration. • Introduction to Art Media and its Application. 	10
II	<ul style="list-style-type: none"> • Design – Definition and Types (Structural and Decorative Designs). • Elements of Design. • Principle of Design. • Components of Design. 	11
III	<ul style="list-style-type: none"> • Definition of Colour – Colour Theory, Dimensions of Colour, Colour Schemes, Colour Wheel, Colour Types. • Colour Psychology and its Application on Apparel. • Optical Illusions created through Elements and Principles of Design. 	12
IV	<ul style="list-style-type: none"> • Sketching Terminology: - Croqui, Block Figure, Rendering, Art Supplies for Drawing, Spec-sheet, Layout, Flat Sketch, Fashion Drawing. • Fashion Model Drawing: – Basic Human Proportion, Body Figures and Shapes, Sketching Postures. 	12
V*	<p>Objective To impart knowledge about: -</p> <ul style="list-style-type: none"> • Designing • Colours • Illustration <ul style="list-style-type: none"> • Figure Stylization: – Illustrations, Basic Croquis, Division of the Body to make the 8, 10 and 12 Head Figure (Front, Side and ¾th Profile) <ol style="list-style-type: none"> 1. Figure in Motion- Normal Standing, Walking, Running, and Sitting. 2. Figure Drawing in S,X,T,Y poses. 3. Colour- Preparation of Colour Wheel, Grey Scales, Colour Schemes, Tints and Shades. 4. Creation of Motifs using different Forms and Shapes. 5. Designing of following Motifs and its Types in different colour 	30

	<p>ways: -</p> <ul style="list-style-type: none"> ● Geometrical ● Realistic ● Natural ● Stylized ● Abstract <p>6. Different Placements of Motif: (Traditional/Contemporary)</p> <ul style="list-style-type: none"> ● Vertical ● Horizontal ● Half drop ● All over ● Diagonal <p>7. Sketching: -</p> <ul style="list-style-type: none"> ● Face ● Eye ● Nose ● Lips ● Hands ● Legs ● Hairstyles. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● <i>Fashion Illustration</i>. Anna Kiper, David & Charles Book, 2011. ● <i>Fashion Illustration Children</i>. Patric, John Ireland, BT Bastford Ltd, 2005. ● <i>New Fashion Illustration</i> (New Illustration Series) English, Paperback, Martin Dawber, 2006. ● Bina Abling. Fashion Sketch Book. Fairchild Publications.1994. 		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	I		
Name of the Course	Sewing Techniques		
Course Code	B23-VFT-102 B23-TFD-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Sewing, Sewing Equipment's and their functions. 2. To understand the basic terms, hemming, fasteners, seams and seam finishes. 3. The students will be able to know about different types of fullness, yokes and sleeves. 4. To know the stitching of collars, pockets, placket and skirts. <p>5*. To impart practical knowledge about preparation of samples of fasteners, yokes, sleeves, collars, pockets, placket, and skirts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ol style="list-style-type: none"> 1. Introduction to Sewing, Sewing Equipment and their functions. 2. Parts and functions of Domestic Sewing Machine, Types of Machine Needle, Stitch Formation, Care and Maintenance, Trouble Shooting. 3. Introduction to Industrial Sewing Machine: - <ul style="list-style-type: none"> • Types • Functions • Care and maintenance 	10
II	<ol style="list-style-type: none"> 1. A Brief Study of the following: - Basting, Running, Tacking, Hand Over-cast, Hemming: - Visible and Invisible, Slip Stitch, Blanket, and Fagoting. 2. Fasteners: - Conspicuous (Button and Button- holes, Button Loops, Button with Holes, Shank Buttons, Eyelets and Cords); Inconspicuous (Press Buttons, Hooks and Eyes, Zips). 3. Seams & Seam Finishes: - Definition, Types of Seam Finishes, and their applications. 	12
III	<ol style="list-style-type: none"> 1. Fullness: - Definition and Types (Darts, Tucks, Pleats, Gathers, Shirring, Ruffles and Godets) 2. Yokes: - Definition, Purpose (with and without fullness), applications and construction. 3. Sleeves: - Definition, Terms, and Types. 	12
IV	<ol style="list-style-type: none"> 1. Collars: - Definition, Terms, Types and Styles. 2. Different Types of Pockets and Plackets. 3. Different Types of Skirts. 4. Threading and Bobbin Winding-Common Problems and Methods to Overcome. 	11
V*	<ol style="list-style-type: none"> 1. Making Samples of Basic Hand Stitches: - <ul style="list-style-type: none"> • Basting (Even, Uneven, Diagonal, and Pin) • Back Stitch 	30

	<ul style="list-style-type: none"> • Running Stitch • Hemming (Visible and Invisible) • Tailor’s Tack <p>2. Making samples of the following: -</p> <ul style="list-style-type: none"> • Seams -Top Stitch, Plain, Run and Fell, French, Lapped, Counter Mantua-maker. • Seam finishes- Over lock, Hand over cast, Turned, and stitched. • Neck lines Finishes. • Pocket and Placket. <p>3. Application of different types of Trimming, Laces, Piping, Binding and Fasteners.</p> <p>4. Fullness Treatment: -</p> <ul style="list-style-type: none"> • Darts • Tucks- Pin Tucks, Cross Tucks, Shell Tucks, Released Tucks, Group Tucks, Blind Tucks. • Gathers- Even and Uneven. • Pleats- Box Pleats, Knife Pleats, Kick Pleats, Invisible. • Ruffles. • Frills: - Gathered Frill and Pleated Frill. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Holman, Gillian. *Pattern Cutting Made Easy*. BSP 1997.
- Gayathri Verma & Kapil Dev. *Cutting & Sewing Theory*. Asian Publishers, 2015.
- Lewis. *Comparative Clothing Construction Techniques*, New Delhi, Surjeet Publications.
- Gerry Cooklin. *Garment Technology for Fashion Designers*. Wiley-Blackwell, USA, 2012.
- Jacob, Thomas Anna. *The Art of Sewing*. UBSPD Publishers Distributors Ltd., New Delhi.
- Colton, V. (1987). *Complete Guide to Sewing by Readers Digest*.
- *Garment Technology for Fashion Designers*. Gerry Cooklin, Wiley-Blackwell, USA, 2012.
- *Garment Manufacturing Technology*. EIRI Board, Engineers India Research Institute.
- *Cutting & Sewing Theory*. Gayathri Verma & Kapil Dev, Asian Publishers, 2015.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	I		
Name of the Course	Indian Traditional Textiles		
Course Code	B23-VFT-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction of Indian Embroideries with reference to: Historical significance, Centers of production, styles, color, dyes, motifs and Printing techniques. 2. To understand the Study of Resist Dyed Textiles with reference to: Historical significance, Centers of production, styles, color, dyes, motifs and Techniques. 3. The students will be able to know about the Painted Textiles with reference to: Historical significance, Centers of production, styles, color, dyes, motifs and techniques. 4. To understand the Study of Woven Textiles with reference to: Historical significance, Centers of production, styles, color, dyes, motifs and techniques. <hr/> <p>5*.To impart practical knowledge about preparation of Embroidery, tie & dye, hand painted samples.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<p>1. Study of Indian Embroideries with special reference to: Production, Styles, Colour, Dyes, Motifs and Printing Techniques:</p> <ul style="list-style-type: none"> ● Kashida of Kashmir ● Phulkari of Punjab ● Chiknkari of Uttar Pradesh ● Kantha of Bengal ● Kasuti of Karnataka ● Metal Embroidery of Rajasthan 	10
II	<p>1.Study of Resist Dyed Textiles with special reference to: Historical Significance, Centers of Production, Styles, Colour, Dyes, Motifs and Techniques:</p> <ul style="list-style-type: none"> ● Resist Dyed Yarns- Patola of Gujarat, Ikat of Orissa, and Pochampalli of Andhra Pradesh ● Resist Dyed Fabrics- Bandhani of Rajasthan and Gujarat <p>2.Study of Hand Printed Textile with special reference to: Historical Significance, Centers of Production, Styles, Colour, Dyes, Motifs and Techniques:</p> <ul style="list-style-type: none"> ● Dabu & Sanganeri Printing of Rajasthan ● Bagh Printing of Madhya Pradesh ● Ajrakh of Gujarat 	12
III	<p>1. Study of Painted Textiles with special reference to: Historical Significance, Centers of Production, Styles, Color, Dyes, Motifs and Techniques:</p> <ul style="list-style-type: none"> ● Kalamkari of Telangana ● Madhubani of Bihar ● Patchitra of Odisha ● Pichwais & Phad of Rajasthan 	11
IV	<p>1. Study of Woven Textiles with special reference to: Historical Significance, Centers of Production, Styles, Colour, Dyes, Motifs</p>	12

	<p>and Techniques:</p> <ul style="list-style-type: none"> • Brocades of Varanasi • Jamdani & Baluchari of Bengal • Chanderi & Maheshwari of Madhya Pradesh • Kota Doria of Rajasthan • Kanjivarm of Tamil Nadu • Paithani of Maharashtra 	
V*	<p>Prepare Samples of the following:</p> <ul style="list-style-type: none"> • Basic Embroidery Stitches. • Kasuti of Karnataka • Chikankari of Uttar Pradesh • Kantha of Bengal • Kashida of Kashmir • Phulkari of Punjab • Kutch of Gujarat • Sindhi of Sind • Prepare five (05) samples of Tie & Dye (Cotton & Silk). • Block Printing, Batik, Stencil, Screen & Fabric Painting. • Preparation of two (02) articles using two different Techniques. • Documentation of traditional Indian textiles in the form of scrap book. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Sodhia Manmeet. *Dress Designing*. Kalyani Publishers, New Delhi.
- Lynton Linda. *The Sari*, Thames & Hadson.
- Anand M.R. *Textiles & Embroideries of India*. Marg Publication Bombay, 1965.
- Naik Shailaja D. *Traditional Embroideries of India*. APH Publisher Corporation, New Delhi, 1996.
- Chattopadhyay K. *Indian Embroidery*. Wiley Eastern Ltd., New Delhi,

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	I		
Name of the Course	Photographic Techniques		
Course Code	B23-VFT-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction of Photography, techniques of photography and its Equipment. 2. To understand the Study Camera, its types and classification. 3. The students will be able to know about printing techniques, video Photography and image mixing. 4. To understand the application of computer in photography, fashion photography and its types. <hr/> <p>5*.To impart practical knowledge about preparation of scrap book on different types of photography.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks: 50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks:20(T)+15(P)=35		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Photography: - Principle. • Indoor Photography: - Lighting Techniques, Needs, Methods and Equipment. • Photography Techniques and Equipment for different fields: - Modeling, Newspaper, Occasion like Fashion Shows, etc. 	4
II	<ul style="list-style-type: none"> • Definition of Camera. • Parts of a Camera. • Classification and Types of Cameras: - Applications and Disadvantages 	4
III	<ul style="list-style-type: none"> • Printing Techniques. • Photography using Digital Cameras. • Video Photography, Image Mixing. 	3
IV	<ul style="list-style-type: none"> • Application of Computers in Photography. • Outdoor Photography: - Needs, Lighting Technique Methods, and Equipment. • Comparison of Outdoor Photography with Indoor Photography. • Fashion Photography and its types. 	4
V*	<ol style="list-style-type: none"> 1. Prepare a Scrap Book on different types of Photography: - <ul style="list-style-type: none"> • Street Fashion Photography • Landscape Photography • Product Photography • Occasion Photography 2. Collection of Photographs of Fashion Shows (Last one year - National and International) 3. Collection of Photographs of Exhibitions held in nearby proximity. 	30

Suggested Evaluation Methods

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	II		
Name of the Course	Textile Chemistry		
Course Code	B23VFT-201 B23TFD-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC- A2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction of textile fiber, terminologies and its properties. 2. To understand the Study Manufacturing process and properties of various natural, regenerated fibers. 3. The students will be able to know about synthetic fibers, Yarns, its types and properties. 4. To understand the Fabric appearance & properties, Fabric as protection and Classification of the Finishes. <p>5*.To impart practical knowledge about preparation of practical file of textile fibers with different chemical test.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Terminology- Fibre, Yarns, Linear Density, Strength, Crease Recovery, Abrasion Resistance, Drapability, Tensile Strength, Static Charge, Thermal Conductivity. • Introduction to Textile Fibers, Classification of Fibers based on sources and origin. • Chemical & Physical Properties of Textile Fibers. 	10
II	<ul style="list-style-type: none"> • Manufacturing process and properties of various Natural Cellulosic Fibres like Cotton & Linen. • Manufacturing process and properties of various Natural Protein Fibers like Wool & Silk. • Manufacturing process and properties of Regenerated and Modified Cellulosic Fibres like Rayon and Acetate. 	11
III	<ul style="list-style-type: none"> • Manufacturing process of Man-made Synthetic Fibers like Polyamide: - Nylon66, Nylon6; Polyester and Acrylic. • Classification of Yarns: - Carded and Combed Yarns, Woolen & Worsted Yarns, Filaments and Spun Yarns. • Yarn: - Properties, Linear Density, Size, Twist in Yarn, Crimp Yarn Direction, Strength & Uniform. • Textile Yarn: - Types and Application, Fancy Yarns- Types & Uses. 	12
IV	<ul style="list-style-type: none"> • Fabric: - Appearance & Properties, Effect of Yarn Structure and Fabric Construction on Fabric Properties; Selection of Fibres and Yarn Structure; Durability: - Study of Tensile Strength, Tearing Strength, Bursting Strength with respect to Fibers Properties; Yarn Structure and Fabric Design. • Fabric as Protection; Fabric Engineering (For given end use, designing of Fabric from selection of Fibre, type of yarn manufacture, fabric design to finishing treatments. 	12

	<ul style="list-style-type: none"> • Textile Chemical Processing for Fibers, Processing (elementary knowledge), Impurities present in the Natural and Synthetics Fibers. • Classification of the Finishes: - According to Designer/Merchandiser/Sales Persons. • Objectives of the various Finishes: - According to Textile Chemist and Degree of Performance. 	
V*	<ol style="list-style-type: none"> 1. Introduction to Fibers and Yarns, Table Loom and Floor Loom, Preparing Warp, Setting up loom for weaving. Basic weaves and their variations. 2. Identification of Textile Fibers: - <ul style="list-style-type: none"> • Fibers: - Cotton, Silk, Wool, Nylon, Polyester, Linen, Rayon, Jute. • Microscopic Method. • Flame Test. • Chemical Test. 3. Fabric Identification of Cotton, Wool, Silk, Jute and Polyester Using the following Methods: - <ul style="list-style-type: none"> • Feel. • Weight (Light, Medium, Heavy). • Weave. • Thread Count. • Yarn Twist. 4. Collection and Identification of Yarns: - <ul style="list-style-type: none"> • Simple. • Novelty. • Textured. 5. Collection and Identification of Fabric Finishes. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Bernard P. Corbman. *Textiles Fiber to Fabric*. McGraw, Hill International Editions, Cataloging Publication, 1993
- Dorothy Siegert Lyle. *Modern Textiles*. John Wiley and Sons Inc., New York, London, Sydney, Toronto, 1971.
- E. R. Trotman. *Dyeing & Chemical Technology of Textile Fibers*.
- H. V. Sreenivas Moorthy. *Introduction to Textile Fibers*.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	II		
Name of the Course	Garment Construction		
Course Code	B23-VFT-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –B2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction of sewing, principles of clothing and fabric preparation. 2. To understand the Study of suitability of different fabric and principles of fitting. 3. The students will be able to know about Anthropometric and garment details. 4. To understand the clothing for different age groups and different styles of garment. <p>5*.To impart practical knowledge about preparation of garments of different age groups.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction of Sewing – History of Sewing Machine. • Principles of Clothing – Socio-psychological Aspects of Clothing. • Fabric Preparation. 	11
II	<ul style="list-style-type: none"> • Handling Special Fabrics. • Suitability of different Fabrics for different Garments. • Principles of Fitting, Factors to be considered while Fitting, Common Fitting problems, Remediating Fitting defects. 	12
III	<ul style="list-style-type: none"> • A study of Anthropocentric/Body Measurements. • Garment Details: - Collars (variation) and Plackets- A Brief Study • Garment Details- Sleeves, Trimmings, Fasteners and Pockets- A Brief Study 	10
IV	<ul style="list-style-type: none"> • Clothing for different age groups. • Lining, Interlining, Facing & Interfacing. • Different Styles of Garments – Skirt, Trouser, Blouses, One-piece Dresses & Coat. 	12
V*	<ol style="list-style-type: none"> 1. Drafting of Child Bodice Block and Basic Sleeve Block. 2. Drafting and Construction of the following:- <ul style="list-style-type: none"> • Sleeves: Plain, Puff, Cap, Bell, Petal, Leg-o-mutton, Kimono, Reglan and Magyar. • Collars: Peter Pan, Baby, Cape, Sailor, Mandarin, Shawl, and Convertible. • Bib • Jhabla • Diaper • Bloomer • Panty. • Romper with patch pocket. 	30

	<ul style="list-style-type: none"> ● Frock with Gathers, Puff Sleeve & Peter-pan Collar 	
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	End Term Examination: 50 20	
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● <i>Encyclopedia of Sewing Encyclopedia of Sewing.</i> ● Colton, V. (1987). <i>Complete Guide to Sewing by Readers Digest.</i> ● Helen Joseph Armstrong. <i>Pattern Making for Fashion Design.</i> 2000, Dorling Kindersley (India) Pvt. Ltd. India. ● <i>Readers Digest Book of Sewing.</i> ● Thomas Anna Jacob (1994). <i>The Art of Sewing.</i> USB Publishers, New Delhi. ● Sandra Betzina. (2003). <i>Fast Fit- Easy Pattern Alteration for Every Figure.</i> Taunton Pr. ● Verma G- <i>Cutting & Tailoring Theory</i>", Asian publishers Delhi, 1999. ● Doongaji & Deshpandey. <i>Basic Process and Clothing Construction.</i> Raj Prakashan. ● Zarpakar. <i>System of Cutting.</i> Navneet Publication. 		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	II		
Name of the Course	Weaving & Knitting Technology		
Course Code	B23-VFT-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction Weaving. its classification and Hand loom, its parts and their Function. 2. To understand the Study of knitting and its classification. 3. The students will be able to know about Hand and machine knitting and Basic warp knit stitches. 4. To understand the Knitted fabric defects and Weaving fabric defects, Difference between woven and knitted fabric defects. <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about preparation of weaving and knitting samples and articles.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Definition of Weaving and terms used in Weaving. • Classification of Weaving: <ol style="list-style-type: none"> a) Elementary weave b) Plain weave c) Fancy weave • Handloom, its parts, and their function. 	12
II	<ul style="list-style-type: none"> • Definition of Knitting and terms used in Knitting. • Introduction to Knitting Technology. • Classification of Knitting - Warp and Weft Knitting. 	11
III	<ul style="list-style-type: none"> • Hand-knitting and Machine Knitting. • Weft Knitting Elements - Knitting Needles, Knitting Cycles of Latch, Beard. • Basic Warp Knit Stitches - Under Lap, Closed Lap, Open Lap. • Basic Weft Knit Stitches – Single Jersey, Rib, Purl, Interlock, Float and Tuck Stitches. 	12
IV	<ul style="list-style-type: none"> • Knitted Fabric Defects and Weaving Fabric Defects. • Comparison of Knitting and Weaving. • Difference between Woven and Knitted Fabric Defects. • Warp Knitting Machine. 	12
V*	<p>1. Preparation of Weaving Samples and 03 Samples of Handloom:</p> <ul style="list-style-type: none"> • Plain Weave • Twill Weave • Satin Weave • Basket Weave <p>*One article to be made by using any of the above stitches.</p> <p>2. Preparation of Knitting Samples (02 designs in each sample) and 03 Samples of Machine Knitting:</p> <ul style="list-style-type: none"> • Single Jersey Stitch • Rib Stitch • Purl Stitch • Interlock Stitch • Float Stitch • Tuck Stitch 	30

	<ul style="list-style-type: none"> ● Under Lap Stitch ● Closed Lap ● Open Lap ● Jacquard <p>*Two articles to be made by using any of the above Stitches and one Article of Machine Knitting.</p> <p>3. A visit to a knitting unit and report writing of the same</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="margin-left: 100px;">50</p> <p style="margin-left: 100px;">20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Prof. Ajgaonkar D.B. <i>Knitting Technology</i>, University Publishing Co. Mumbai. ● <i>Textile Science: An Explanation of Fibre Properties</i>, Gohl & Vilensky, CBS Publishers, 2005 ● Brackenbury Terry. <i>Knitting Clothing Technology</i>, Blackwell Science, U.K. ● <i>Garment Technology for Fashion Designers</i>, Cooklins, Hayes, Ms. Loughlin & Fairclough, Wiley India, 2012. ● <i>Fibre to Fabric</i>, Bernard P Corbman,(6th edition),Tata McGraw-Hill Education, 2003. ● Spances David J., <i>Knitting Technology</i>, Pregoman Press, U.K. 		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	II		
Name of the Course	Computer Applications		
Course Code	B23-VFT-204 B23-TFD-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Computer and MS Word. 2. To understand the Study of MS Power Point and Introduction to Photoshop. 3. The students will be able to know about Tools of Photoshop and restoring image. 4. To understand Introductions to Corel Draw and its tools. <hr/> <p>5*.To impart practical knowledge about preparation of designs using Photoshop and Corel draw.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks:20(T)+15(P)=35		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter</u> : The examiner will set nine questions in all, selecting two questions from			

each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Introduction to computer: <ul style="list-style-type: none"> - Block diagram of a computer. - Characteristics of computers. - Types of Software and Hardware. ● Introduction to MS Word. ● Introduction to PowerPoint. 	4
II	<ul style="list-style-type: none"> ● Introduction to Photoshop. ● Tools of Photoshop. ● Shortcuts, tool options. 	4
III	<ul style="list-style-type: none"> ● Selections and channels of Photoshop. ● Restoration of Photos. ● Features of Photoshop. 	4
IV	<ul style="list-style-type: none"> ● Introduction to Corel Draw. ● Features of Corel Draw. ● Tools of Corel Draw. 	3
V*	<ul style="list-style-type: none"> ● Introduction to Computer. ● General introduction to PowerPoint. ● Detailed study of different tools of Corel Draw and Photoshop. ● Create a composition of geometrical shape 8" x 8" block (3D and 2D) ● Design traditional and contemporary Motifs (solid colour and texture) ● Design Logo and create Brochure for your own label, visiting card, pamphlet, poster, cover page (file cover). <p>The following software can be used: -</p> <ul style="list-style-type: none"> a) Photoshop b) Corel Draw 	30

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	III		
Name of the Course	Pattern Making, Draping & Grading Techniques		
Course Code	B23-VFT-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –A3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Methods of pattern making and Flat pattern techniques. 2. To understand the Study of commercial patterns and body measurements. 3. The students will be able to know about Pattern layout. 4. To understand Introductions to Fitting, Pattern alteration and Grading. <hr/> <p>5*.To impart practical knowledge about preparation of Drafting of basic Skirt block, A-Line, Godet, Gored, Full Circular, Paged and Introduction to draping and its importance in the field of Fashion Designing</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Methods of Pattern-making. ● Drafting-Principles of Drafting, Steps in Drafting Children’s and Adults Bodice and Sleeve Patterns. ● Flat Pattern Techniques- Definition, Pivot, Slash and Spread Method. 	12
II	<ul style="list-style-type: none"> ● Study of Commercial Patterns and Body Measurements. ● Preparation of Commercial Patterns. ● Body Measurements - Importance and Principles of taking body measurements. ● Methods of taking body measurements for different garments. 	12
III	<ul style="list-style-type: none"> ● Pattern Layout- Rules in Pattern Layout, Common Methods for Layout, Layout for the Asymmetrical Designs, Bold Designs, Checked and One-way Designs. ● Economy of Fabrics in placing the Patterns - Adjusting the Fabrics to the Patterns. 	10
IV	<ul style="list-style-type: none"> ● Fitting- Definition, Principles of a ‘Good Fit,’ Causes for a ‘Poor Fit,’ Checking the Fit of a Garment, Fitting Techniques. ● Pattern Alteration - Importance of Pattern Alternation, Principles of Pattern Alternation. ● Grading- Definition, Types (Manual and Computerized), Manual-Master Grade Basic Back, Basic Front, Basic Collar and Basic Facing Grading. ● Computerized Grading Technology Information Flow and System Description. 	11
V*	1. Drafting of Basic Skirt block. 2. Drafting Method of different types of Skirt: - <ul style="list-style-type: none"> ● A-Line ● Godet ● Gored 	30

	<ul style="list-style-type: none"> • Full Circular • Pagged <p>3. Preparation of Commercial Paper Pattern of Basic Skirt and Trouser.</p> <p>4. Introduction to Draping and its importance in the field of Fashion Designing: -</p> <ul style="list-style-type: none"> • Draping of Basic Bodice. • Draping of Waist Midriff. • Draping of Basic Skirt Block-Front and Back. • Draping of Top with Princess - Line. • Draping of Cowl Neck Line. • Draping of Skirt with Flare. • Draping of Skirt with Cowl. <p>5. Introduction to Grading: -</p> <ul style="list-style-type: none"> • Grading of basic Skirt block. • Grading of basic dart less bodice. • Grading of Sleeve block. • Grading of Trouser. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="margin-left: 40px;">50</p> <p style="margin-left: 40px;">20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Helen Joseph Armstrong, Pattern Making for Fashion Design, 2000, Dorling Kindersley (India) Pvt. Ltd. India • Sandra Betzina, Fast fit- Easy Pattern Alteration for Every Figure, 2003 Taunton Pr. • Kathleen Maggio, Altered Clothing. • Pati Palmen and Susan Pletsch, Easy, Easier, Easiest Tailoring, 2000, published by Palmer/ Pletsch Inc. • Mullick, Prem Lata, Garment constructions skills, Kalyani Publishers, New Delhi. • Martin M. Shober, “Pattern cutting Making up” CBS Publishers, New Delhi. 		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	III		
Name of the Course	Quality Control Technology		
Course Code	B23-VFT-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Quality Control. 2. To understand the Cutting Quality Control. 3. The students will be able to know about Pressing Quality Control and packaging quality control. 4. To understand Introductions to Quality Control of Finished Garments and Functions of Quality Control Department. <hr/> <p>5*.To impart practical knowledge about preparation of Quality Control of Finished Garments and functions of quality control department.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ol style="list-style-type: none"> 1. Quality Control- Definitions of Quality, Inspection, Quality Control. 2. General Steps in Quality Control 3. Establishment of Raw Material Specifications for Quality with respect to Fabric, Threads, Buttons, Metal Hooks, Zippers, etc. 4. Checking or Inspection Procedure of Incoming Raw Material. <ul style="list-style-type: none"> • Receiving Quality Control. • Lab Testing Dept. Control. • Checking Instruments. 	11
II	<ol style="list-style-type: none"> 1. Cutting Quality Control: - Quality Specifications for Marking, Quality Specifications for Cutting. 2. Stitching Quality: - Seam & Stitch Quality, Sewing Quality with respect to Puckering, Gathering, Strength of Seam, Thread Breakage Needle Heating. 	10
III	<ol style="list-style-type: none"> 1. Pressing Quality Control - Shrinkage of Fusing, Quality of Fusing. 2. Packaging Quality Control - Quality Specifications of garments in merchandising, storage & shipment. 	12
IV	<ol style="list-style-type: none"> 1. Quality Control of Finished Garments: - Checking for Fit & Size, Areas of the Garments to be Inspected, its Classification and Handling/Managing of Defects- Critical, Major & Minor Defects. 2. Role of Quality Examiner in different stages of Production. 3. Functions of Quality Control Department. 	12
V*	<ol style="list-style-type: none"> 1. Fabric Quality: - <ul style="list-style-type: none"> • Fabric Inspection • Inspection Machines/Equipment • Fabric Defects • Grading of Fabric • 4 point and 10-point system • Random Sampling • Acceptable Quality Level (AQL) • Average Out-going Quality Level (AOQL) 	30

	<ul style="list-style-type: none"> • Fabric Testing: Color Fastness Tests (Damp & Dry) • Fabric Shrinkage • Raw Material Inspection: - Sewing Thread, Zippers, Buttons, Buckles and Snap Fasteners, Inter-linings <p>2. Garment</p> <ul style="list-style-type: none"> • Stitch and Seam Defects • Sizing Specifications, Measuring Garments, Tolerance <p>3. Finishing</p> <ul style="list-style-type: none"> • Assessing Quality in Finished Garments • Identifying Finishing Defects in Garments <p>4. Quality Assessment</p> <ul style="list-style-type: none"> • Judging the Quality of Readymade Garments: - Overall Appearance, Fabric, Fit, Workmanship, Price • Garment Fit: - Grain, Set, Line, Balance, Ease • Project Work: Visit to Readymade Garments Retail Outlets belonging to different levels (Designer Outlets, Middle Class Outlets, Ordinary Outlets) and Compare the Workmanship, Fabric, etc. of the Garments. • Presentation of the Report by the Students. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>	
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Vilensky, “Textile Science,” CBS Publisher, New Delhi, 1999.
- Grosicki, Z: “Watson’s Textile Design and Colour” Blackwell Science U.K., 1998.
- Norman Hollen and Jane Saddler “Textiles” Second Edition. (1949), The MacMillan Co.NewYork. Collice- MacMillan Ltd London.
- Sara.J. Kadolph and Anna L.Lanford Eight Edition (1993), Cataloging Publications.
- Bernard P. Corbman, Textiles Fibre to Fabric, McGraw, Hill International Editions, (1993), Cataloging Publications.
- Katharine Paddock, Textiles Fibres and their use – Sixth Edition (1954) Oxford and IBM Publishing Co. Calcutta, Bombay, New Delhi
- Mishra S.P., “A text book of Fiber Science and Technology, New Age Intt., Delhi 2000.
- Goswami B.C. “Textile Yarns”, Technology, structure and Applications”, Mc gram Hill.
- Pizzoto’s J.J., “Fabric Science,” Fair Child Publication, New York.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	III		
Name of the Course	Fabric Embellishment Techniques		
Course Code	B23-VFT-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to fabric decoration and Basic Embroidery Stitches 2. To understand the Techniques of thread embroidery, mirror work, bead work 3. The students will be able to know about Smocking, lace work, applique work and quilting 4. To understand Introductions to Constructed Artistry- Yarn design, Weave design, Knitwear design and Yarn design, Weave design, Knitwear design. <hr/> <p>5*.To impart practical knowledge about preparation of embroidery, mirror work, lace work, Aari work, applique and quilting.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
<u>Instructions for Paper- Setter :</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
<u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Introduction to fabric decoration. ● Embroidery <ul style="list-style-type: none"> - Basic stitches: Running, Back Stitch, Split Stitch, Simple Couching, Stem, Satin, Cross, Blanket, and Crossed buttonhole, Closed buttonhole, Framed, Buttonhole, Chain, Feather, Fly, Herring Bone, French Knot Bullion. - Transferring and Tracing techniques of Designs - Practical Exercises. 	10
II	<ul style="list-style-type: none"> ● Techniques of Thread Embroidery. ● Mirror Work - Mirror work from various places of India; Types of mirrors, stitches, and designs. ● Bead Works – Definition, Bead work from various places of India; articles, materials and stitches used for bead work. ● Metal Thread Embroidery - Definition, Metal Thread Embroidery from various places of India; articles, materials and stitches used for Metal Thread Embroidery. 	11
III	<ul style="list-style-type: none"> ● Smocking – Definition, stitches used for Smocking, Honey Comb Smocking. ● Lace Work – Types of Hand and Machine-made Laces, attaching laces to fabrics ● Applique Work – Definition and Traditional Examples- Raw Edge Applique, Satin-stitched Applique, Couched Applique, Buttonhole Applique, Chain-stitched Applique, Lined Applique, Patch Work. ● Quilting – Definition and Traditional Examples – Kantha and Sujni, executing various designs using running stitch. 	12
IV	<ul style="list-style-type: none"> ● Constructed Artistry - Yarn Design, Weave Design, Knitwear Design. ● Dye & Print Artistry - Tie & Dye, Batik, Stencil, Screen, Block Printing. ● Indian Hand-painted Artistry – Pichvai of Rajasthan, Pad of Rajasthan, Kalamkari of Andhra Pradesh, Patachitra of Orissa. 	12
V*	<ul style="list-style-type: none"> ● Basic equipment’s selection of needle, thread and fabric, methods of transferring the design, care, and preservation of embroidery articles. 	30

<ul style="list-style-type: none"> ● Flat Stitch – Running, Back, Stem, Cross Stitch, Satin Stitch, Long and Short Knotted Stitches-Bullion knots, French Knots. ● Linked or Chain Stitch – Chain, Lazy-daisy, Looped stitch, Blanket Stitch, Feather. ● Developing machine techniques like Gathering, Shirring, Ruffles, Flounces, Pleating, Tucking, Cording, Applique, Patch-work, Quilting, Smoking, Lace-work, etc. ● Bead, Sequence, Mirror, Metal and Aari Work. ● Developing self-fabric textures using techniques such as Drawn Thread-work, Counted Thread-work, etc. <p style="text-align: center;">Product Development</p> <ul style="list-style-type: none"> ● Students need to incorporate all the techniques learnt above and design and develop articles using creative forms, shapes, and designs, etc. ● Document Embroidery layout and designs to create any two of the following: <ul style="list-style-type: none"> I. Accessory II. Lifestyle Product III. Corporate Stationary <p>Students are expected to prepare creative samples on various Fabrics that can be used later to create garments.</p>	
Suggested Evaluation Methods	
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Reader’s, Digest, Complete Guide to Sewing, The Reader’s Digest Associations (Canada) Ltd. Montreal, Pleasantville, New York. ● Cream, Penelope., The Complete Book of Sewing - A Practical Step by Step Guide to Sewing Techniques, DK Publishing Book, New York ,1996. ● Janace E. Bubonia. Apparel production terms and processes, Fairchild Books, New York 2012. ● Chattopadhaya, K.D., 1995, Handicrafts of India, Wiley Eastern Limited, N Delhi 	

- Naik., Traditional Embroideries of India, APH Publishing Corporation, New Delhi.
- Crill, R., Indian Embroidery, Prakash Book Depot, New Delhi, 1999.
- 7 Bhatnagar, Parul, Traditional Indian Costumes & Textiles, Abhishek Publications, Chandigarh, 2006.
- 8. Colette Wolff, The Art of Manipulating Fabric, Krause Publications, Wisconsin

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	III		
Name of the Course	Illustration Techniques		
Course Code	B23-VFT-304 B23-TFD-304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction of illustration and its types 2. To understand the Introduction of fashion illustration, its scope and body proportion. 3. The students will be able to know about Stylized Figures, Different draping style and Color rendering by different media 4. To understand Introductions to Contemporary Crafts traditions, Traditional Indian crafts in modern design. <hr/> <p>5*.To impart practical knowledge about preparation of designs for different dresses, development of textures and prints and designing of accessories.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=15 End Term Exam Marks:50(T)+20(P)=35		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Introduction of Illustration ● Evolution of Illustration ● Types of Illustration ● Difference between Graphic Design and Illustration 	12
II	<ul style="list-style-type: none"> ● Introduction of Fashion Illustration ● Scope of Fashion Illustration ● Explore Body Proportion ● Identifying Shapes within the Body 	10
III	<ul style="list-style-type: none"> ● Stylized Figures ● Concept of Stylized Fashion Croquis ● Converting Basic Figure into Stylized ● Different Draping Style and Colour Rendering by Different Media ● Live Drawing with quick Sketches ● Develop personalized Illustration Style 	12
IV	<ul style="list-style-type: none"> ● Contemporary Crafts Traditions ● Traditional Indian Crafts in Modern Design ● Traditional Crafts with Contemporary Design Practice ● Bridge between Artisan and the Market 	11
V*	<p>Prepare the illustration for the following: -</p> <ul style="list-style-type: none"> ● Head Theory 8 ½, 10 ½ and 12 ½ <ul style="list-style-type: none"> ● Stick Figure ● Block Figure ● Flesh Figure ● Child Figures (Proportion- 0-1 year, 2-3 years, 4-5 years, 6-8 years, 8-10 years) ● Wardrobe collection for Teenagers: - <ul style="list-style-type: none"> ● Formal Suits ● Formal Lehngas ● Formal Kurties ● Casual Jeans Top 	30

	<ul style="list-style-type: none"> • Skirt Top • Casual Suits <ul style="list-style-type: none"> • Create different types of Textures and Prints: - <ul style="list-style-type: none"> • Check • Animal • Abstract • Floral • 3D • Geometric Pattern • Illustration of Figures (Male and Female) in Dresses using various medium like Poster Colour, Water Colour and Straddlers: - <ul style="list-style-type: none"> • Casual Wear • Sports Wear • Beachwear • Night suits • Party Wear • Bridal Wear (Female) • Ethnic Wear • Western Wear • Designing Jewellery for Casual, Bridals and Party Wear • Accessories: - Shoes, Bags, Purses, Belts, Hats and Caps. 	
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Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Jay Calderin. 2011, *Fashion Design Essentials: 100 Principles of Fashion*. 1st Edition, Massachusetts: Rockport Publishers.
- Zarida Zaman, 2012. *New Fashion Designers Sketchbooks*. Paperback, London : A & C Black Publishing.
- Bradley. (1970) *A History of World Costumes*. Peter Owen Ltd.
- Black J.A. "A History of Fashion" Orbis Publishing.
- Kumar Ritu, "Costumes and Textiles of Royal India." Christies Book Ltd, London, 1999.
- Gurey G.S., "Indian costumes," The Popular Book Depot.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	IV		
Name of the Course	Textile Processing, Printing and Dyeing		
Course Code	B23-VFT-401		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Product development and its application of Textile Processing, Steps in producing a fabric and Fabric Finishing 2. To understand the Introduction of Layout in designs, repeat bases, drops devices, Colorant, Dyeing and Printing. 3. The students will be able to know about Colour Fastness to Washing, Lighting Rubbing and Perspiration. 4. To understand Mechanism of various dyeing processes, application of dyes and Natural Dyes. <hr/> <p>5*.To impart practical knowledge about preparation of Colour Fastness to Washing, Lighting Rubbing and Perspiration, various dyeing processes, application of dyes and Natural Dyes</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	1. Introduction of Textile Processing 2. Steps in producing a fabric – Fibre and Yarn Processing, Yarn and Fabric Preparation. 3. Fabric Finishing: - <ul style="list-style-type: none"> • Preparatory Processes (Singeing, Desiring, Scouring, Bleaching, Heat-setting). • Routine Finishes (Beetling, Calendaring, Anti-shrink, Permanent Setting) • Special Purposes Finish (Flame Retardant, Water-repellent, Durable-press, Moth-proofing, Soil-repellent, Anti-static). 	10
II	<ul style="list-style-type: none"> • Layout in Designs, Repeat Bases, Drops Devices. • Colorant- Dyes and Pigments, Classification of Dyes and Pigments based on their application and chemical structure. • Define Dyeing, Stages of Dyeing, Methods of Dyeing, Classification of Dyeing. • Define Printing, Methods of Printing, Types of Printing. 	11
III	<ul style="list-style-type: none"> • Colour Fastness to Washing, Lighting, Rubbing and Perspiration. • Identifying Printing and Dyeing Defects. • Dimensional Stability of Fabric. 	12
IV	<ul style="list-style-type: none"> • Mechanism of various Dyeing Processes, Application of Dyes on various Fibers/Fabrics and their fastness properties (Washing, Light, Perspiration and Rubbing Fastness, ISO Method), Reflectance of Dyes (Spectro-photometer). • Natural Dyes- Application and Ecological Concerns. • Recent Developments in Dyeing and Printing- Toxicity of Dyes, Banned Dyes, Eco-friendly Dyes, etc. Different Compliance Requirements & Azo-free Dyes & Metameric Effect. 	12

V*	<ul style="list-style-type: none"> ● Scouring of Cotton. ● Bleaching of Cotton with Hydrogen Peroxide. ● Mercerization of Cotton. ● Dyeing of Cotton with Direct, Reactive. ● Dyeing of Silk with Acid and Basic Dyes ● Making of Screens and Pastes for Printing, Block Printing, Screen Printing. ● Printing of Cotton Fabric with Direct Style. ● Finishing of Cotton Fabric with Softeners. ● Finishing of Silk Fabric with Softeners. ● Dyeing Fabrics using various Dyes viz Vegetable Dyes (Henna, Pomegranate, Madder, Indigo, etc.) using Tie and Dye and Batik Techniques. ● Pigment Printing, Discharge Printing, Block Printing, Tie and Dye, Batik Printing, Screen Printing, Stencil Printing. 	30
Suggested Evaluation Methods		
Internal Assessment: ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	End Term Examination: 50 20	
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Sara J. Kadolph and Anna L. Langford. *Textiles*. Eight Edition. (1993), Cataloging Publications.
- Bernard P. Corbman. *Textiles Fiber to Fabric*. McGraw. Hill International Editions, (1993), Cataloging Publications.
- William S. Murphy. *Fabric Science*. 2003 (Abhishek Publications)
- Vilencky. *Textile Science*. CBS Publishers, New Delhi.
- Mishra S.P. *A Text Book of Fiber Science and Technology*. New Delhi.
- Pizzoto's J.J. *Fabric Science*. Four Child Publication, New York.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	IV		
Name of the Course	Product Development		
Course Code	B23-VFT-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-B4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Product development and its application 2. To understand the Introduction of Theory of product development 3. The students will be able to know about Product development in fashion 4. To understand Trends of emerging technologies in the fashion product design and development process <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about preparation of Development of Product according to the selected theme</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Product Development and its Application • Importance of Product Development • Stages of Product Development 	10
II	<ul style="list-style-type: none"> • Theory of Product Development • Product Development Process • Importance of Product Development Team 	12
III	<ul style="list-style-type: none"> • Product Development in Fashion • Stages of Product Development in Fashion • The Role of Product Developer in Fashion • Fashion Product Development Software 	11
IV	<ul style="list-style-type: none"> • Trends of emerging technologies in the Fashion Product Design and Development Process. • Importance of Sustainability in Fashion Industry. • Identify the skills that Product Developers need in the Fashion Industry. 	12
V*	<p>Develop a product range and present the same based on the following parameters:</p> <ul style="list-style-type: none"> • Theme Selection. • Designing of Mood Board, Theme Board. • Initial Concepts. • Research & Sourcing. • Illustration through the various stages of Design Process. • Design Development. • Development of Product. • Exhibition/Showcase. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Sara J. Kadolph and Anna L. Langford. <i>Textiles</i>. Eight Edition. (1993), Cataloging Publications. ● Bernard P. Corbman. <i>Textiles Fiber to Fabric</i>. McGraw. Hill International Editions, (1993), Cataloging Publications. ● William S. Murphy. <i>Fabric Science</i>. 2003 (Abhishek Publications) ● Vilencky. <i>Textile Science</i>. CBS Publishers, New Delhi. ● Mishra S.P. <i>A Text Book of Fiber Science and Technology</i>. New Delhi. ● Pizzoto's J.J. <i>Fabric Science</i>. Four Child Publication, New York. 	

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Fashion Technology		
Semester	IV		
Name of the Course	Advance Garment Construction		
Course Code	B23-VFT-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-C4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Definition of garment construction and Terms used in garment construction: - Grain, Binding, Bias, Seam allowance, Selvedge, Yardage, Stay stitching, Tailor's tack, Facing, Ease. 2. To understand the Introduction to basic process sequences of garment production and each unit operation involved: objective, principles of working, fundamental concepts of garment styling. 3. The students will be able to know about Layout and Explain Clothing for different occasions. 4. To understand Fitting strategies, Explain costing of a garment. <hr/> <p>5*.To impart practical knowledge about preparation of Drafting of adult (Women & Men), bodice block and basic sleeve block and pattern making of men's and Women's wear</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Definition of Garment Construction and the terms used: - Grain, Binding, Bias, Seam Allowance, Selvedge, Yardage, Stay Stitching, Tailor's Tack, Facing, Ease. • Tools and equipment used in Garment Construction: - Measuring Tools, Marking Tools, Cutting Tools, Sewing Tools, Finishing Tools. • Flow Chart of Garment Manufacturing. 	10
II	<ul style="list-style-type: none"> • Introduction to the basic process sequences of Garment Production and involvement of each operational unit: - Objectives, Principles of Working, Fundamental Concepts of Garment Styling, Designing and Drawing (flat sketch), Pattern-making, Marker-planning, Cutting, Sewing and Finishing. • Explain different body type shape of Women. How it effects in Garment Construction? • Factors affecting of garments. 	11
III	<ul style="list-style-type: none"> • Layout: - Definitions, Principles, Types, Importance of Fabric Layout. • Estimation: - Definitions, Importance of Fabric Estimation, Advantages, and Methods of Estimating Material Requirement for Garment. • Explain Clothing for different occasions. 	12
IV	<ul style="list-style-type: none"> • Fitting Strategies, Fit Components, Fit Evaluation, 03 Fitting Checks, Customized Clothing and Commercial Patterns. • Grading: - Introduction, Definition, Sizes, Principles, Types, Grade Points and Importance of Manual and Computerized Grading and Software Used for Grading. • Explain Costing of a Garment. 	12

V*	<p>1. Draft of the following: -</p> <ul style="list-style-type: none"> ❖ Adult Bodice Block and Basic Sleeve Block. ❖ Basic Skirt Block. ❖ Men’s Bodice Block. <p>2. Draft and construct the pattern as per the given specification: -</p> <ul style="list-style-type: none"> • Women’s Wear <ul style="list-style-type: none"> ❖ Ladies Top. ❖ Ladies Shirt. ❖ Blouse. ❖ Circular Skirt/ A- Line skirt. • Men’s Wear <ul style="list-style-type: none"> ❖ Basic Shirt. ❖ Polo T-Shirt/ T-Shirt with Full Sleeve. ❖ Trouser. 	30
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Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Elizabeth Liechty, Judith Rasband. *Fitting and Pattern Alteration*, Bloomsbury Academic USA, 2016.
- Natalie Bray. *Dress Fitting - Basic Principles and Practice*, BSP Professional Book Publishers, 2nd Edition, 1991.
- Armstrong Helen Joseph. *Pattern Making for Fashion Design*, 3rd edition, Prentice Hall, 1999.
- Bernard Zamkoff and Jeanne Price. *Creative Pattern- Skills for Fashion Design*. Fairchild Publications, 1990.
- Frances Leto Zangrillo. *Fashion Design for the Plus-size*. Fairchild Publication, 1999.
- Gavin Waddell. *How Fashion Works*. Blackwell Publishing, 2005.
- Cooklin G. *Garment Technology for Fashion Designers*. Blackwell Publishing, 1977.
- *Encyclopedia of Sewing*.
- Marshall Cavendish. *Encyclopedia of Dressmaking*.

- *Readers Digest Book of Sewing.*
- Thomas Anna Jacob. *The Art of Sewing*, USB Publishers, New Delhi, 1994.
- Verma G. *Cutting & Tailoring Theory*, Asian Publishers, New Delhi, 1999.

**KURUKSHETRA
UNIVERSITY KURUKSHETRA**



**Scheme of Examinations and Syllabus
for
Under-Graduate
Programme**

**Bachelor of Vocation in Food
Science and Quality Control**

Interdisciplinary Scheme-D

**Under Multiple Entry-Exit,
Internship and CBCS-LOCF
in accordance to NEP-2020**

w.e.f. 2023-24 (in phased manner)

Department of Home Science

KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP
2020
w.e.f. 2023-24 (in phased manner),
Bachelor of Vocation in Food Science and Quality Control

SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A1 4 credit	B23-FTQ-101	Introduction to Food Science	3	3	20	50	70	3 hrs.
		Introduction to Food Science (Practical)	1	2	10	20	30	4 hrs.
CC-B1 4 credit	B23-FTQ-102	Basics of Biochemistry	3	3	20	50	70	3 hrs.
		Basics of Biochemistry (Practical)	1	2	10	20	30	4 hrs.
CC-C1 4 credit	B23-FTQ-103	General Microbiology	3	3	20	50	70	3 hrs.
		General Microbiology (Practical)	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-FTQ-104	Hygiene and Sanitation	1	1	10	20	30	3 hrs.
		Hygiene and Sanitation (Practical)	1	2	5	15	20	4 hr.
MDC-1 3 credit	From the courses offered by D/C/1							
AEC-1 2 credit	From Available AEC-1 pool list of two credits as per NEP							
SEC-1 3 credit	From Available SEC-1 pool list of three credits as per NEP							
VAC-1 2 credit	From Available VAC-1 pool list of two credits as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A2 4 credit	B23-FTQ-201	Basic Principles of Food Processing & Preservation	3	3	20	50	70	3 hrs.
		Basic Principles of Food Processing & Preservation (Practical)	1	2	10	20	30	4 hrs.
CC-B2 4 credit	B23-FTQ-202	Food Chemistry	3	3	20	50	70	3 hrs.
		Food Chemistry (Practical)	1	2	10	20	30	4 hrs.
CC-C2 4 credit	B23-FTQ-203	Dairy Technology and Quality Control	3	3	20	50	70	3 hrs.
		Dairy Technology and Quality Control (Practical)	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-FTQ-204	Microbiology -II	1	1	10	20	30	3 hrs.
		Microbiology – II (Practical)	1	2	5	15	20	4 hr.
MDC-2 3 credit	From the courses offered by D/C/1							
AEC-2 2 credit	From Available AEC-2 pool list of two credits as per NEP							
SEC-2 3 credit	From Available SEC-2 pool list of three credits as per NEP							
VAC-2 2 credit	From Available SEC-2 pool list of two credits as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A3 4 credit	B23-FTQ-301	Cereal And Bakery Technology and Quality Control	3	3	20	50	70	3 hrs.
		Cereal And Bakery Technology and Quality Control (Practical)	1	2	10	20	30	4 hrs.
CC-B3 4 credit	B23-FTQ-302	Fruit & Vegetable Technology and Quality Control	3	3	20	50	70	3 hrs.
		Fruit & Vegetable Technology and Quality Control (Practical)	1	2	10	20	30	4 hrs.
CC-C3 4 credit	B23-FTQ-303	Food Safety and Quality Assurance-I	3	3	20	50	70	3 hrs.
		Food Safety and Quality Assurance-I (Practical)	1	2	10	20	30	4 hrs.
CC-M3 4 credit	B23-FTQ-304	Techniques in Bio Chemistry	3	3	20	50	70	3 hrs.
		Techniques in Bio Chemistry (Practical)	1	2	10	20	30	4 hrs.
MDC-3 3 credits	From the courses offered by D/C/1							
AEC-3 2 credit	From Available AEC-3 pool list of two credits as per NEP							
SEC-3 3 credit	From Available SEC-3 pool list of three credits as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A4 4 credit	B23-FTQ-401	Meat Technology and Quality Control	3	3	20	50	70	3 hrs.
		Meat Technology and Quality Control (Practical)	1	2	10	20	30	4 hrs.
CC-B4 4 credit	B23-FTQ-402	Technology of Pulses, Legumes and Oil seeds and Quality Control	3	3	20	50	70	3 hrs.
		Technology of Pulses, Legumes and Oilseeds and Quality Control (Practical)	1	2	10	20	30	4 hrs.
CC-C4 4 credit	B23-FTQ-403	Food Safety and Quality Assurance-II	3	3	20	50	70	3 hrs.
		Food Safety and Quality Assurance-II (Practical)	1	2	10	20	30	4 hrs.
CC-M4(v) 4 credit (2+2)	From Available CC-M4(V) pool list of four credit as per NEP							
AEC-4 2 credit	From Available AEC-4 pool list of two credits as per NEP							
VAC-3 2 credit	From Available VAC-3 pool list of two credits as per NEP							

Internship of 4 credits of 4-6 weeks duration after 4th semester (If not done after 2nd semester)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-FTQ-501	Advances in Food Processing & Preservation	3	3	20	50	70	3 hrs.
		Advances in Food Processing & Preservation (Practical)	1	2	10	20	30	4 hrs.
CC-B5 4 credit	B23-FTQ -502	Principles of Food Engineering	3	3	20	50	70	3 hrs.
		Principles of Food Engineering (Practical)	1	2	10	20	30	4 hrs.
CC-C5 4 credit	B23-FTQ-503	Microbial Technology and Therapeutic Foods	3	3	20	50	70	3 hrs.
		Microbial Technology and Therapeutic Foods (Practical)	1	2	10	20	30	4 hrs.
CC-M5 (V) 4 credit (2+2)	From available CC M-5(V) pool list of four credit as per NEP							
Skill Enhancement course	Internship #4 credit							

Four Credits of Internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of students who pursue 3rd year UG Programme without taking exit option.

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A6 4 credit	B23-FTQ-601	Food Industry Waste & By-Product Management	3	3	20	50	70	3 hrs.
		Food Industry Waste & By-Product Management (Practical)	1	2	10	20	30	4 hrs.
CC-B6 4 credit	B23-FTQ-602	Nutrition and Health	3	3	20	50	70	3 hrs.
		Nutrition and Health (Practical)	1	2	10	20	30	4 hrs.
CC-C6 4 credit	B23-FTQ-603	Food Logistics and Supply Chain Management	3	3	20	50	70	3 hrs.
		Food Logistics and Supply Chain Management (Practical)	1	2	10	20	30	4 hrs.
CC-M 6 4 credit	B23-FTQ-604	Entrepreneurship Development and Management	3	3	20	50	70	3 hrs.
		Entrepreneurship Development and Management (Practical)	1	2	10	20	30	4 hrs.
CC-M-7(V) 4 Credits	From available CC M-7(V) pool list of four credit as per NEP							

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	I		
Name of the Course	Introduction to Food Science		
Course Code	B23-FTQ-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC- A1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1 To understand the basic concept of food science 2. To understand the objectives of cooking, processing and preservation 3. The students will be able to know the storage and processing of cereals, millets, pulses, milk, vegetables, fruits etc. 4. To understand the objectives of processed and convenience foods_____ 5*.To impart practical knowledge about the cooking, processing and preservation. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> Objectives of cooking, processing, preservation, methods of cooking with their merits and demerits. Effect of cooking and heat on nutritive value of foods. Cereals, millets and pulses: Composition and nutritive value, types, storage, processing. 	12
II	<ul style="list-style-type: none"> Cereal cookery: Gluten and factors affecting the gluten formation, cereal starch, gelatinization, dextrinisation. Pulse and legumes cookery: Composition, Effect of heat, acid and alkali on cooking of pulses, factors affecting cooking quality, toxic constituents in pulses, processing of pulses. 	12
III	<ul style="list-style-type: none"> Nuts and oil seeds: Composition, types, storage, oil extraction, processing, toxic constituents and role in cookery. Milk and milk products: Composition, properties, processing and packaging, effect of heat, acid, enzymes, microbes, processed and indigenous milk products and their quality and role in cookery. 	10
IV	<ul style="list-style-type: none"> Vegetables and fruits: Composition, types, storage, selection, post-harvest changes, effect of processing, preservation and cooking on different pigments of both fruits and vegetables. Processed and convenience foods: Ready to eat foods, frozen foods, dehydrated foods, instant food mixes. 	11

Academy, Udaipur.

6. Sivasankar,B.(2002).Food Processing and Preservation.PHI Learning Pvt.Ltd.Delhi.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	I		
Name of the Course	Basics of Biochemistry		
Course Code	B23-FTQ-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –B1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the basic concept bio-molecules 2. To gain knowledge about Biological properties of water, pH, ionization, biological buffers. 3. To have knowledge of carbohydrates, protein, lipids, vitamins, enzymes etc. 4. To gain knowledge about Nucleotides and Nucleic acids <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about the bio-molecules and their methods of determination</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to Bio-molecules: Biological properties of water, pH, ionization, biological buffers. • Classification and structure: Amino acids, essential amino acids, rare and non-protein amino acids. • Proteins: Classification and structure of amino acids, essential amino acids and non essential amino acids. • Classification and Structural organization of proteins: Primary structure; Secondary structure-α-Helix, β- pleats and β – turn Tertiary structure myoglobin and lysozyme etc. Quaternary structure-hemoglobin. Forces stabilizing different structural levels. 	12
II	<ul style="list-style-type: none"> • Structure and function of carbohydrates: Monosaccharides; families of monosaccharides; simple aldoses and ketoses, pyranose and furanose ring forms, reducing and non-reducing sugars, sugar derivatives viz. sugar alcohols, amino sugars, deoxy sugars, acidic sugars, Glycosidic bond. • Disaccharides and Oligosaccharides: Definition, structure and function of important disaccharides and oligosaccharides viz. lactose, sucrose, maltose, raffinose, stachyose, verbascose etc. • Polysaccharides: Homo and Hetero polysaccharides, storage. • polysaccharides: Starch and Glycogen. 	12

	<ul style="list-style-type: none"> • Structural polysaccharides: Cellulose and Chitin. 	
III	<ul style="list-style-type: none"> • Lipids: Introduction and Classification – simple and complex lipids. • Fatty acids: Structure and nomenclature, soap value, acid value, iodine number, rancidity. • Essential fatty acids: A general account of structure and function of triacylglycerols, phospholipids, glycolipids, sphingolipids, steroids, bile acids, bile salts and terpenes. • Vitamins: Water soluble and fat soluble, their structure and functions. 	11
IV	<ul style="list-style-type: none"> • Enzyme: General properties of enzymes and coenzymes, their nature, classification and nomenclature of enzymes, fundamentals of steady state kinetics, enzyme inhibition, isozymes. • Nucleotides and Nucleic acids: Building blocks: bases, sugar and phosphates. • Structure and nomenclature of nucleosides and nucleotides. • Polynucleotides, DNA (A, B, ZDNA) and RNA (rRNA, mRNA, tRNA). 	10
V*	<ul style="list-style-type: none"> • Qualitative tests for Carbohydrates. • Estimation of reducing and non-reducing sugars. • Separation of sugars by Paper Chromatography. • Qualitative tests for Protein and Amino acids. • Protein estimation by Lowry method. • Determination of starch content from wheat flour. • Determination of acid value of a fat/oil. • Determination of saponification and iodine value of Lipids. • Starch hydrolysis by salivary amylase. • Estimation of Vitamin C. • Estimation of DNA and RNA. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Lehninger:PrinciplesofBiochemistry,4thedition,byDavidL.NelsonandM.M.Cox(2005)Macmillan/Worthpublishers/W.H. Freeman & Company 2. Biochemistry(2004)byJ.DavidRawn,PanamaPublishingCorporation,NewDelhi 3. Biochemistry, 2nd edition, by R.H. Garrettand C.M. Grisham (1999). Saunders College Publishing, N.Y. Sons, NY. 4. Biochemistry, 4th edition, by L. Stryer (1995). W.H. Freeman & Co. ,N.Y. 5. Fundamentals of Biochemistry, 2nd ed.,by Donald Voet, Judith G.Voet. 	

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	I		
Name of the Course	General Microbiology		
Course Code	B23-FTQ-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –C1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. The students will be able to understand the basic concept of microbiology 2. To enable the students to have knowledge of microscope 3. To understand the methods for Control of microorganisms 4. To gain knowledge about microbial nutrition and growth <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about the microscope, staining techniques, media preparation etc.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction and Scope of Microbiology: Definition and history of microbiology, contributions of Antony van Leeuwenhoek, Louis Pasteur, Robert Koch, Importance and scope of Microbiology as a modern Science Branches of microbiology. • Microscope: Construction and working principles of different types of microscopes– compound, dark field , Phase contrast, Fluorescence and Electron (Scanning and transmission). 	12
II	<ul style="list-style-type: none"> • Control of microorganisms: Principles and Applications of Physical Methods. Autoclave, Hot air oven, laminar airflow, Seitz filter, Sintered glass filter, and membrane filter chemical Methods: Alcohol, Aldehydes, Phenols, Halogen and Gaseous agents. Radiation Methods: UV rays and Gamma rays. • Staining techniques: Principles of staining, types of stains – simple stains, structural stains and Differential stains. 	12
III	<ul style="list-style-type: none"> • Microbial Taxonomy: Concept of microbial species and strains, classification of bacteria based on – morphology (shape and flagella), staining reaction, nutrition and extreme environment. • General Account of Viruses and Bacteria: Bacteria–Ultra structure of bacteria cell (both Gram positive and Gram negative) including, endospore and capsule, Viruses–Structure and classification. 	11
IV	<ul style="list-style-type: none"> • Principles of Microbial Nutrition: the requirements for carbon, nitrogen, sulfur, growth factors etc., role of oxygen in nutrition, 	10

	<p>nutritional categories among micro-organisms.</p> <ul style="list-style-type: none"> ● Microbial growth: Kinetics of microbial growth, growth curve, synchronous growth, factors affecting bacterial growth. 	
V*	<ul style="list-style-type: none"> ● Safety measures in microbiology laboratory. ● Cleaning and sterilization of glass ware. ● Study of instruments: Compound microscope, Auto clave, Hot air oven, pH meter, Laminar air flow and centrifuge. ● Staining techniques in Microbiology-simple, negative and differential staining. ● Media preparation: Nutrients agar, MRBA and Nutrient broth Isolation of bacteria and fungi from soil, air, and water– dilution and pour plate methods. ● Isolation, Purification, maintenance and preservation techniques of aerobic and anaerobic cultures. ● Isolation of Microorganisms by pour plate and streak plate methods. ● Presumptive and confirmation test for the determination of coli form bacteria. ● Determination of viability of micro organisms. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ● Practicum ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Atlas, R.M. (1998) Microbiology: Fundamental and applications. 2nd edition, Macmillan Publishing Company, New York.
2. Pelezar ,M.J. ,Chan, E.G.S. and Krieg, N.R.(1998)Microbiology.
3. Heritage,J.,Evance,E.G.V.andKillington,R.A.(1999)Microbiologyinaction.Cambridg eUniversity Press.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	I		
Name of the Course	Hygiene and Sanitation		
Course Code	B23-FTQ-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire basic knowledge about hygiene and sanitation in food plant 2. To understand the food grade standards for different processed products 3. To gain knowledge about food storage and food handling 4. To have knowledge of food poisoning and their causes <hr/> <p>5*.To impart practical knowledge about the hygiene and sanitation in relation to food industry.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks:20(T)+15(P)=35		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Meaning, Principle, Concept and significance of hygiene and sanitation in relation of food industry. • Water Requirement and use: sources of water supply, water pollution, purification of water, portable water and its quality-Criteria and standards, hardness of water and its treatment, defluoridation of water, Domestic and Industrial. Food and water borne infections. Prevention and control. 	4
II	<ul style="list-style-type: none"> • Food grade standards for different processed products. • Food storage: general guide lines and storage of specific foods. Principles of hygiene and sanitation-sanitary procedures while preparation, cooking, and holding food, serving and displaying food, specific food operations. 	3
III	<ul style="list-style-type: none"> • Food hygiene: Contamination of foods from various sources- Green plants and fruits, animals, sewage, soil, air and water and their health hazards. • Food spoilage: Causes of spoilage of Perishable, semi perishable and nonperishable foods. • Personal hygiene and food handling habits of personnel sanitary procedures for preparation, handling and storage of foods. 	4
IV	<ul style="list-style-type: none"> • Food poisoning caused by bacteria: <i>Salmonella</i>, <i>Staphylococcal poisoning</i>, <i>Botulinum</i>, <i>Clostridium perfringens</i> and <i>B. cereus</i>, Sources, incubation period, mechanism of action. • Food Poisoning: Prevention and control, Food Poisoning caused by agents other than microorganism, Poisonous plants, animals, chemicals, metals and pesticides etc. 	4

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	II		
Name of the Course	Basic Principles of Food Processing & Preservation		
Course Code	B23-FTQ-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –A2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. The students will gain basic knowledge of food processing 2. To understand the methods of food preservation 3. To acquire the knowledge of different food additives 4. To have knowledge of new and unconventional methods of preservation <hr/> <p>5*.To impart practical knowledge about the food processing and preservation</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70	Time:3hrs (T) 4hrs(P)		
Part B- Contents of the Course			

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Food Processing: Scope and importance of food processing; historical developments in food processing, • Classification of food on basis of shelf life, pH and origin • Food spoilage: Microbial, physical, chemical & miscellaneous. 	10
II	<ul style="list-style-type: none"> • Thermal processing methods and preservation: Heat resistance of microorganisms, thermal death curve. Blanching, pasteurization, sterilization, Canning of foods, heat penetration • Preservation by low temperature Refrigeration, refrigeration load, refrigeration systems. • Freezing and frozen storage: Freezing curves, slow and quick freezing, factors determining freezing rate, freezing methods, advantages and disadvantages, changes in food during freezing, freeze drying in food processing. 	11
III	<ul style="list-style-type: none"> • Moisture removal: Evaporation, drying, dehydration and concentration. • Principle, Methods, equipment and effect on quality: Drying curve, drying methods and type of dryers; physical and chemical changes in food during drying. Need and principle of concentration, methods of concentration (thermal concentration, freeze concentration, membrane concentration) changes in food quality by concentration 	12
IV	<ul style="list-style-type: none"> • Preservation by salt and sugar: Pickling, fermentation, intermediate moisture foods. 	12

	<ul style="list-style-type: none"> • Food Additives: Different types of food additives (preservatives, acidulants, emulsifiers, antioxidant, leavening agents etc.) and its application in food industry • New and unconventional methods of preservation: pulse electric field processing, high pressure processing, ohmic and infrared, microwave heating. 	
V*	<ul style="list-style-type: none"> • Orientation to the laboratory • Quality evaluation of various raw materials for food processing. • Roasting of food items. • Effects of low temperature storage on various foods. • Preservation by using sugar and salt. • Preservation of food by drying, chemical and radiation. • Shelf life evaluation of various food products. • Production of a fermented food • Demonstration and prevention of Browning reactions. 	30
Suggested Evaluation Methods		
Internal Assessment:		End Term Examination:
<ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 10 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		50
		20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Norman, N.P and Joseph, H.H.(1997). Food Science, Fifth edition, CBS Publication, New Delhi
2. Kalia M. and Sangita, S. (1996). Food Preservation and Processing, First edition, Kalyani Publishers, New Delhi.
3. Sivasankar, B. (2002): Food Processing and Preservation, Prentice Hall of India Pvt.Ltd., New Delhi.
4. Fellows, Food process technology: Principles and Technology, CRC publications.
5. Khetarpaul N. (2005). Food Processing and Preservation, Dya Publishing House , New Delhi

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	II		
Name of the Course	Food Chemistry		
Course Code	B23-FTQ -202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –B2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the basic concept of chemistry in food 2. To acquire the knowledge of carbohydrates, proteins, lipids and other nutrients of food 3. To gain knowledge about the browning reaction and food enzymes 4. The students will gain knowledge of plant pigments and flavor and aroma of foods <hr/> <p>5*.To impart practical knowledge about the determination of moisture, acidity, pH in food sample</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<p>Food chemistry: Definition, scope and importance; water in food, water activity and shelf life of food; chemistry and stability of water and fat soluble vitamins; chemical properties of minerals and their bio availability, enrichment and fortification.</p> <p>Carbohydrates: Classification, physical and chemical properties of sugars, functional properties and uses of pectic substances, gums and dietary fiber in food; browning reaction in food: enzymatic and non-enzymatic browning, their occurrence and applications in food; starches: functionality of starch in foods, gelatinization and retrogradation of starches, modified starches, resistant starches.</p>	10
II	<p>Proteins: Structures and sources of proteins; chemical and physical properties of protein, changes during processing protein penetration mechanism (folding and unfolding) and application.</p> <p>Browning reaction: Enzymatic and non enzymatic browning, advantages and disadvantages, factors affecting their reaction and control.</p>	11
III	<p>Lipid: Structure, physical and chemical property, utilization of fats and oil, margarines, shortening, Hydrogenation and its importance, Lipid per oxidation: mechanism, development of rancidity, antioxidants in foods; types and function etc.</p> <p>Food enzymes: Enzymatic modification, criteria for purity enzyme and application of enzymes in food technology.</p>	12

IV	<p>Plant pigments: Structure and properties of chlorophyll, anthocyanins, carotenoids, chemical changes during processing.</p> <p>Flavour and aroma of foods: Importance and method of retention of flavor and technology, flavor enhancer MSG, recent development in flavor technology.</p>	12
V*	<ul style="list-style-type: none"> • Estimation of proteins from various food samples. • Determination of moisture in food sample • Determination of Acidity and pH in food sample/beverages. • Precipitation of proteins by acid, alkali and metals. • Estimation of nitrogen content in various food samples. • Estimation of rancidity of fats. • Estimation of crude fibre in food sample • Determination of total ,non-reducing and reducing sugars • Calculate activity of enzymes from various food samples. • Extraction of flavors from various fruits and vegetables. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Enzymes in Food Processing, 2nd Edition Ed., by G.A. Tucker & L.F.J. Woods Blackie Academic, 1995.
2. Food Chemistry by H.D. Belitz & W. Grosch Springer-Verlag, Berlin, 1997.
3. Food Chemistry: A Laboratory Manual by Miller, D.D., John-Wiley, USA, 1998.
4. Food Science by N.N. Potter & J.H. Hotchkiss Chapman & Hall, 1995.
5. Food Enzymes: Structure & Mechanism by Dominic W.S. Wong, Chapman & Hall, & Hall, 1995.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	II		
Name of the Course	Dairy Technology and Quality Control		
Course Code	B23-FTQ-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –C2		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the concept of dairy and scope and importance now a days 2. To acquire the knowledge of basic unit operation and equipments involved in processing of milk and milk products 3. To understand the methods of drying and dehydration of milk 4. The students will gain knowledge of dairy products manufacturing and quality control <hr/> <p>5*.To impart practical knowledge about the sampling of milk, platform test for dairy products</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30		Time:3hrs (T) 4hrs(P)	

End Term Exam Marks:50(T)+20(P)=70		
Part B- Contents of the Course		
<p><u>Instructions for Paper- Setter :</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.</p>		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Dairy industry in India: scope, strengths and opportunities for dairy industry. • Milk: definition, composition and nutritive value. • Factors affecting composition of milk Physico-chemical properties of milk. 	10
II	<ul style="list-style-type: none"> • Introduction of basic unit operation and equipments involved in processing of milk and milk products: transportation, milk procurement, handling, receiving, chilling, filtration/clarification, standardization, pasteurization & pasteurizer, sterilization, homogenization & homogenizer, UHT processing. • Drying and dehydration of milk: Drying theories, drying equipments (spray and drum drier) manufacture of WMP, SMP. • Technology of indigenous milk products: Production of khoa, srikhand, rabri, dahi, kulfi ghee, paneer, channa. 	11

III	<ul style="list-style-type: none"> • Dairy products manufacturing: Special milk, Yoghurt, Cheese making, Ice cream manufacturing, cream and butter (process and defects, their causes and prevention). • Utilization of milk industry by-products. • Newer concepts in dairy products: cream powder, sterilized cream, butter powder, cheese spread, whey protein concentrates. Types of membranes, applications of reverse osmosis, ultra-filtration and microfiltration. 	12
IV	<ul style="list-style-type: none"> • Quality Control: Grading of milk and milk products, criterion of grading, milk adulteration problem, synthetic milk, PFA standards for market milk and milk products. • Dairy plant sanitation: Hygiene in dairy Industry, different types of cleansing and sanitizing agents, their applications, cleaning systems. 	12
V*	<ul style="list-style-type: none"> • Sampling of milk. • To conduct the plat form tests of milk sampling of dairy products. • Determination of physico-chemical properties of milk. • Estimation of fat % by Gerber method. • Detection of common adulterants in milk and milk products. • To perform SPC of milk. • To ascertain microbiological quality of milk by MBRT. • To prepare ice cream from a commercially available ice cream mix and to study defects in ice cream. • Preparation of traditional Indian dairy products. • Quality testing of dairy products likes khoa, paneer, ghee etc. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation:00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Sukumar, De (1994). Outlines of Dairy Technology. Oxford University Press. 2. Smith G. (2003). Dairy processing improving quality. Wood head Publishers. 3. Aneja RP, Mathur BN, Chandan RC & Banerjee AK. 2002. Technology of Indian Milk Products. Dairy India Publ. 4. Rathore NS et al. 2008. Fundamentals of Dairy Technology - Theory & Practices. Himanshu Publ. 	

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	II		
Name of the Course	Microbiology-II		
Course Code	B23-FTQ-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the basic aspects and scope of food microbiology 2. The students will gain knowledge of food fermentations 3. To understand the methods of chemical preservatives and natural antimicrobial compounds 4. To acquire the knowledge of microbiology of fruits and vegetables <hr/> <p>5*.To impart practical knowledge about the aseptic, sterilization, morphological methods etc.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15		Time:3hrs (T) 4hrs(P)	

End Term Exam Marks:20(T)+15(P)=35	
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Basic aspects and scope of food microbiology; Intrinsic and extrinsic factors that affect microbial growth in foods. • Microbial spoilage of Milk, fruits, fruit juices, vegetables, cereals, meat, poultry, sea foods, carbonated soft drinks, canned foods, chemical changes caused by microorganisms, control of spoilage. 	3
II	<ul style="list-style-type: none"> • Food Fermentations, traditional fermented foods of India and other Asian countries Probiotics, prebiotics and synbiotics. • Food preservation-Physical methods • Chemical preservatives and natural antimicrobial compounds, biology based preservation system. • Control of microorganisms by use of low and high temperature, asepsis, water activity, drying, preservatives, radiation and pressure for control of micro organisms. 	4
III	<ul style="list-style-type: none"> • Microbiology of milk and milk products; Sources of contamination, spoilage and prevention. • Microbiology of fruits and vegetables. • Cereal and cereal products. • Meat and meat products. • Fish and other sea foods. • Poultry and eggs. 	4

Recommended Books/e-resources/LMS:

- Stanier Ingraham and Wheels and Painter.1992.General Microbiology.5thed.
- Kapoor,T.and Yadav.1991.AnIntroduction to Microbiology.
- Pelczar, *etal.*1996. Microbiology, 5thedn.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	III		
Name of the Course	Cereal and Bakery Technology and Quality Control		
Course Code	B23- FTQ- 301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-A3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To gain basic knowledge about the cereal technology 2. To acquire the knowledge of milling of rice and corn 3. To understand the methods of Barley malting process 4. To have knowledge of preparation of bakery products and noodles & pasta products <hr/> <p>5*.To impart practical knowledge about the physico-chemical properties of & quality assessment of wheat and wheat based products</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<p>Cereal Technology: Structure and chemical composition of prominent cereals(wheat, rice, corn, barley); criteria of wheat quality – physical and chemical factors; Wheat milling – general principles and operations, cleaning, conditioning and roller milling systems; flour extraction rates and various flour grades and types; criteria of flour quality, dough rheology and its measurement.</p> <p>Milling of rice: Types of rice mill; huller mill, sheller-cum-cone polisher mill; modern rice milling unit operation-dehusking, paddy separation, polishing and grading; factors affecting rice yield during milling; rice bran rice milling by products. Rice parboiling technology, different parboiling methods, changes during parboiling, advantages and disadvantages of parboiling. Cooking characteristics of rice and factors affecting cooking of rice, rice convenience foods: precooked rice, canned.</p>	10
II	<p>Corn milling: Wet and dry milling of corn, products of wet and dry milling of corn.</p> <p>Barley malting process: Steeping, germination and drying; significance of malting; different types of malts and their food applications.</p>	11
III	<p>Introduction: Status and scope of bakery industry in India, Raw material for bakery products, their role and PFA specification of these raw material.</p> <p>Bread making processes,: Different types of bread and preparation of bread using different methods</p> <p>, quality evaluation of bread, staling of bread.</p>	12

IV	<p>Technology of biscuit, cookies, crackers and cakes manufacturing: Different types of biscuits and preparation of biscuits using different methods, quality evaluation of biscuits. Preparation of cakes using different methods, types of cakes quality evaluation of cakes.</p> <p>Technology of noodles and pasta products, hygienic condition required in bakery plant, operation and maintenance of bakery equipment.</p>	12
V*	<ul style="list-style-type: none"> • Physico chemical properties of wheat and wheat based products. • Quality assessment: Flour, yeast, water, leavening agents. • Manufacturing and comparative Sensory evaluation of bread. • Manufacturing of and Sensory evaluation of cookies. • Manufacturing and comparative sensory evaluation of cakes. • Manufacturing and sensory evaluation of cracker. • Manufacturing and sensory valuation of pizza and noodles. • Cooking quality of rice. • Malt preparation. • Visit to bakery plants. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

1. Amuel, A.M. (1996) “The Chemistry and Technology of Cereals as Food and Feed “, CBS Publisher & Distribution, New Delhi.
2. Honeney, R.C. (1986) “Principles of Cereal Science and Technology”, Am. Assoc Cereal Chemists, St. Paul, MN, USA.
3. Pomeranz, Y. (1976) “Advances in Cereal Science and Technology”, Am. Assoc. Cereal Chemists St. Paul, MN, USA.
4. Chakraverty, A. 1988. Postharvest Technology of Cereals, Pulses and oilseeds. Oxford and IBH, New Delhi.
5. Durbey, S.C. 1979. Basic Baking: Science and Craft. Gujarat Agricultural University, Anand (Gujrat).
6. Kent,N.L.1983. Technology of Cereals.3rdEdn.PergamonPress,Oxford,UK.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	III		
Name of the Course	Fruit and vegetable Technology and Quality Control		
Course Code	B23-FTQ-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –B3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the status and scope of fruit and vegetable industry in India 2. To understand the general principles and methods of preservation and processing. 3. To acquire the knowledge of canning of fruits and vegetables 4. To have knowledge of preparation of preparation of jam, jellies, marmalades etc. <hr/> <p>5*.To impart practical knowledge about the preparation and comparative sensory valuation of tomato products, jam, jellies, fruit juices etc.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30		Time:3hrs (T) 4hrs(P)	

End Term Exam Marks:50(T)+20(P)=70	
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Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction: Status and scope of fruit and vegetable industry in India, General principles and methods of preservation and processing. • Classification and composition of fruits and vegetables and their nutritional significance, factors influencing maturity and ripening, pre harvest factors influencing post-harvest physiology, bio- chemical changes during maturation, ripening. • Post harvest handling procedures and treatments: Pre cooling methods, washing, blanching, peeling, sorting and grading of fruits and vegetables, edible coatings. 	12
II	<ul style="list-style-type: none"> • Storage systems: CA&MA storage structures, refrigerated-refrigerants, definition and classification, natural cooling by evaporation. • Canning of fruits and vegetables: method, tin and glass containers, spoilage of canned foods. 	12
III	<ul style="list-style-type: none"> • Vegetable Processing: Tomato Products, pectic substances, fermented fruits, pickling & preparation of chutneys, vinegar production. • Technology for Fruit juice-Preparation of syrups, squash, RTS, cordials & nectars, clarification and debittering of juices, concentration of juices. 	11

	<ul style="list-style-type: none"> • Fruit Technology preparation of jam, jellies, marmalades, Fruit preserves and candied fruits, dehydrated fruits & vegetables, Utilization of waste. 	
IV	<ul style="list-style-type: none"> • Processing and Preservation for a small scale industry: Products for small scale manufacture, equipments, medium and large sized multi commodity processing. • Quality Control: Storage disorders, quality & safety factors & export standards, Standards for processed Fruit and vegetable products & regulations. 	10
V*	<ul style="list-style-type: none"> • To determine the TSS of the given sample using refractometer. • To determine the titrable acidity and acid brixratio of the given sample. • Determination of ascorbic acid content in given sample. • To study the preservative action of sugar in fruit juice. • Testing of adequacy of blanching. • Preparation and quality evaluation of pickles, chutneys. • Preparation and comparative sensory valuation of tomato products. • Preparation and comparative sensory valuation of jam, jellies, and preserve. • Preparation and quality evaluation fruit juices. • Drying and shelf life evaluation of fruit and vegetables. • Waste utilization: Extraction of pectin from apple peels and lemon rind. • Visit to fruits and vegetable processing industries 	30
Suggested Evaluation Methods		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	III		
Name of the Course	Food Safety and Quality Assurance-I		
Course Code	B23-FTQ-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –C3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the objectives of general concept of quality and quality control 2. To have knowledge of GAP, GMP, GHP, good lab practices 3. To acquire the knowledge of quality improvement techniques 4. To gain knowledge about the Food adulteration and food safety <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about the detection of indicator microbes in various food products</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Concepts of food quality applied to food industry: General concept of quality and quality control, objectives. • Importance and functions of quality control. • Quality assurance and total quality control: Principles of food quality assurance, nature of total quality control, approaches to TQC. • General awareness and role of management practices in quality control, GAP, GMP, GHP, good lab practices. 	10
II	<p>Quality improvement techniques:</p> <ul style="list-style-type: none"> • Quality improvement plans (QIP) • Quality control circles(QCC) • Statistical quality control (Definition, need and importance). 	12
III	<p>Quality control in food industry:</p> <ul style="list-style-type: none"> • Methods of evaluation and control of the various aspects of quality of raw materials. • Manufacturing process and testing of finished products. 	12

4. Krammer, A. and Twigg, B.A. (1970). Quality Control for the Food Industry.3rdEdn.AVI, Westport.
5. Rekha S. Singhal, Pushpa R. Kulkarni, DananeshV. Rege,(1997).Hand Book of Indices of food Quality and Authenticity, wood head Publishing Ltd.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	III		
Name of the Course	Techniques In Biochemistry		
Course Code	B23-FTQ-304		
Course Type: (CC/MCC/MDC/CC-M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the methods of sampling and sampling techniques 2. To acquire the knowledge of proximate analysis of food samples 3. To gain knowledge about the HPLC, GLC, spectrophotometry, electrophoresis etc. 4. The students will gain knowledge of kjelplus, fibreplus, sox-plus etc. <hr/> <p>5*.To impart practical knowledge about the proximate analysis of food samples</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30		Time:3hrs (T) 4hrs(P)	

End Term Exam Marks:50(T)+20(P)=70		
Part B- Contents of the Course		
<p><u>Instructions for Paper- Setter :</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.</p>		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Sampling and sampling techniques. • Proximate analysis- Moisture, ash, crude fat, crude fibre, crude protein and carbohydrates by difference method. • Principles and methods of food analysis. 	4
II	<ul style="list-style-type: none"> • Basic principles: Refractometry, polarimetry, densitometry, HPLC, GLC, spectrophotometry, electrophoresis, automatic amino acid analyzer. • Determination of starch • Test for unsaturation of fats, rancidity of fats. 	4
III	<ul style="list-style-type: none"> • Quantitative analysis of protein by Biuret method, Ninhydrin method, Lowry's method and Dye-binding method. • Bio assays for protein quality of grains. 	3
IV	<ul style="list-style-type: none"> • Chemical, microbiological, fluoro metric and colorimetric methods of analysis of fat soluble and water soluble vitamins. 	4
V*	<ul style="list-style-type: none"> • Proximate analysis: Moisture, ash and carbohydrate by difference. • Demonstration of kjelplus, fibreplus, sox-plus. • Estimation of sugar content of fruit and reducing and non-reducing sugars in cereals. • Estimation of starch content of cereals Determination of iodine value and saponification number of fats. 	30

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	IV		
Name of the Course	Meat Technology and Quality Control		
Course Code	B23-FTQ-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-A4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the status and scope of meat industry in India 2. To gain knowledge about the restructured meat products 3. To acquire the knowledge of quality evaluation of eggs 4. The students will gain knowledge of fish processing <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about the preservation and quality evaluation of various value added meat products</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter :</u> The examiner will set nine questions in all, selecting two questions from			

each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction: Status and scope of meat industry in India; Structure and physico-chemical properties of muscle meat: composition and nutritive value, conversion of muscle into meat, postmortem changes in meat, rigor mortis, cold shortening, pre-rigor processing. • Stunning and slaughtering methods, aging of meat, meat tenderization- natural and artificial methods, cooking methods for meat: roasting, frying and braising. 	10
II	<ul style="list-style-type: none"> • Storage and preservation of meat: chilling, freezing, curing, smoking, dehydration, freeze-drying, irradiation, canning. Cooking, palatability and eating quality of meat, microbial spoilage of meat. • Restructured meat products (sausages), meat analogs; meat industry by products: importance and applications; intermediate moisture and dried meat products; meat plant hygiene and good manufacturing practices; packaging of meat products. 	11
III	<ul style="list-style-type: none"> • Egg: Structure, composition and nutritive value of eggs, Storage and shelf life problems. • Quality evaluation of eggs: International and external quality evaluation, candling, albumen index, Haugh unit, yolk index etc. 	12

	<ul style="list-style-type: none"> • Egg preservation: Grading of eggs, whole egg preservation, and pasteurization, dehydration, freezing, and egg products: egg powder, value added egg products (e.g., Meringues and Foams etc.), packaging of egg and egg products. • Poultry products: Types, chemical and nutritive value of poultry meat, slaughtering and evaluation of poultry carcasses; poultry cut-up parts and meat/bone ratio; preservation, grading and packaging of poultry meat. 	
IV	<ul style="list-style-type: none"> • Fish processing: Factors affecting quality of fresh fish, fish dressing, chilling, freezing, glazing, salting and canning of fish. • Manufacturing of fish paste, fish oil, fish protein concentrate and fish meal. • By-products of fish industry and their utilization. 	12
V*	<ul style="list-style-type: none"> • Physico-chemical and micro-biological quality of raw egg and their products. • Preservation of shell eggs by various methods. • Determination of egg density. • Determination of egg components. • Studies on hygiene and sanitation in meat, poultry and egg processing plants. • Preservation of meat by curing, freezing, smoking, drying and determination of shelf-life. • Preparation quality evaluation of various value added meat products. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Joshi,B.P.(1994). Meat Hygiene for Developing Country, Shree Almora Book Depot, India. 2. William J.& Owen J.,(1977).Egg Science & Technology, AVI Publishing Company, INC.Westport, Connecticut. 3. Lawrie,R.A.(1998).Meat Science. Wood head Publishers. 4. Mead,G.(2004).Poultry Meat Processing and Quality. Wood head Publishers. 5. Panda,P.C.(1992).Text Book onEgg and Poultry Technology, Vikas Publishers 	

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	IV		
Name of the Course	Technology of Pulses, Legumes and Oil seeds and Quality Control		
Course Code	B23-FTQ-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC –B4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the status, production and major growing areas of pulses 2. The students will gain knowledge of milling techniques 3. To acquire the knowledge of processing of legumes 4. To gain knowledge about the innovative products from pulses and oilseeds <p style="text-align: center;">5*.To impart practical knowledge about the milling of different legumes and rancidity in edible oils</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction: Status, production and major growing areas of pulses, legumes and oilseeds in India and world. • Structure and chemical composition of pulses and oilseeds; nutritional and anti nutritional factors. • Milling: Milling techniques: dry milling and wet milling. 	10
II	<ul style="list-style-type: none"> • Processing of legumes: Soaking, germination, decortication, cooking, fermentation; puffing, roasting and parching; utilization of pulses. • Protein isolates and concentrates; role of legumes in human nutrition. • Processing and utilization of soybean for value added products; soy based fermented products. 	11
III	<ul style="list-style-type: none"> • Innovative products from pulses and oilseeds; future developments in products and processes; • Products from legume sand uses: starch, flour, protein concentrates and isolates. 	12
IV	<ul style="list-style-type: none"> • Oilseeds: Sources of edible oils (groundnut, mustard, soya bean, sunflower, safflower, coconut, sesame and oil from other sources); physio-chemical properties. • Processing of oilseeds: rendering, pressing, solvent extraction, refining, hydrogenation; factors affecting extraction. • Packing and storage of fats and oils, changes during storage. Oil specialty products: margarine, mayonnaise, salad dressing, fat substitutes etc; chemical adjuncts: lecithin sand GMS. 	12

	<ul style="list-style-type: none"> ● Nutritional food mixes from oil seeds: processing of oil seeds for food use, protein rich foods, protein enriched cereal food. 	
V*	<ul style="list-style-type: none"> ● Extraction of oil from seeds. ● Identification and description of common pulses. ● Estimation of rancidity in edible oils. ● Milling of different legumes. ● Preparation of Soybean based edible cheese. ● Estimation of protein in gram flour. ● Extraction of starch/protein from flour. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		End Term Examination: <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ol style="list-style-type: none"> 1. Hamilton, R.J. and Bharti, A. Ed. 1980. Fats and Oils: Chemistry and Technology. Applied Science, London. 2. Salunkhe, O.K. Chavan, J.K, Adsule, R.N. and Kadam, S.S. 1992. World Oilseeds: chemistry, Technology and Utilization. VNR, New York. 3. Wolf, I.A. Ed. 1983. Handbook of Processing and Utilization in Agriculture.(2 vol. set). CRC Press, Florida. 4. Mathews, R.H. Ed. 1989. Legumes: Chemistry, Technology and Human Nutrition. Marcel Dekker, New York. 5. Salunkhe, D.K., Kadam, S.S. Ed. 1989. Handbook of World Food Legumes: Chemistry, Processing and Utilization, (3vol.set). CRC Press, Florida. 		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Food Science and Quality Control		
Semester	IV		
Name of the Course	Food Safety and Quality Assurance-II		
Course Code	B23-FTQ-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC –C4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the objectives of food safety management System 2. To have knowledge of ISO 9000series for food safety and quality 3. To acquire the knowledge of food law and regulations 4. To gain knowledge about the WTO agreements <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical knowledge about the implementation of FSSAI regulations for foods in food industry</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Food safety management System: HACCP and its application in food industry • TQM (importance and application) 	11
II	<ul style="list-style-type: none"> • Food safety and Standards Act 2006: salient provision and Prospects 	12
III	<ul style="list-style-type: none"> • ISO9000 series for food safety and quality:ISO22000, ISO-19011, ISO 15161,ISO14000. 	10
IV	<ul style="list-style-type: none"> • Food Law and Regulations: - Development of food standards, objectives and requirements of consumers protection Act. (1986), PFA-1954, BIS, AGMARK, Vanaspati control Order (1978), Export quality control and inspection Act. (1963), Meat products order (1974) Codex alimentarius Act, Food Safety and Standards Authority of India (FSSAI) • Introduction to WTO agreements: SPS and TBT agreements. 	10
V*	<ul style="list-style-type: none"> • Proximate analysis: Moisture, as hand carbohydrate by difference • Demonstration of kjel plus, fibre plus, sox-plus. • Estimation of sugar content of fruit and reducing and non-reducing sugars in cereals. • Estimation of starch content of cereals Determination of iodine value and saponification number of fats. • Estimation of minerals, iron, calcium and phosphorus • Estimation of vitamins: Ascorbic acid, thiamine, beta-carotene. • Protein quality analysis, in-vitro method. • Physical test for grain quality and rheological properties of foods 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. H Early. R. (1995): Guide to Quality Management Systems for the Food Industry, Blackie, Academic and professional, London. 2. Gould, W.A and Gould, R.W. (1998). Total Quality Assurance for the Food Industries, CTI Publications Inc. Baltimore. 3. Bryan, F.L. (1992): Hazard Analysis Critical Control Point Evaluations A Guide to Identifying Hazards and Assessing Risks Associated with Food Preparation and Storage. World Health Organization, Geneva 	

KURUKSHETRA UNIVERSITY
KURUKSHETRA



Scheme of Examinations and Syllabus for
Under-Graduate Programme

Bachelor of Vocation in Interior Designing
Interdisciplinary Scheme - D

Under Multiple Entry-Exit, Internship and
CBCS-LOCF in accordance to NEP-2020
w.e.f. 2023-24 (in phased manner)

Department of Home Science

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examinations for Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP 2020 w.e.f. 2023-24 (in phased manner)

Bachelor of Vocation in Interior Designing

SEMESTER 1								
Course	Paper (s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A1 @ 4 Credit	B23-VID-101	Introduction to Art and Design	3	3	20	50	70	3 Hrs
		Introduction to Art and Design - Practical	1	2	10	20	30	4 Hrs
CC-B1 @ 4 Credit	B23-VID-102	Design Drawings and Graphics -1	3	3	20	50	70	3 Hrs
		Design Drawings and Graphics -1 - Practical	1	2	10	20	30	4 Hrs
CC-C1 @ 4 Credit	B23-VID-103	History of Interior Design	3	3	20	50	70	3 Hrs
		History of Interior Design- Practical	1	2	10	20	30	4 Hrs
CC-M1 @ 2 Credit	B23-VID-104	Photographic Techniques	1	1	10	20	30	3 Hrs
		Photographic Techniques - Practical	1	2	5	15	20	4 Hrs
MDC-1 @ 3 Credit	From the course offered by D/C/1							
AEC-1 @ 2 Credit	From available AEC-1 pool list of two credit as per NEP							
SEC-1 @ 3 Credit	From Available SEC-1 pool list of two credit as per NEP							
VAC-1 @ 2 Credit	From Available VAC-1 pool list of two credit as per NEP							

SEMESTER 2								
Course	Paper (s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A2 @ 4 Credit	B23-VID-201	Introduction to Building Materials and Fundamentals of Structure- I	3	3	20	50	70	3 Hrs
		Introduction to Building Materials and Fundamentals of Structure- I- Practical	1	2	10	20	30	4 Hrs
CC-B2 @ 4 Credit	B23-VID-202	Design Drawings and Graphics -II	3	3	20	50	70	3 Hrs
		Design Drawings and Graphics -II - Practical	1	2	10	20	30	4 Hrs
CC-C2 @ 4 Credit	B23-VID-203	Space Planning	3	3	20	50	70	3 Hrs
		Space Planning- Practical	1	2	10	20	30	4 Hrs
CC-M2 @ 2 Credit	B23-VID-204	Model Making Workshop-	1	1	10	20	30	3 Hrs
		Model Making Workshop- Practical	1	2	5	15	20	4 Hrs
MDC-2 @ 3 Credits	From the course offered by D/C/I							
AEC- 2 @ 2 Credits	From Available AEC – 2 pool list of two credits as per NEP							
SEC- 2 @ 3 Credits	From Available SEC – 2 pool list of two credits as per NEP							
VAC- 2 @ 2 Credits	From Available VAC – 2 pool list of two credits as per NEP							

SEMESTER 3

Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A3 @ 4 Credit	B23-VID-301	Introduction to Building Materials and Fundamentals of Structure- II	3	3	20	50	70	3 Hrs
		Introduction to Building Materials and Fundamentals of Structure- II- Practical	1	2	10	20	30	4 Hrs
CC-B3 @ 4 Credit	B23-VID-302	Interior Design Studio and Psychology of Space	3	3	20	50	70	3 Hrs
		Interior Design Studio and Psychology of Space- Practical	1	2	10	20	30	4 Hrs
CC-C3 @ 4 Credits	B23-VID-303	Environmental Control in Interiors	3	3	20	50	70	3 Hrs
		Environmental Control in Interiors- Practical	1	2	10	20	30	4 Hrs
CC-M3 @4 Credit	B23-VID-304	Economics for Business Decisions	3	3	20	50	70	3 Hrs
		Economics for Business Decisions Practical	1	2	10	20	30	4 Hrs
MDC-3 @ 3 Credits	From the course offered by D/C/I							
AEC-3 @ 2 Credits	From Available AEC – 3 pool list of two credits as per NEP							
SEC-3 @ Credits	From Available AEC – 3 pool list of two credits as per NEP							

SEMESTER 4								
Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/ Weeks	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A4 @ 4 Credit	B23-VID-401	Introduction to Building Materials and Fundamentals of Structure- III	3	3	20	50	70	3 Hrs
		Introduction to Building Materials and Fundamentals of Structure- III- Practical	1	2	10	20	30	4 Hrs
CC-B4 @ 4 Credit	B23-VID-402	Traditional and Contemporary Interior Designs	3	3	20	50	70	3 Hrs
		Traditional and Contemporary Interior Designs- Practical	1	2	10	20	30	4 Hrs
CC-C4 @ 4 Credit	B23-VID-403	Green Building Technology & Practices	3	3	20	50	70	3 Hrs
		Green Building Technology & Practices- Practical	1	2	10	20	30	4 Hrs
CC-M4 (V) @ 4 Credits	From Available CC-M4(V) of two credits as per NEP							
AEC-4 @ 2 Credits	From Available AEC-4 pool list of two credits as per NEP							
VAC-3 @ 2 Credit	From Available VAC-3 pool list of two credits as per NEP							
Internship of 4 credits of 4-6 weeks duration after 4th Sem (If not done in 2nd sem)								

SEMESTER 5

Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A5 @4 Credit	B23-VID-501	Landscape in Interiors	3	3	20	50	70	3 Hrs
		Landscape in Interiors-Practical	1	2	10	20	30	4 Hrs
CC-B5 @ 4 Credit	B23-VID-502	Working Drawings and Interior Design Studio-I	3	3	20	50	70	3 Hrs
		Working Drawings and Interior Design Studio-I-Practical	1	2	10	20	30	4 Hrs
CC-C5 @ 4 Credit	B23-VID-503	Services in Interiors	3	3	20	50	70	3 Hrs
		Services in Interiors - Practical	1	2	10	20	30	4 Hrs
CC-M5 (V) @4 Credit	From Available CC-M5(V) pool list of two credits as per NEP							
Skill Enhancement Course	Internship # 4 Credits							
<p align="center"># Four credits of internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of the students who pursue 3 year UG Programme without taking exit option.</p>								
<p align="center">SEMESTER-6</p>								

Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A6 @4 Credit	B23-VID-601	Project Management & Estimation	3	3	20	50	70	3 Hrs
		Project Management & Estimation-Practical	1	2	10	20	30	4 Hrs
CC-B6 @ 4 Credit	B23-VID-602	Working Drawings and Interior Design Studio -II	3	3	20	50	70	3 Hrs
		Working Drawings and Interior Design Studio-II-Practical	1	2	10	20	30	4 Hrs
CC-C6 @ 4 Credit	B23-VID-603	Graphics & Signage	3	3	20	50	70	3 Hrs
		Graphics & Signage- Practical	1	2	10	20	30	4 Hrs
CC-M6 @4 Credit	B23-VID-604	Advanced Computer Applications	3	3	20	50	70	3 Hrs
		Advanced Computer Applications - Practical	1	2	10	20	30	4 Hrs
CC-M7(V) @4 Credit	From Available CC-M7(V) pool list of two credits as per NEP							

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	I		
Name of the Course	Introduction to Art and Design		
Course Code	B23-VID-101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To analyze various art forms and understand their application in interiors. 2. To understand the relation between art and design. 3. To understand the elements and principles of design and their applications in creating beautiful interiors. 4. To analyze the influences of social and cultural aspects on interior design. <hr/> <p>5*. To impart practical knowledge of composition in different materials</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Meaning and significance of art , factors affecting art forms (Geography, community, materials, individuality and appearance), developing skills for appreciation of art, evaluation of art objects – basic guidelines in evaluating art objects. • Development of Art: from pre historic times to present times: changing nature of art through time in terms of content, form and material. 	10
II	<ul style="list-style-type: none"> • Exploration of Art Forms – Study of traditional and contemporary art forms – painting, sculpture, architecture, decorative arts, design arts, digital art. • Relationship between art and design from earliest time. 	11
III	<ul style="list-style-type: none"> • Design –Definition, purpose, types- universal designs, accessible designs, design disabled. • Elements of Design - Line and direction, form and shape, size, color, light, pattern, texture and space - application of elements to form designs. • Principles of Design –Balance, rhythm, emphasis, harmony, proportion - meaning and application of design concepts in the interior and exterior houses and other commercial buildings. 	11
IV	<ul style="list-style-type: none"> • .Various Elements of Society – Modernization and change in society, Role of communication media in change patterns. Behavior patterns and its correlation to design elements. • General understanding of interior design and integration with architecture. Role of Interior Designer in a building project. The changing role of Interior Designer, his/her relation with other consultants, contractors and client, technical knowledge and other skills 	10

	<p>required as inputs. Career options in Interior Design.</p> <ul style="list-style-type: none"> • Various subjects to be learnt by Interior Design students and their relevance to practice. 	
V*	<ul style="list-style-type: none"> • Practice making 2 dimensional compositions on paper using different mediums and physical models using different materials. • Application of elements/principles of art in the color scheme. • Explain qualities of good visual designs through photographs, artworks etc. • Apply design concepts in developing greeting cards/ table borders /floor decorations/ carpets. • Develop a motif suitable for window grill/ foot mat/ table mat / furnishing materials. 	28
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Alan Barnard & Jonathan Spencer-Encyclopedia of social and cultural anthropology, Taylor & Francis, 1996 • Arnold Friedmann , Forrest Wilson, John F. Pile- Interior Design, Elsevier Publishing Company, 3rd edition, 1982. • Charles. V. Stanford, Studies in Indian society, Culture and Religion, South Asia Books, 1988. • Christine M. Piotrowski, Becoming an Interior Designer, John Wiley and Sons, 2003. • Clifford Geertz, The Interpretation of Cultures, Basic Books, 1977. • Fisher E. Robert. Buddhist Art and Architecture. Thames and Hudson, London. 1993. • Ghosh. A Jain(Ed). Art and Architecture Vol 1-3. Bharatiya Jnanpith. New Delhi. • Henry Wilson, India: Decoration, Interiors, Design, Watson Guptill, First American Edition, 2001 • Kumar Raj (Ed) Essays on Indian Art and Architecture. Discovery pub., New Delhi, 2003 • Michael Freeman, India: Modern Art, Periplus Editions, 2005 		

- **Nigel Rapport**, Social and Cultural Anthropology: The Key Concepts, Routledge, 2000
- **Philip Carl Salzman**, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	I		
Name of the Course	2D Drawings and Graphics-I		
Course Code	B23-VID-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To help the students to prepare drawings by using drafting tools and accessories. 2. To help students to understand scaling by reducing and enlarging the scale. 3. To enable the students to comprehend and visualize geometric forms, scale & proportions. 4. To understand the different material used in interior decoration. <hr style="width: 20%; margin-left: 0;"/> <p>5*. To impart practical knowledge of plan, section & elevation.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100		Time:3hrs (T) 4hrs(P)	
Internal Assessment Marks:20(T)+10(P)=30			
End Term Exam Marks:50(T)+20(P)=70			
Part B- Contents of the Course			

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to drawing equipments, familiarization, use and handling. • Introduction to pencil exercises – Knowledge about usage of different points of pencils, handling of pencils, practicing lines and tone building exercises; object drawings – natural geometric forms with emphasis on depth and dimension, detail & texture, sunlight & shadow. • Drawing –Point and line, line types, line weights, straight and curvilinear lines, dimensioning, borders, title panels, tracing in pencil, ink, use of tracing cloth, free hand lettering and scaled lettering. 	9
II	<ul style="list-style-type: none"> • Architectural symbols, terminology and abbreviations used in architectural presentation. • Architectural representation of landscape elements such as trees, indoor plants, planters, hedges, foliage, human figures in different postures, vehicles, street furniture etc. by using different media and techniques and their integration to presentation drawings. 	11
III	<ul style="list-style-type: none"> • Measuring and Drawing to Scale – Understanding Scale –Metric and foot and inch, scales and construction of scales, simple objects, furniture, rooms, doors and windows etc. in plan , elevation and section etc., reduction and enlargement of drawings. • Interiors and Furniture Sketching – Interior still life, perspectives, lighting & composition, textures and details, material expressions, individual pieces of furniture, elevations & plans etc using different media. 	11
IV	<ul style="list-style-type: none"> • . Building Geometry – Study of points, lines and planes leading to simple and complex solid geometrical forms. Orthographic projections of points, lines, first angle projections of planes and solVID, sections of 	9

	solVID, development of surfaces of solVID and intersections of solVID. Use of geometry in buildings - isometric, axonometric, and oblique views; drawing geometrical forms with measurements.	
V*	<ul style="list-style-type: none"> • Drawing of simple plan, elevation and sections. • Making of plans of any one of the following: <ul style="list-style-type: none"> ✓ Bed room ✓ Drawing room ✓ Bath room ✓ Kitchen • Drafting of furniture objects with projections. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Bhatt, N.D. and Panchal V.M.Engineering Drawing: Plane and Solid Geometry, 42nd ed. Charotar Pub., Anand, 2000. • Bies, D.John. Architectural Drafting: Structure and Environment Bobbs – Merrill Educational Pub., Indianapolis. • Francis D.Ching, Design Drawing, Wiley publishers. • Francis D. Ching – Architectural Graphics , Wiley publishers, 2002. • Gill, P.S. - Geometrical Drawing, 3rd ed. Dewan Suhil Kumar kataria, Ludhiana, 1986. • Ivo.D. Drpic, Sketching and Rendering of Interior Space, Watson- Guptill, 1988. • Maureen, Mitton- Interior Design Visual Presentation: A Guide to Graphics, Models and Presentation Techniques, 3rd edition, Wiley Publishers, 2007 • Mogali Delgade ,Yanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, 2005 . • Moris, I.H-Geometrical Drawing for Art Students. • Nelson, A. John. H.B- Architectural and Civil Drafting, Van Nostrand Reinhold, New York, 1983. 		

- **Nichols, T.B.** and Keep, Norman. Geometry of Construction, 3rd ed. Cleaver – Hume Press Ltd., London, 1959.
- **Shah, M.G., Kale, C.M. and Patki, S.Y.** Building Drawing: with an integrated approach to built environment, 7th ed. Tata Mc Graw Hill Pub., Delhi, 2000.
- **Stephen Kliment**, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.
- **Thoms, E.French.** Graphics Science and Design, New York: MC Graw Hill.
- **Philip Carl Salzman**, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	I		
Name of the Course	History of Interior Design		
Course Code	B23-VID-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the effect of design movements and various schools of thought on interior environment. 2. To understand the life styles & craft items from the European point of view. 3. To understand the historical progression of art and architecture in India and its application to formulate themes and concepts for contemporary designs. 4. To understand the different materials used in historic times. <hr/> <p>5*. To impart the practical knowledge of historical monuments and material used in historic times.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100		Time:3hrs (T)	
Internal Assessment Marks:20(T)+10(P)=30		4hrs(P)	

End Term Exam Marks:50(T)+20(P)=70		
Part B- Contents of the Course		
<p><u>Instructions for Paper- Setter:</u>The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Elements of style and determinants of Interior environment in Egypt, Chinese, Japan, Greece, Rome and Europe in Early Christian. 	10
II	<ul style="list-style-type: none"> • An overview of Victorian, Elizabethan, Cubism, Romanticism arts and crafts etc. 	10
III	<ul style="list-style-type: none"> • Forces of industrialization in Europe, changes in social structure, production systems, changes in technology and its impact on the life styles, arts and crafts and interior environments. 	10
IV	<ul style="list-style-type: none"> • Elements of style, interior environment, furniture etc. in Jammu and Kashmir, Southern India, Gujarat, Rajasthan, states of North eastern India, Maharashtra, Orissa etc. • History of Modern Movement in Interior Design and Architecture – Developments of modern movements – various fields of design affecting interior ambiances directly – international modernism, regionalism and concerns with vernacular etc. • Designers and their works with respect to interior architecture and interior elements of design. Contemporary expressions of styles and art forms. 	10
V*	<ul style="list-style-type: none"> • Visit to any two Historical Buildings and making a report regarding determinants of interior environments, art & crafts items used, furniture& Color Scheme • Collection of Material samples used in ancient times such as POP, Marble, Wood etc. 	30
Suggested Evaluation Methods		

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	I		
Name of the Course	Photographic Techniques		
Course Code	B23-VID-104 B23-TFD-104		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To help students to acquire knowledge of the process, uses, principles and advantages of digital photography. 2. Visualize the concept of digital platform and various methods of image capture. 3. To develop the method of basic image editing techniques. 4. Introduce various methods of post-production and retouching techniques. <p>_____</p> <p>5* To impart knowledge to the students about the concept of digital output and producing the final product</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50		Time:3hrs (T)	
Internal Assessment Marks:10(T)+5(P)=15		4hrs(P)	

End Term Exam Marks:20(T)+15(P)=35

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">• Introduction to Digital Photography :Understanding film and paper photography• Learning about the digital revolution• Advantages and disadvantages of digital photography over• Film photography :Computers as photographic tools• How photos are used today.	7
II	<ul style="list-style-type: none">• Digital basics• Digital image method of storing and processing digital• Image: raster and vector method• 2.2 representation of digital image: resolution – pixel depth• Pixel aspect ratio – dynamic colour range – file size• Colour models – image compression – file formats –• Calculating image resolution for outputs.	6
III	<ul style="list-style-type: none">• Digital Platform Hardware and System Software• Windows Operating System• Concept of Internet• Image transportation through floppy, CD, zip and Internet.	8
IV	<ul style="list-style-type: none">• Digital Capture :Digital Image formation – Image Sensors – Different• Capturing Method: Digital camera – Scanner – Frame Grabber• DIGITAL CAMERA: Understanding how digital cameras work – Digital camera types: Floppy Disc type, Flash Card type, Hard Disc type – Overview of current digital cameras.	7
V*	<ul style="list-style-type: none">• Make a file including different photos with different resolutions.• Make a file including different photos with colors models.	28

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	II		
Name of the Course	Introduction to Building Materials and Fundamentals of Structure- I		
Course Code	B23-VID-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To impart knowledge on the various building materials, built elements & basic structural systems. 2. To help students to identify insulating materials. 3. To help students to identify various paints & varnishes. 4. To introduce students with various built elements. <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart knowledge about visual presentations.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each			

unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Masonry – Mud; bricks; building tiles - roof, floor and wall tiles; stones; clay; lime, sand, mortars, cement and aggregate; concrete; gypsum based plaster etc. • Timber, cane, bamboo – characteristics of good timber, defects, applications of timber finishes in timber. • Wood – Plywood, block boards, particle board, medium density fibre etc. – their properties, process of manufacture, finishes to reconstituted wood, - lamination, polishing etc. 	10
II	<ul style="list-style-type: none"> • Insulation Materials – Various insulating materials, their properties and applications. Surface finishes for wood products and derivatives etc. Coatings – clear and pigmented finishes technical or protective coatings etc. 	10
III	<ul style="list-style-type: none"> • Paints– Protective coating paints. Types of paints, Composition, functions, preparation and application method, painting on different surfaces, defects in painting etc. • Varnishes (Oil and spirit) – Various types and methods of application. 	11
IV	<ul style="list-style-type: none"> • Introduction to Built Elements – Study of built elements in the interiors with respect to materials used. Basic construction methods and general specifications. General types and classification of different types of buildings: overview of different functional, structural and architectural elements. • Introduction to basic structural systems, elements of structure, their functions and behavior, beams, slabs, columns, walls, foundations, bearing wall systems, trusses, rigid frames, linear and curved elements.. 	9
V*	<ul style="list-style-type: none"> • Case Studies. • Market Surveys. • Visual Presentations. • Site Visits. 	30

Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	End Term Examination: 50 20	
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Bindra, S.P. and Arora, S.P- Building Construction: Planning Techniques and Methods of Construction, 19th ed. DhanpatRai Pub., New Delhi, 2000. ● Chowdary, K.P.- Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi,1990. ● Francis D.Ching- Building Construction Illustrated, Wiley publishers, 2008. ● Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd. ● Rangwala, S.C.- Building Construction: Materials and Types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963. ● Rangwala, S.C. -Building Construction 22nd ed. Charota Pub. House Anand, 2004. ● Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003. 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	II		
Name of the Course	Design Drawings & Graphics-II		
Course Code	B23-VID-202		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To impart knowledge about simple shapes & lines. 2. To help students to know tones & rendering techniques. 3. To introduce students with simple and composite forms. 4. To help students to know characteristics of perspective drawings <hr style="width: 20%; margin-left: 0;"/> <p>5*. To train students about drawing from imagination</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction to pen and brush exercises – Simple exercises of shapes and lines, lines and textures, pen lines, ruling with pen and brush, brush lines etc. 	10
II	<ul style="list-style-type: none"> • Tones and Rendering – Tones in pen drawings, value scales, gray values, grading tones etc. Simple exercises of tonal values and textures with pen. Color study, monochrome and wash rendering etc. 	10
III	<ul style="list-style-type: none"> • Simple and composite forms, shadows on horizontal, vertical planes and on their own surfaces. Study of shade and shadows of simple geometrical shapes.. 	10
IV	<ul style="list-style-type: none"> • Perspective- Characteristics of perspective drawings, perspectives of simple geometric shapes and spaces and complex geometries. Advanced examples in one point or parallel perspective, two point or angular perspective. Introduction to three point perspective. Interior perspectives of rooms. • Rendering of the perspectives in different media. Integrating landscape elements, human figures, shadows, foreground etc in the perspectives. 	10
V*	<ul style="list-style-type: none"> • Drawing from imagination- <ul style="list-style-type: none"> ➤ Diagramming ➤ Drawing Composition ➤ Concept sketches ➤ Design development sketches ➤ Presentation sketches ➤ Presentation drawings ➤ Graphical presentations 	30

- **Moris, I.H.**-Geometrical Drawing for Art Students.
- **Nelson, A. John. H.B.**- Architectural and Civil Drafting, Van Nostrand Reinhold, New York, 1983.
- **Nichols, T.B.** and Keep, Norman. Geometry of Construction, 3rd ed. Cleaver – Hume Press Ltd., London, 1959.
- **Shah, M.G., Kale, C.M. and Patki, S.Y.** Building Drawing: with an integrated approach to built environment, 7th ed. Tata McGraw Hill Pub., Delhi, 2000.
- **Stephen Kliment**, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.
- **Thoms, E.French.** Graphics Science and Design, New York: MC Graw Hill.
- **Philip Carl Salzman**, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	II		
Name of the Course	Space Planning		
Course Code	B23-VID-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the concept of space. 2. To comprehend the principles of house planning. 3. To learn about the importance and application of principles of art for commercial purpose & to apply the techniques of art in interior and window display. 4. To know the current trends in commercial architecture <hr style="width: 20%; margin-left: 0;"/> <p>5*. To learn to draw house plans.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs(T) 4 hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> Space for Living – concept of life space – meaning of Macro, Micro and Meso environment, proxemics and personal space,. Visual analysis of designed spaces noted for comfort and spatial quality, analysis of solid and void relations, positive and negative spaces. 	10
II	<ul style="list-style-type: none"> Types of plans used by an architect. Allocation of space for various activities – social spaces, work spaces, private space. Basic anthropometrics – average measurements of human body in different postures – its proportion and graphic representation, application in the design of simple household and furniture. Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions. 	10
III	<ul style="list-style-type: none"> Residential space planning -Need for standardization in housing, types of standards, role of BIS. legal restrictions in housing – plot, easement, zoning law, building law. Finance and institutional support for housing – National environmental engineering research institute (NEERI), National Buildings Organization (NBO), Housing Development Finance Corporation (HDFC) and Housing and Urban Development Corporation (HUDCO). 	10
IV	<ul style="list-style-type: none"> Commercial Space Planning-Definition & development. Commercial Display and Techniques – Interior display – general arrangement, principles and factors, types and merchandise display, types of lighting arrangements in commercial buildings. Window Display – Meaning, Basic principles and techniques, types of window display, window arrangement. New Trends in Commercial Architecture- Design in commercial 	10

	<p>building. Basic concepts of commercial buildings.</p> <ul style="list-style-type: none"> • Features of departmental stores and shopping complex . 	
V*	<ul style="list-style-type: none"> • Introduction to measurement tools. Preparing user profile, bubble and circulation diagrams. • Detailed study of spaces such as living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, lighting and ventilation, etc. • Space planning for office interiors – cabinets, conference rooms , open office systems. • Integration of spaces and functions in the design of bus shelter/milk booth/ watchman’s cabin/ traffic police kiosk/ flower stall/ ATM center, etc. • Case study of existing house and analysis of the spaces. Prepare scale drawings of interior spaces and small houses with proper graphical representation of building components. 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • Arulmanickam A.P. and T.K. Palaniappan (1993), Estimating and costing,Pratheeba • Deshpande, R.S. (1995) ; Modern ideal Homes for India, Deshpande Publication, Poona • Day P.G. (1982), A guide to professional architectural and industrial scale model building, Eagle wood cliffs, N.J. Prentice Hall. • Chaudhari, S.N. 2006, Interior Design. Aavishkar Publishers, Jaipur • Francis.D. Ching& Corky Bingelli- Interior Design Illustrated, 2nd edition, Wiley publishers, 2004. • Faulkner, S and Faulkner, R (1987), Inside Today’s Home, Rinehart Publishing Company, New york. • Gupta, C.B., Dr. Nair, Rajan 2003, Marketing Management, Sultan Chand &Som, New Delhi. • Indian Standards Institutions (1983), National building code of India ISI rol, 1 New Delhi, MarakBhavan • Joseph D Chiara, Julius Panero, & Martin Zelnick- Time Saver Standards for Interior Design & Space 		

Planning, 2nd edition, Mc-Graw Hill professional, 2001.

- **Stephen Kliment**, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.
- **Thoms, E.French**. Graphics Science and Design, New York: MC Graw Hill.
- **Philip Carl Salzman**, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.
- **Julius Panero& Martin Zelnick**- Human Dimension & Interior Space : A source book of Design Reference standards, Watson – Guptill, 1979.
- **Joseph, D.C., Julies, P. and Martiv, Z.** 1992, Time saver standards for Interior Design and space Planning, New York.
- **Kasu, A.A.** 2005, Interior Design, Ashish Book centre Delhi.
- **Khanna, G.** Art of Interior design, Indica Publishers, Delhi.
- **Karlen Mark**- Space Planning Basics, Van Nostrand Reinhold, New York, 1992.
- **Karlen Mark, Kate Ruggeri & Peter Hahn**- Space Planning Basics, Wiley publishers, 2003.
- **Nair, R.** 2002, Marketing, Sultan Chnd and Sons Publisher, New Delhi.
- **Pattanchetti, C.C. Reddy, P.N.** 1995, Marketing, Rainbow publishers, Coimbatore.
- **Sharma, G. and Khana, G.** Advanced Interior Designing Incorporating Vaastu and Feng – shui, Indica Publishers, Delhi.
- **Tessie, A.,** (1986), The House, its plan and use, J.B. Lippincett, New York.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	II		
Name of the Course	Model Making Workshop		
Course Code	B23-VID-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To provide knowledge about analysis of existing pieces of furniture regarding their functional aspects. 2. To provide knowledge about measurement of drawing of a pieces of furniture 3. To know the modular aspects of furniture. 4. To update about furniture style <hr/> <p>5*. To help students to draw furniture items (with elevations & other details) on full scale.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50		Time:3hrs (T)	
Internal Assessment Marks:10(T)+5(P)=15		4hrs(P)	

End Term Exam Marks:20(T)+15(P)=35

Part B- Contents of the Course

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">Analyzing furniture: Analyzing furniture forms and designing furniture forms scientifically based on ergonomics, material design and working parameters and visual perception of furniture as a single form and as a system in a given interior space.	7
II	<ul style="list-style-type: none">Measurement drawing: Measurement drawing of a piece of a furniture-plan, elevation and detail drawings on proper scale. History of furniture from early days to industrial revolution	6
III	<ul style="list-style-type: none">Modular Aspect: Modular aspect and approach towards all types of furniture, cost criteria of design furniture for lower income sector society.	8
IV	<ul style="list-style-type: none">Furniture Style: Design and understand Post Independence furniture style	7
V*	<ul style="list-style-type: none">Make a sheet work showcasing ancient furniture into modern furniture.Measure Drawing of a Piece of Furniture –Draw (With elevations & other details) on full scale.Survey of several modular systems available for different functions in the market. Exploration of different materials and cost criteria for system design.	28

Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:00 ● Mid-Term Exam: 06 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam:NA 	End Term Examination: 20 15	
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Window Fashion, Charles T. Randall ● Illustration + Perspectives (In Pantone Colors), EijiMitooka ● Elements of Architecture, MeissPieree Von 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	III		
Name of the Course	Introduction to Building Materials and Fundamentals of Structure- II		
Course Code	B23-VID-301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To provide knowledge physical and behavioral properties of materials. 2. To update about various glass products. 3. To help students to identify various adhesives. 4. To help students to know about building structures <hr/> <p>5*.To impart practical knowledge about visual presentations of building materials and structures.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100		Time::3hrs (T)	
Internal Assessment Marks:20(T)+10(P)=30		4hrs(P)	

End Term Exam Marks:50(T)+20(P)=70

Part B- Contents of the Course

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">• Building Materials -Physical and behavioral properties of materials, their application in the construction of floors, walls, ceilings, walls, doors, windows, staircases.	10
II	<ul style="list-style-type: none">• Glass and glass products –their properties and uses in buildings. Commercial forms available – their physical and behavioral properties, tools and technology of its application in built forms.• Rubber — Types, properties and application.• Plastics —Types, properties and applications.	10
III	<ul style="list-style-type: none">• Adhesives –Types, method of application, bond strength etc.• Asphalt and Bitumen –Properties and uses.• Introduction to building codes , Primary and secondary forces acting on the structures – gravitational force, live load, wind, temperature variation, distribution of loads through the elements of the structural system.	10
IV	<ul style="list-style-type: none">• Light weight space structure, small and large scale surface structure, integrated display system and structural elements.• Structural systems and their layout for a small building. Structural systems for elements of interior spaces.	10
V*	<p>Case studies/ market surveys/ visual presentations/ site visits/ drawings.</p> <ul style="list-style-type: none">• Market surveys to be conducted to find out the commercial and technical names, sizes , codes for materials, testing, fabrication, commercial	30

	methods of pricing, billing etc.	
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Bindra SP and Arora SP- Building Construction: Planning Techniques and Methods of Construction, 19th ed. DhanpatRai Pub., New Delhi, 2000. ● Chowdary, K.P.- Engineering Materials Used in India, 7th ed. Oxford and IBH, New Delhi,1990. ● Francis D. Ching- Building Construction Illustrated, Wiley publishers, 2008. ● Moxley,R. Mitchell’s Elementary Building Construction, Technical Press Ltd. ● Rangwala, S.C.- Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963. ● Rangwala, S.C. -Building Construction 22nd ed. Charota Pub. House Anand, 2004. ● Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003. 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	III		
Name of the Course	Interior Design Studio & Psychology of Space		
Course Code	B23-VID-302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To know anthropometry in relation to interior spaces,. 2.To understand perception of space. 3. To relate different spatial elements. 4. To know social behaviour patterns. <hr/> <p>5*. To impart training about drawing furniture layout .</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100		Time:3hrs (T)	
Internal Assessment Marks:20(T)+10(P)=30		4hrs(P)	
End Term Exam Marks:50(T)+20(P)=70			
Part B- Contents of the Course			
Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each			

unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Applying anthropometry in relation to interior spaces, Various techniques of creating designs & Color scheme in relation to interiors 	10
II	<ul style="list-style-type: none"> • Perception of space through understanding associative aspects relating to space. • Understanding of cognitive theories and Gestalt principles of psychology related to the field of space making. 	10
III	<ul style="list-style-type: none"> • Relationship of spatial elements like floor, column, wall, window, door, stair, roof, light, color, texture to the psychology and perception of space. 	11
IV	<ul style="list-style-type: none"> • Analysis of Human Mind and His/her Image of the World - Social behavior patterns, traditional thinking and behavior and reflection of social world into physical environment. • Human Being and His Behavior in Various Public and Private Areas – Change of patterns in various cultures. Human behavior in a group. Activities and its relationship with grouping of people. 	10
V*	<ul style="list-style-type: none"> • Collection of samples of material for interiors of various parts of buildings, drawing furniture layout of any of the two buildings. • Create at least two designs relation to any one of the following - Single room residence, Doctor’s clinic, Kindergarten school, Architect’s studio, Retail exhibition 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Francis's. Ching& Corky Bingell- Interior Design Illustrated, 2nd edition, Wiley publishers, 2004. ● Joseph D Chiara, Julius Panero, & Martin Zelnick- Time Saver Standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001. ● Julius Panero& Martin Zelnick- Human Dimension & Interior Space : A Source Book of Design Reference Standards, Watson – Guptill, 1979. ● Maureen Mitton- Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003 ● Mark.W. Lin- Drawing and Designing with Confidence: A Step-by-Step Guide, Wiley and Sons, 1993. ● Robert Rengel- Shaping Interior Space, Fairchild Books &Visuals ,2002. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	III		
Name of the Course	Environmental Control in Interiors- I		
Course Code	B23-VID-303		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To develop an understanding of environmental control in interiors. 2. To understand communication in open plans. 3. To know about lighting and vision. 4. To understand lighting designs . <hr/> <p>5*. To train students in making electrical plans.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each			

unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Environment Control – Meaning of environment, importance of environment control, elements to be controlled in the interiors. • Need to study acoustics, methods used for good acoustics ; properties of sound – sound waves, wave length, frequency, velocity, resonance, sound levels, loudness, noise, sound reflection, echoes, reverberation, behaviour of sound in enclosed spaces ; sound absorption –sound absorbent material , speech privacy and annoyance, background noise. 	10
II	<ul style="list-style-type: none"> • Communication in open plans, electronic sound systems. • Layout & guidelines for good acoustical design. • Acoustic Design Process and Different Types of Buildings – Auditoriums, concert halls, cinema halls, seminar rooms, lecture halls, classrooms and open offices. 	10
III	<ul style="list-style-type: none"> • Lighting and Vision – Principles of lighting, effects of good lighting, considerations for good lighting, brightness, glare, contrast and diffusion. • Planning Lighting – General aims, lighting needs, selection of fixtures, location and placing of fixtures. • Lamps and Lighting Fixtures – Floor, table and desk, wall mounted, ceiling units, built in lighting, decorative lighting, spot lighting, task lighting, underwater, miscellaneous types etc. 	11
IV	<ul style="list-style-type: none"> • Lighting design in residences, offices and stores. • Electrical Plan Layout: Formation of plan, Symbols, Standard Height, its advantages & disadvantages. 	10

V*	<ul style="list-style-type: none"> Make a AutoCAD file on electrical plan for one residential and one commercial space. 	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> Class Participation: 05 Seminar/presentation/assignment/quiz/class test etc.:05 Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> Class Participation: Seminar/Demonstration/Viva-voce/Lab records etc.:10 Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> Burris, Harold, Acoustics for Architect. David Egan. M. Concepts in Architectural lighting McGraw Hill Book company, New York, 1983. Egan David, Architectural acoustics, Mc-Graw Hill Book company, New york, 1988. John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995. Lord, Peter and Tempelton, Duncan, The Architecture of sound,. ; Designing places of Assembly ,Architectural press ltd, London, 1986. Moore J.E. , Design of good acoustics, The architectural press, London, 1961 Moore Fuller, Concepts and practice of Architectural Day lighting, Van Nostrand Reinhold co., New York, 1985. Poella . L. Leslie, Environmental Acoustics. Wanda Jankowski, Lighting : In Architecture and Interior Design, pbcintl, 1995. 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	III		
Name of the Course	Economics for Business Decisions		
Course Code	B23-VID-304		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To gain the basic knowledge of economics for taking decisions relating to business. 2. To gain knowledge about factors of production. 3. To help students to analyse cost of production. 4. To know market structure. <p style="text-align: center;">_____</p> <ol style="list-style-type: none"> 5*. To help students to know about tactics related to business. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks::20(T)+10(P) End Term Exam Marks:50(T)+20(P)		Time:3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each			

unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> Definition, scope and nature of economics, consumption laws, demand & supply analysis, elasticity of demand, indifference curve analysis, consumer surplus and its application. 	12
II	<ul style="list-style-type: none"> Factors of production, production function, law of variable proportion, laws of return to scale, elasticity of factor-substitution, production efficiency, engineering production, economies of scales. 	10
III	<ul style="list-style-type: none"> Cost of production, types of costs- economic costs- fixed cost and variable costs, direct and indirect costs, average and marginal costs, implicit cost, opportunity cost; short-run and long-run cost functions, engineering cost function; optimal combination of factor-inputs, risk analysis and decision making. 	9
IV	<ul style="list-style-type: none"> Market structure- Competitive market, imperfect market, monopoly and oligopoly. 	8
V*	<ul style="list-style-type: none"> Make a proper report on the structure of market after survey. 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> Class Participation: 05 Seminar/presentation/assignment/quiz/class test etc.:05 Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> Class Participation: Seminar/Demonstration/Viva-voce/Lab records etc.:10 Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- **David R. Anderson, Dennis J.Sweeney And Thomas A.Williams Essential of Statistics For Business And Economics(Sixth Edition) .**
- **John Sloman And Elizabeth Jones: Essential Economics For Business (Fourth Edition).**
- **John Sloman, Kelvin Hinde And Dean Garrat : Economics for Business (Sixth Edition).**
- **Phil Thornto : Brilliant Economics, Making Sense of The Big Ideas**

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	IV		
Name of the Course	Introduction to Building Materials and Fundamentals of Structure-III		
Course Code	B23-VID-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To provide the knowledge about roofing & flooring material. 2. To impart knowledge about application of metals to built forms and interiors. 3. To understand fabrics and other furnishing materials 4. To give an understanding of characteristic requirements of structural design. <hr style="width: 20%; margin-left: auto; margin-right: auto;"/> <p>5*. To provide practical experience about building materials.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100		Time: 3 hrs(T)	
Internal Assessment Marks: 20(T) +10(P) =30		4 hrs(P)	

End Term Exam Marks:50(T) +20(P) =70

Part B- Contents of the Course

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">• Roofing – Roofing tiles and asbestos cement products, sheets and fiber boards – properties, uses and application.• Flooring -Various natural as well as artificial flooring materials like vitrified tiles, ceramic tiles, Shahabad stones, mosaic, rubber, linoleum, PVC and PVA flooring, properties, other uses and applications in the interiors.	11
II	<ul style="list-style-type: none">• Metals – Steel, iron, aluminum, bronze, brass, copper – alloys, characteristics, form and uses, properties, definition of terms, methods of working with metals, fixing and joinery in metals, finishing and treatment to metals.• Application of Metals to Built Form and Interiors - Special doors and windows, ventilators – sliding, sliding and folding, revolving, pivoted, rolling, collapsible, dormer, skylights, clerestory etc.	10
III	<ul style="list-style-type: none">• Fabrics and Other Furnishing Materials – Fibers, textiles, fabric treatments, carpets, durries, tapestries, draperies, upholstery, wall coverings, etc. –properties, uses and application in the interiors.• Miscellaneous materials such as cork, leather, paper, rexene etc. – their properties, uses and applications in the interiors. A brief overview of green materials.	12
IV	<ul style="list-style-type: none">• Characteristic Requirements of Structural Design – Stress and strains, strength, stiffness and stability.	12

V*	<ul style="list-style-type: none"> ● Physical and behavioral properties, tools and technology of its application in the construction of floors, walls, ceilings, doors, windows, staircase, built in furniture, partitions and other interior design components. ● Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. Material, workmanship, specification etc. 	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> ● Bindra, S.P. and Arora, S.P- Building Construction: Planning Techniques and methods of Construction, 19th ed. DhanpatRai Pub., New Delhi, 2000. ● Chowdary, K.P- Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990. ● Francis D. Ching- Building Construction Illustrated, Wiley publishers, 2008. ● Moxley, R. Mitchell"s -Elementary Building Construction, Technical Press Ltd. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004. ● Rangwala, S.C- Building Construction: Materials and Types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963. 		

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	IV		
Name of the Course	Traditional and Contemporary Interior Designs		
Course Code	B23-VID-402		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand thematic space making. 2. To know the designing of living units 3. To understand the application of art / craft at public spaces. 4. To impart knowledge about traditional and contemporary homes. <hr/> <p>5*. To provide practical knowledge about planning of different building spaces.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100		Time::3hrs (T) 4hrs(P)	
Internal Assessment Marks:20(T)+10(P)=30			
End Term Exam Marks:50(T)+20(P)=70			

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Meaning of Traditional Designs • Meaning of Contemporary Designs • Thematic Space Making with Art and Craft Forms of Our Own Culture in India. 	10
II	<ul style="list-style-type: none"> • Detail Designing of Living Units <ul style="list-style-type: none"> • By involving contemporary styles. • By involving traditional styles. • By use of craft in its inherent quality and form. 	11
III	<ul style="list-style-type: none"> • Applications of Art / Craft at Public Level Spaces <ul style="list-style-type: none"> • Lounge (Hotel). • Restaurant of specific ethnic characteristics • Resort • Wedding Hall 	10
IV	<ul style="list-style-type: none"> • Needs, realities and Value System in Traditional and Contemporary Homes of Modern Society 	9
V*	<ul style="list-style-type: none"> • Plan of any one Hotel/ Restaurant/ Resort /Wedding hall 	30

Suggested Evaluation Methods

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Vocation in Interior Designing		
Semester	IV		
Name of the Course	Green Building Technology & Practices		
Course Code	B23-VID-403		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To help the students to understand the importance of green building technology 2. To know the recent green building materials. 3. To know the renewable energy resources. 4. To impart knowledge about water conservation technologies. <hr/> <p>5*. To provide practical knowledge about green building material.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs(T) 4 hrs(P)	
Part B- Contents of the Course			
Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each			

unit and one compulsory objective type question.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Meaning & Significance of Green building • Materials and Finishes Used in Green Building – Bamboo, straw, wood, dimension stone, recycled stone, non-toxic metals; earth blocks-compressed, rammed, baked; linen, sisal, wood fibres, cork, coconut. 	10
II	<ul style="list-style-type: none"> • Green building practices and technologies for roof, walls, floors, electrical, plumbing, windows, and doors; heating, ventilation and air conditioning (HVAC); insulation, Interior finishes, landscaping. 	10
III	<ul style="list-style-type: none"> • Renewable Energy Resources –Solar devices – solar room heater, solar lights, solar water heater& solar air conditioners. 	10
IV	<ul style="list-style-type: none"> • Water Conservation Technologies- Rain water harvesting- types of rain water harvesting systems 	10
V*	<ul style="list-style-type: none"> • Conduct survey of any 2 green buildings and make a detail report. 	30
Suggested Evaluation Methods		
Internal Assessment: > Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 > Practicum <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- **Rai G.D** (1996), Solar Energy Utilization, Khanna Publishers, Delhi.
- **Riggs, J.R.** (1992) Materials and Components of Interior Design, Regents Hall, New Jersey.
- **Faulkner, R., and Faulkner. S,** (1987) Inside Today's Home, Rinehart publishing House, Newyork.
- **Roa, M.P.** (1998), Interior design, principles and practice, standard publishers, Delhi.
- **Despande, R.S,** (1974) Build your own home, United book corporation, Poona.
- **Faulkner, R. and Faulkner,S.**(1987), Inside Today 's Home, Rine hart publishing company, Newyork.
- **Judy,M.,**(1994), How to see, how to paint it, Harpencollingpublishers,London.
- **Jan Orcharchd** (1993), Lighting for a beautiful Home, Dunestyle publishing Ltd.,U.S.A.
- **Konya Allan-** Design for Hot Climates.
- **Kukreja. C.P-** Tropical Architecture. Tata McGraw Hill Pub. Co. Ltd. New Delhi, 1978.
- **Koeinsberger, O.H. et al** Manual of Tropical Housing and Building. Orient Longman, Chennai, 2003.
- **Markus, T.A and Morris. E.N.-** Buildings. Climate and Energy, Pitman Pub Ltd., London, 1980.
- **Olgay and Olgay,** Solar Control and Shading Devic.
- **Seetharam, P and Pannu, P.**Interior Design and Decoration, CBS publishers and distributors, NewDelhi.
- **Stewart and Sally .W.,** (1997), The Complete Home Decorator, Annes publishers Ltd.,Newyork.

*Applicable for courses having practical component.

KURUKSHETRA UNIVERSITY

KURUKSHETRA



Scheme of Examinations and Syllabus

For

Under-Graduate Programme

Bachelor of Vocation in Textile

and Fashion Designing

Interdisciplinary Scheme-D

Under Multiple Entry-Exit,

Internship and CBCS-LOCF in

accordance to NEP-2020

w.e.f. 2023-24 (in phased manner)

Department of Home Science

KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examinations for Under-Graduate Programme
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to NEP 2020 w.e.f. 2023-24 (in phased manner)

Bachelor of Vocation in Interior Designing

SEMESTER 1								
Course	Paper (s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A1 @ 4 Credit	B23-TFD-101	Concept of Design and Illustrations	3	3	20	50	70	3 Hours
		Concept of Design and Illustrations- Practical	1	2	10	20	30	4 Hours
CC-B1 @ 4 Credit	B23-TFD-102	Sewing Techniques	3	3	20	50	70	3 Hours
		Sewing Techniques- Practical	1	2	10	20	30	4 Hours
CC-C1 @ 4 Credit	B23-TFD-103	Surface Ornamentation Techniques	3	3	20	50	70	3 Hours
		Surface Ornamentation Techniques- Practical	1	2	10	20	30	4 Hours
CC-M1 @ 2 Credit	B23-TFD-104	Photographic Techniques	1	1	10	20	30	3 Hours
		Photographic Techniques - Practical*	1	2	5	15	20	4 Hours
MDC-1 @ 3 Credit	From the course offered by D/C/I							
AEC-1 @ 2 Credit	From available AEC-1 pool list of two credit as per NEP							
SEC-1 @ 3 Credit	From Available SEC-1 pool list of two credit as per NEP							
VAC-1 @ 2	From Available VAC-1 pool list of two credit as per NEP							

Credit								
SEMESTER 2								
Course	Paper (s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A2 @ 4 Credit	B23-TFD-201	Textile Chemistry	3	3	20	50	70	3 Hours
		Textile Chemistry-- Practical	1	2	10	20	30	4 Hours
CC-B2 @ 4 Credit	B23-TFD-202	Sampling Coordination and Quality Assessing in Textile and Fashion Designing	3	3	20	50	70	3 Hours
		Sampling Coordination and Quality Assessing in Textile and Fashion Designing - Practical	1	2	10	20	30	4 Hours
CC-C2 @ 4 Credit	B23-TFD-203	Advance Designing and Construction of Garments – I	3	3	20	50	70	3 Hours
		Advance Designing and Construction of Garments - I- Practical	1	2	10	20	30	4 Hours
CC-M2 @ 2 Credit	B23-TFD-204	Computer Applications	1	1	10	20	30	3 Hours
		Computer Applications - Practical	1	2	5	15	20	4 Hours
MDC-2 @ 3 Credits	From the course offered by D/C/I							

AEC- 2 @ 2 Credits	From Available AEC – 2 pool list of two credits as per NEP
SEC- 2 @ 3 Credits	From Available SEC – 2 pool list of two credits as per NEP
VAC- 2 @ 2 Credits	From Available VAC – 2 pool list of two credits as per NEP

SEMESTER 3								
Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A3 @ 4 Credits	B23-TFD-301	Draping and Layout of Garments	3	3	20	50	70	3 Hours
		Draping and Layout of Garments - Practical	1	2	10	20	30	4 Hours
CC-B3 @ 4 Credit	B23-TFD-302	Advance Designing and Construction of Garments – Practical	3	3	20	50	70	3 Hours
		Advance Designing and Construction of Garments - II - Practical	1	2	10	20	30	4 Hours
CC-C3 @ 4 Credits	B23-TFD-303	Traditional Embroideries	3	3	20	50	70	3 Hours
		Traditional Embroideries- Practical	1	2	10	20	30	4 Hours
CC-M3 @4 Credit	B23-TFD-304	Illustration Techniques	3	3	20	50	70	3 Hours
		Illustration Techniques- Practical	1	2	10	20	30	4 Hours
MDC-3 @ 3 Credits	From the course offered by D/C/I							
AEC-3 @ 2 Credits	From Available AEC – 3 pool list of two credits as per NEP							
SEC-3 @ Credits	From Available AEC – 3 pool list of two credits as per NEP							

SEMESTER 4

Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/ Weeks	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A4 @4 Credit	B23-TFD-401	Textile Processing, Printing and Dyeing	3	3	20	50	70	3 Hours
		Textile Processing, Printing and Dyeing-Practical	1	2	10	20	30	4 Hours
CC-B4 @ 4 Credit	B23-TFD-402	Fabric Construction	3	3	20	50	70	3 Hours
		Fabric Construction-Practical	1	2	10	20	30	4 Hours
CC-C4 @ 4 Credit	B23-TFD-403	Eco Textiles	3	3	20	50	70	3 Hours
		Eco Textiles-Practical	1	2	10	20	30	4 Hours
CC-M4 (V) @4 Credits	From Available CC-M4(V) of two credits as per NEP							
AEC-4 @ 2 Credits	From Available AEC-4 pool list of two credits as per NEP							
VAC-3 @ 2 Credit	From Available VAC-3 pool list of two credits as per NEP							
Internship of 4 credits of 4-6 weeks duration after 4th Sem (If not done in 2nd sem)								

SEMESTER 5

Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A5 @4 Credit	B23-TFD-501	Fashion Forecasting	3	3	20	50	70	3 Hours
		Fashion Forecasting- Practical	1	2	10	20	30	4 Hours
CC-B5 @ 4 Credit	B23-TFD-502	Applications of Traditional Textiles	3	3	20	50	70	3 Hours
		Applications of Traditional Textiles - Practical	1	2	10	20	30	4 Hours
CC-C5 @ 4 Credit	B23-TFD-503	Sourcing & Export Management	3	3	20	50	70	3 Hours
		Sourcing & Export Management - Practical	1	2	10	20	30	4 Hours
CC-M5 (V) @4 Credit	From Available CC-M5(V) pool list of two credits as per NEP							
Skill Enhancement Course	Internship # 4 Credits							
<p align="center"># Four credits of internship, earned by a student during summer internship after 2nd semester or 4th semester, will be taken into account in 5th semester of the students who pursue 3 year UG Programme without taking exit option.</p>								

SEMESTER-6								
Course	Paper(s)	Nomenclature of Paper (s)	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A6 @4 Credit	B23-TFD-601	Boutique Management	3	3	20	50	70	3 Hours
		Boutique Management - Practical	1	2	10	20	30	4 Hours
CC-B6 @ 4 Credit	B23-TFD-602	Fashion Merchandising & Retailing	3	3	20	50	70	3 Hours
		Fashion Merchandising & Retailing - Practical	1	2	10	20	30	4 Hours
CC-C6 @ 4 Credit	B23-TFD-603	Portfolio Development	3	3	20	50	70	3 Hours
		Portfolio Development- Practical	1	2	10	20	30	4 Hours
CC-M6 @4 Credit	B23-TFD-604	Journalism & Communication	3	3	20	50	70	3 Hours
		Journalism & Communication- Practical	1	2	10	20	30	4 Hours
CC-M7(V) @4 Credit	From Available CC-M7(V) pool list of two credits as per NEP							

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	I
Name of the Course	Concept of Design and Illustrations
Course Code	B23-TFD-101 B23-VFT-101
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	After completing this course, the learner will be able to: 1. To understand basic concepts of design and illustration. 2. To understand the colour, colour theory and colour psychology.

	<p>3 To know the fashion theory, factors affecting fashion and fabric sourcing.</p> <p>4. To understand the fashion model drawing, latest fashion & traditional Indian textiles.</p> <hr/> <p>5*.To impart practical knowledge about preparation of colour wheel and fashion sketches.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> • Introduction and Brief History of Fashion Illustration. • Scope of Fashion Illustration. • Introduction to Art Media and its Application. 	10
II	<ul style="list-style-type: none"> • Design – Definition and Types (Structural and Decorative Designs). • Elements of Design. • Principle of Design. • Components of Design. 	11
III	<ul style="list-style-type: none"> • Definition of Colour – Colour Theory, Dimensions of Colour, Colour Schemes, Colour Wheel, Colour Types. • Colour Psychology and its Application on Apparel. • Optical Illusions created through Elements and Principles of Design. 	11
IV	<ul style="list-style-type: none"> • Sketching Terminology: - Croquet, Block Figure, Rendering, Art Supplies for Drawing, Spec-sheet, Layout, Flat Sketch, Fashion Drawing. • Fashion Model Drawing: – Basic Human Proportion, Body Figures and Shapes, Sketching Postures. 	10
V*	<ul style="list-style-type: none"> • Designing • Colours • Illustration ● Figure Stylization: – Illustrations, Basic Croquis, Division of the Body to make the 8, 10 and 12 Head Figure (Front, Side and ¾th Profile) 	28

	<ol style="list-style-type: none">1. Figure in Motion- Normal Standing, Walking, Running, and Sitting.2. Figure Drawing in S, X,T,Y poses.3. Colour- Preparation of Colour Wheel, Grey Scales, Colour Schemes, Tints and Shades.4. Creation of Motifs using different Forms and Shapes.5. Designing of following Motifs and its Types in different colour ways: -<ul style="list-style-type: none">• Geometrical• Realistic• Natural• Stylized• Abstract6. Different Placements of Motif: (Traditional/Contemporary)<ul style="list-style-type: none">• Vertical• Horizontal• Half drop• All over• Diagonal7. Sketching: -<ul style="list-style-type: none">• Face• Eye• Nose• Lips• Hands• Legs• Hairstyles.	
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Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	I
Name of the Course	Sewing Techniques
Course Code	B23-TFD-102 B23-VFT-102
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand introduction to sewing, sewing equipment's and their functions. 2. To understand the basic terms, hemming, fasteners, seams and seam finishes. 3. The students will be able to know about different types of fullness, yokes and sleeves.

	<p>4. To know the stitching of collars, pockets, placket and skirts.</p> <hr/> <p>5*.To impart practical knowledge about preparation of samples of fasteners, yokes, sleeves, collars, pockets, placket, and skirts.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<p>1. Introduction to sewing, sewing equipment and their functions.</p> <p>2. Parts and functions of Domestic Sewing</p>		9

	<p>Machine, Types of Machine Needle, Stitch Formation, Care and Maintenance, Trouble Shooting.</p> <p>3. Introduction to Industrial Sewing Machine: -</p> <ul style="list-style-type: none"> • Types • Functions • Care and maintenance 	
II	<ul style="list-style-type: none"> • A Brief Study of the following: - Basting, Running, Tacking, Hand Over-cast, Hemming: - Visible and Invisible, Slip Stitch, Blanket, and Fagoting. • Fasteners: - Conspicuous (Button and Button- holes, Button Loops, Button with Holes, Shank Buttons, Eyelets and Cords); Inconspicuous (Press Buttons, Hooks and Eyes, Zips). • Seams & Seam Finishes: - Definition, Types of Seam Finishes, and their applications... 	11
III	<ol style="list-style-type: none"> 1. Fullness: - Definition and Types (Darts, Tucks, Pleats, Gathers, Shirring, Ruffles and Godets) 2. Yokes: - Definition, Purpose (with and without fullness), applications and construction. 3. Sleeves: - Definition, Terms, and Types. 	11
IV	<ol style="list-style-type: none"> 1. Collars: - Definition, Terms, Types and Styles. 2. Different Types of Pockets and Plackets. 3. Different Types of Skirts. <p>Threading and Bobbin Winding-Common Problems and Methods to Overcome.</p>	9

V*	<p>1. Making Samples of Basic Hand Stitches: -</p> <ul style="list-style-type: none"> • Basting (Even, Uneven, Diagonal, and Pin) • Back Stitch • Running Stitch • Hemming (Visible and Invisible) • Tailor’s Tack <p>2. Making samples of the following: -</p> <ul style="list-style-type: none"> • Seams -Top Stitch, Plain, Run and Fell, French, Lapped, Counter Mantua-maker. • Seam finishes- Over lock, Hand over cast, Turned, and stitched. • Neck lines Finishes. • Pocket and Placket. <p>3. Application of different types of Trimming, Laces, Piping, Binding and Fasteners.</p> <p>4. Fullness Treatment: -</p> <ul style="list-style-type: none"> • Darts • Tucks- Pin Tucks, Cross Tucks, Shell Tucks, Released Tucks, Group Tucks, and Blind Tucks. • Gathers- Even and Uneven. • Pleats- Box Pleats, Knife Pleats, Kick Pleats, Invisible. • Ruffles. <p>Frills: - Gathered Frill and Pleated Frill.</p>	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Holman, Gillian. *Pattern Cutting Made Easy*. BSP 1997.
- Gayathri Verma & Kapil Dev. *Cutting & Sewing Theory*. Asian Publishers, 2015.
- Lewis. *Comparative Clothing Construction Techniques*, New Delhi, Surjeet Publications.
- Gerry Conklin. *Garment Technology for Fashion Designers*. Wiley-Blackwell, USA, 2012.
- Jacob, Thomas Anna. *The Art of Sewing*. UBSPD Publishers Distributors Ltd., New Delhi.
- Colton, V. (1987). *Complete Guide to Sewing by Readers Digest*.
- *Garment Manufacturing Technology*. EIRI Board, Engineers India Research Institute.
- *Cutting & Sewing Theory*. Gayathri Verma & Kapil Dev, Asian Publishers, 2015.
- , 3rd ed. Cleaver – Hume Press Ltd., London, 1959.

*Applicable for courses having practical component.

Session: 2023-24	
Part A – Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	I
Name of the Course	Surface Ornamentation Techniques
Course Code	B23-TFD-103
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-3
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the different types of textiles and surface ornamentation designs. 2. To learn different ornamentation techniques and to use them effectively for designing the garments. 3. To know the various methods of surface ornamentation. 4. To select the appropriate method of ornamentation

	<p>for a specific product or fabric.</p> <hr/> <p>5*.To impart knowledge & vocational quality that qualifies a student to work as a “Surface Designer” in Fashion Industry.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Trimmings & Decorations – Definition and types. 		10

	<ul style="list-style-type: none"> • Figure irregularities, wardrobe planning. 	
II	<ul style="list-style-type: none"> • Introduction to surface ornamentation and embroidery; general rules for hand and machine embroidery; special attachments to sewing machines for embroidery – tools and equipment’s – needles – threads. 	10
III	<ul style="list-style-type: none"> • Define following surface ornamentation techniques with their types, tools and materials requirements : • Appliqué (Machine / Hand), • Smocking , • Laces, Bead Work, • Sequins Work, 	10
IV	<ul style="list-style-type: none"> • Belts , Bows, • Tassels and Fringes • Mirror Work, • Dyeing & Printing. 	10
V*	<ul style="list-style-type: none"> • Making Samples (at least 10) by Using Any of the Following Hand Embroidery Stitches (Make a Separate File)- Running Stitch , Laced Running Stitch, Back Stitch, Stem Stitch, Satin Stitch, French Knot, Bullion Knot, Cross Stitch, Blanket Stitch , Button Hole Stitch , Corel Stitch , Spider Web Stitch, Fly Stitch, Feather Stitch, Chain Stitch, Lazy Daisy Stitch, Roumanian Stitch, Chevron Stitch, Cretan Stitch, Faggoting Stitch, Fern Stitch, Fish Bone Stitch, Herringbone Stitch, Couching. Making 3 Samples by using Any of the Following MachineEmbroidery Stitches-Running Stitch, Long and Short 	30

	<p>Stitch, Cut Work, Patch Work, Quilting.</p> <ul style="list-style-type: none"> • Preparing Samples for the Following- Appliqué (Machine / Hand), Smocking, Laces, Bead Work, Sequins Work, Belts, Bows, Tassels and Fringes, Mirror Work, Fixing the Stones, Dyeing & Printing. 	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> • RAjit Mookerjee -5000 Designs and Motifs from India, 1996. • Bina Abling- Fashion Sketch Book, Fair child publications, New York. • G.J. Sumathi- Elements of Fashion & Apparel Design, New Age International, 2002. • Judith Rasband- Wardrobe Strategies for Women, Delmar Publishers, London. • Jeannette A Jarnow, Morianr Guerreiro & Beatrice Judelle- Inside the Fashion Business 4th edition, Mac Millan Company, New York. • M Nichols- Encyclopedia of Embroidery Stitches Including Crewel by Dover Publications – 1974. • Susheela Dantyagi- Fundamentals of Textiles and their Care,5th edition, Published by 		

Orient Longman Ltd., New Delhi,

- Therese De Dillmont – 3rd Edition-Computerized Encyclopedia of Needle Work.
- Val Holmes -Decorative Painting Techniques Book, 2003.
- Traditional Indian Motifs for Weaving and Printing.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	I
Name of the Course	Photographic Techniques
Course Code	B23-TFD-104 B23-VID -104
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	After completing this course, the learner will be able to: 1.To help students to acquire knowledge of the process, uses, principles and advantages of digital photography. 2.Visualize the concept of digital platform and various methods of image capture. 3.To develop the method of basic image editing

	<p>techniques.</p> <p>4.Introduce various methods of post-production and retouching techniques.</p> <hr/> <p>5* To impart knowledge to the students about the concept of digital output and producing the final product</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks:20(T)+15(P)=35		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Introduction to Digital Photography :Understanding film and paper photography • Learning about the digital revolution • Advantages and disadvantages of digital 		7

	<p>photography over</p> <ul style="list-style-type: none"> • Film photography :Computers as photographic tools • How photos are used today. 	
II	<ul style="list-style-type: none"> • Digital basics • Digital image method of storing and processing digital • Image: raster and vector method • 2.2 representation of digital image: resolution – pixel depth • Pixel aspect ratio – dynamic colour range – file size Colour models – image compression – file formats – • Calculating image resolution for outputs. 	6
III	<ul style="list-style-type: none"> • Digital Platform Hardware and System Software • Windows Operating System • Concept of Internet • Image transportation through floppy, CD, zip and Internet. 	8
IV	<ul style="list-style-type: none"> • Digital Capture :Digital Image formation – Image Sensors – Different • Capturing Method: Digital camera – Scanner – Frame Grabber • DIGITAL CAMERA: Understanding how digital cameras work – Digital camera types: Floppy Disc type, Flash Card type, Hard Disc type – Overview of current digital cameras. 	7
V*	<ul style="list-style-type: none"> • Make a file including different photos with different resolutions. • Make a file including different photos with colors models. 	28

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	II
Name of the Course	Textile Chemistry
Course Code	B23-TFD-201 B23-VFT-201
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand introduction of textile fibers, terminologies and its properties. 2. To understand the manufacturing process and properties of various natural, regenerated fibers. 3. The students will be able to know about synthetic

	<p>fibers, Yarns, its types and properties.</p> <p>4. To understand the Fabric appearance & properties, Fabric as protection and Classification of the Finishes.</p> <hr/> <p>5*.To impart practical knowledge about preparation of practical file of textile fibers with different chemical test.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> Terminology- Fibre, Yarns, Linear Density, 		10

	<p>Strength, Crease Recovery,</p> <p>Abrasion Resistance, Drapability, Tensile Strength, Static Charge, Thermal Conductivity.</p> <ul style="list-style-type: none"> • Introduction to Textile Fibers, Classification of Fibers based on sources and Origin. • Chemical & Physical Properties of Textile Fibers. 	
II	<ul style="list-style-type: none"> • Manufacturing process and properties of various Natural Cellulosic Fibres like Cotton & Linen. • Manufacturing process and properties of various Natural Protein Fibers like Wool & Silk. • Manufacturing process and properties of Regenerated and Modified Cellulosic Fibres like Rayon and Acetate. 	10
III	<ul style="list-style-type: none"> • Manufacturing process of Man-made Synthetic Fibers like Polyamide: - Nylon66, Nylon6; Polyester and Acrylic. • Classification of Yarns: - Carded and Combed Yarns, Woollen & Worsted Yarns, Filaments and Spun Yarns. • Yarn: - Properties, Linear Density, Size, Twist in Yarn, Crimp Yarn Direction, Strength & Uniform. • Textile Yarn: - Types and Application, Fancy Yarns- 	11

	Types & Uses.	
IV	<ul style="list-style-type: none"> • Fabric: - Appearance & Properties, Effect of Yarn Structure and Fabric Construction on Fabric Properties; Selection of Fibres and Yarn Structure; Durability: - Study of Tensile Strength, Tearing Strength, Bursting Strength with respect to Fibers Properties; Yarn Structure and Fabric Design. • Fabric as Protection; Fabric Engineering (For given end use, designing of Fabric from selection of Fibre, type of yarn manufacture, fabric design to finishing treatments. • Textile Chemical Processing for Fibers, Processing (elementary knowledge), Impurities present in the Natural and Synthetics Fibers. • Classification of the Finishes: - According to Designer/Merchandiser/Sales Persons. • Objectives of the various Finishes: - According to Textile Chemist and Degree of Performance. 	9
V*	<ol style="list-style-type: none"> 1. Introduction to Fibers and Yarns, Table Loom and Floor Loom, Preparing Warp, Setting up loom for weaving. Basic weaves and their variations. 2. Identification of Textile Fibers: - <ul style="list-style-type: none"> • Fibers: - Cotton, Silk, Wool, Nylon, Polyester, Linen, Rayon, Jute. • Microscopic Method. • Flame Test. • Chemical Test. 3. Fabric Identification of Cotton, Wool, Silk, Jute and Polyester Using the following Methods: - 	30

- **Moxley, R. Mitchell's** Elementary Building Construction, Technical Press Ltd.
- **Rangwala, S.C.**- Building Construction: Materials and Types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
- **Rangwala, S.C.** -Building Construction 22nd ed. Charota Pub. House Anand, 2004.
- **Sushil Kumar.** T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

*Applicable for courses having practical component.

Session: 2023-24	
Part A – Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	II
Name of the Course	Sampling Coordination and Quality Assessing in Textile and Fashion Designing
Course Code	B23-TFD-202
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To give an understanding to students to prepare for sampling. 2. To help the students to coordinate the flow of samples. 3. To provide knowledge to the students to maintain

	<p>the records.</p> <p>4. To help the students to become sampling coordinator.</p> <p>5*.To enable the students to analyse and manage quality issues.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> • Sample Plan- Research on target market, materials, trims. • Specification Sheet- Specification sheet in accordance with standard format. • Basic sampling principles, importance of following the sampling plan, the sample characteristics and related preservation, handling and storage requirements and the labelling system. 	10
II	<ul style="list-style-type: none"> • Coordinating the Flow of Samples- Documenting the final approved sample. • Documenting the information before making the sample and maintenance of all, the records for future use related to the particular counter sample. 	10
III	<p>Understanding Product and Process Details-Evaluation of production quality, tech pack and reference samples.</p> <ul style="list-style-type: none"> • Checking points to exercise quality control & documenting tolerances for process or raw material. Analysing the garment construction process; analysing the garment finishing & packing standards & processes. • Raw Material Components and their Specifications- Inspection and quality control procedures, test reports, product specification & tech packs, reference sample and approved samples, spec sheets, checking procedures and tolerances, reports and compliances 	10

IV	<ul style="list-style-type: none"> • Major Deviations and Stopping the Process- Appropriate People-Quality Head, Departmental Heads, Line Supervisors, Quality Heads, Production Planning Head, Merchandiser, • Quality control / Process of Quality, classification of defects. • Methods & Tools to Analyse the Quality Issue 	10
V*	<ul style="list-style-type: none"> • Sample Requisition- For creation of sample work order. • Sample Work Order- Receiving of techpack to prepare for the fabric, trims and garment to be developed for proto. • Sample Plan- Maintain a proper sample plan, for all the styles for the month. • Sample Returning Chart- All the counter samples of the particular season are returned, preparing a counter sample returning chart for future reference. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- **Campbell, D et. al** (2001) : How to Develop A Professional Portfolio.
- **Giselle O. Martin-Knie**-Capturing the Wisdom of Practice:Professional Portfolios for Educators.
- **Kristen K. Swanson**- Promotion in the Merchandising Environment.
- **Mike Easey** - Fashion Marketing.
- **Clarke**-An Introduction to Textile Printing.
- **Fairhurst**-Advance in Apparel Production.
- **K.K.Maitra**-Encyclopaedic Dictionary of Clothing & Textile.
- **N.Gokarneshan**-Fabric Structure &Design.
- **Pepin Van Roojen**-Batik Design.
- **Student Aid Publication**-Careers in Fashion Technology &Design.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	II
Name of the Course	Advance Designing & Construction of Garments-I
Course Code	B23-TFD-203
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-3
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To enhance fabric recognition ability. 2. To prepare students for good garment constructions. 3. To introduce the students with advance designing

	<p>and construction of garments.</p> <p>4. To train the students in the development of garments using fundamentals of stitching.</p> <hr/> <p>5*.To impart knowledge about grains.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs.(T) 4 hrs.(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> Introduction to Garment Construction - Garment Construction Meaning And Importance 		10

	<ul style="list-style-type: none"> • Garment Construction Terminology 	
II	<ul style="list-style-type: none"> • Garment Construction Tools • Measurements 	10
III	<ul style="list-style-type: none"> • Process of Garment Construction • Selection of Patterns, Prints And Fabrics For Particular Garments 	10
IV	<ul style="list-style-type: none"> • Selection of Fabrics For Infants And Children • Selection of Fabrics According To Occasion, Use And Need • Linings and Interlinings (Types and Their Application) 	10
V*	<p>Preparation of samples for different types of :</p> <ul style="list-style-type: none"> • Sleeves • Yokes • Collars • Necklines • Setting sleeves to bodice 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p>		<p>End Term Examination:</p> <p>50</p>

<ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	20
Part C-Learning Resources	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Cooklin G -Garment Technology for Fashion Designers” Blackwell publishing ,1977. ● Encyclopedia of Sewing Encyclopedia of Sewing. ● Marshall Cavendish-Encyclopedia of Dressmaking. ● Readers Digest Book of Sewing. ● Thomas Anna Jacob-“The Art of Sewing”, USB publishers New Delhi, 1994. <p>Verma G- Cutting & Tailoring Theory”, Asian publishers Delhi, 1999</p>	

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	II
Name of the Course	Computer Applications
Course Code	B23-TFD-204 B23-VFT-204
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M2
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Computer and MS Word. 2. To understand the study of MS Power Point and Photoshop.

	<p>3. To know about tools of Photoshop and restoring image.</p> <p>4. To understand Corel Draw and its tools.</p> <hr/> <p>5*.To impart practical knowledge about preparation of designs using Photoshop and Corel draw.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50		Time: 3hrs	
Internal Assessment Marks:		15	
End Term Exam Marks:		35	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> ● Introduction to computer: <ul style="list-style-type: none"> - Block diagram of a computer. - Characteristics of computers. 		7

	<ul style="list-style-type: none"> - Types of Software and Hardware. ● Introduction to MS Word. ● Introduction to PowerPoint. 	
II	<ul style="list-style-type: none"> ● Introduction to Photoshop. ● Tools of Photoshop. ● Shortcuts, tool options. 	6
III	<ul style="list-style-type: none"> ● Selections and channels of Photoshop. ● Restoration of Photos. <p>Features of Photoshop.</p>	8
IV	<ul style="list-style-type: none"> ● Introduction to Corel Draw. ● Features of Corel Draw. <p>Tools of Corel Draw.</p>	7
V*	<ul style="list-style-type: none"> ● Introduction to Computer. ● General introduction to PowerPoint. ● Detailed study of different tools of Corel Draw and Photoshop. ● Create a composition of geometrical shape 8” x 8” block (3D and 2D) ● Design traditional and contemporary Motifs (solid colour and texture) ● Design Logo and create Brochure for your own label, visiting card, pamphlet, poster, cover page (file cover). <p>The following software can be used: -</p> <ul style="list-style-type: none"> a) Photoshop <p>Corel Draw</p>	28
Suggested Evaluation Methods		

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	III
Name of the Course	Draping and Layout of Garments
Course Code	B23-TFD-301
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquaint the students with the techniques of draping. 2. To learn skills of garment construction through flat pattern. 3. To teach the students about the basic principles of draping 4. To interpret and analyzing complex drapes.

	<hr/> <p>5*.To make basics clear.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time::3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Explain draping techniques • Draping tools and materials • Need and importance of draping 		10

II	<ul style="list-style-type: none"> • Introduction to Draping - Draping addresses 3 areas of pattern making • Dart Equivalent • Contouring • Added Fullness 	10
III	<ul style="list-style-type: none"> • Introduction to creative and Contemporary Fashion Draping • Fashion Draping with Fabric Manipulation 	10
IV	<ul style="list-style-type: none"> • Draping a garment using Ruching Technique • Draping a garment using Pleating Technique • Draping a garment using Fluting technique • Zero wastage draping's 	10
V*	<ul style="list-style-type: none"> • Preparation of muslin and draping steps. • Draping Yokes – Shirt yoke, midriff yoke. • Draping of top with princess line. • Marking and truing of bodice front and back. • Draping basic skirt pattern & truing the skirt. Joining the skirt to the bodice. • Draping of cowl neck line. • Draping of skirt with flare. • Draping of top with halter & top with off shoulder design. • Draping of Collars – Peter pan and mandarin. • Draping of Sleeves- Raglan and kimono. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Bray Natalie-Dress Pattern Designing. ● Natalie Bray- Dress Pattern Designing. ● Stanley Helen - Flat Pattern Cutting &Modelling for Fashion. 	

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	III
Name of the Course	Advance Designing and Construction of Garments-II
Course Code	B23-TFD-302
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 5. To enhance fabric recognition ability. 6. To prepare students for good garment constructions. 7. To introduce the students with advance designing and construction of garments. 8. To train the students in the development of garments using fundamentals of stitching.

	<hr/> <p>5*.To impart training about construction of simple garments.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Preparation of fabric • Fabric grain • Preparation of fabric before Cutting: straightening, 		10

	<p>shrinking, pressing and checking for flaws.</p> <ul style="list-style-type: none"> • Different types of layout: crosswise, longitudinal, open and combination for various fabric types (directional, checks, stripes, bold prints and borders) • Pinning, marking, cutting 	
II	<ul style="list-style-type: none"> • Introduction to following varieties of fabrics (physical appearance, weaves, uses and care) • Cotton Fabrics – Jersey, gingham, madras cotton, chambray, chintz, seersucker, poplin, lawn, muslin, crinkle cotton, sports net, voile, lace, cambric, cheese cloth, eyelet, calico, damask, denim. 	10
III	<ul style="list-style-type: none"> • Woolen Fabrics – worsted, flannel, cashmere, tartan, crepe, coating, gabardine, modern tweed, double coating, single jersey, double jersey, mohair, alpaca. • Linen & Silk fabrics – suiting linen, handkerchief linen, moil, silk and wool mix, Silk & cotton mix, silk & linen mix, silk satin, taffeta, organza, washed silk, crepe De china, devour velvet, chiffon, dupion, georgette, shantung. 	11
IV	<ul style="list-style-type: none"> • Synthetic & Special Fabrics – acrylic, crepe, viscose, grosgrain, polyester crepe, Microfiber, boucle, poly linen, polar fleece, crepe backed satin, flock, pure nylon, Jacquard fabric, acetate, vinyl, crinkle, fabric, rubber, sequin fabric, spandex, PVC, fur fabric, liquid gold, leather 	10

V*	Design, draft and construct following garment with suitable fabric and surface ornamentation techniques : <ul style="list-style-type: none"> • A line frock • Gathered Frock • Bloomer • Bib • Romper 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS: <ul style="list-style-type: none"> • Cooklin G -Garment Technology for Fashion Designers” Blackwell publishing , 1977. • Encyclopedia of Sewing Encyclopedia of Sewing. • Marshall Cavendish-Encyclopedia of Dressmaking. • Readers Digest Book of Sewing. • Thomas Anna Jacob-“The Art of Sewing", USB publishers New Delhi, 1994. 		

Verma G- Cutting & Tailoring Theory", Asian publishers Delhi, 1999

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	III
Name of the Course	Traditional Embroideries
Course Code	B23-TFD-303
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-3
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To impart knowledge of stitches. 2. To learn different techniques used in traditional embroideries. 3. To study the traditional embroideries of India with special reference to history. 4. To give knowledge about various patterns.

	<hr/> <p>5*.To impart knowledge of various motifs, colours and designs used in traditional embroideries of India.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Phulkari of Punjab • Chamba Rumal of Himachal Pradesh 		10
II	<ul style="list-style-type: none"> • Kashida of Kashmir 		10

	<ul style="list-style-type: none"> • Chikankari of Uttar Pradesh 	
III	<ul style="list-style-type: none"> • Kutch Embroidery of Gujarat • Sindhi and Kathiawar Embroidery 	11
IV	<ul style="list-style-type: none"> • Kantha of Bengal • Kasuti of Karnataka 	10
V*	<p>Make samples of following embroideries :-</p> <ul style="list-style-type: none"> • Phulkari • Chamba Rumal • Kashida • Chikankari • Kutch • Sindhi and Kathiawar Embroidery • Kantha • Kasuti 	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Saraf D.N, “Indian Crafts”, Vikas Publishing House Pvt. Ltd. 1982
- Naik Shailaja D, “Traditional Embroideries of India”, APH Pub. Corp, New Delhi, 1996
- Paine Sherla, “Embroidered Textiles”, Thames and Hudson Ltd, 1990
- Chattopadhyay K, “Indian Embroidery”, Wiley Eastern Ltd., New Delhi, 1977.
- Morrell A, “The techniques of Indian Embroidery”, B.T. Batsford, London, 1992.
- Mehta J. Rustom, “Master pieces of Indian Textiles”,
- D.B.Taraporevala, Bombay (1970). Pandit
- S., “Indian Embroidery- its variegated charms”, Vinubhai Patel Baroda, 1976.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	III
Name of the Course	Illustration Techniques
Course Code	B23-TFD-304 B23-VFT-304
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/V AC)	CC-M3
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	After completing this course, the learner will be able to: 1. To understand illustration and its types 2. To understand the fashion illustrations, its scope and body proportion. 3. To know about stylized figures, different draping style

	<p>and colour rendering by different media.</p> <p>4. To understand contemporary crafts traditions, Traditional Indian crafts in modern design.</p> <hr/> <p>5*.To impart practical knowledge about preparation of designs for different dresses, development of textures and prints and designing of accessories.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks::20(T)+10(P) End Term Exam Marks:50(T)+20(P)		Time:3hrs(T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> • Introduction of Illustration • Evolution of Illustration • Types of Illustration • Difference between Graphic Design and Illustration 	12
II	<ul style="list-style-type: none"> • Introduction of Fashion Illustration • Scope of Fashion Illustration • Explore Body Proportion • Identifying Shapes within the Body 	10
III	<ul style="list-style-type: none"> • Stylized Figures • Concept of Stylized Fashion Croquis • Converting Basic Figure into Stylized • Different Draping Style and Colour Rendering by Different Media • Live Drawing with quick Sketches • Develop personalized Illustration Style 	9
IV	<ul style="list-style-type: none"> • Contemporary Crafts Traditions • Traditional Indian Crafts in Modern Design • Traditional Crafts with Contemporary Design Practice • Bridge between Artisan and the Market 	8
V*	<p>Prepare the illustration for the following: -</p> <p>1. Head Theory 8 ½, 10 ½ and 12 ½</p> <ul style="list-style-type: none"> • Stick Figure 	30

	<ul style="list-style-type: none">• Block Figure• Flesh Figure• Child Figures (Proportion- 0-1 year, 2-3 years, 4-5 years, 6-8 years, 8-10 years) <p>2. Wardrobe collection for Teenagers: -</p> <ul style="list-style-type: none">• Formal Suits• Formal Lehngas• Formal Kurtis• Casual Jeans Top• Skirt Top• Casual Suits <p>3. Create different types of Textures and Prints: -</p> <ul style="list-style-type: none">• Check• Animal• Abstract• Floral• 3D• Geometric Pattern <p>4. Illustration of Figures (Male and Female) in Dresses using various medium like Poster Colour, Water Colour and Straddlers: -</p> <ul style="list-style-type: none">• Casual Wear• Sports Wear• Beachwear• Night suits• Party Wear	
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Gurey G.S., "Indian costumes," The Popular Book Depot.

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	IV
Name of the Course	Textile Processing, Printing and Dyeing
Course Code	B23-TFD-401 B23-VFT-401
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand Introduction to Product development and its application of Textile Processing, Steps in producing a fabric and Fabric Finishing 2. To understand the Introduction of Layout in designs, repeat bases, drops devices, Colorant, Dyeing and

	Printing. 3. The students will be able to know about Color Fastness to Washing, Lighting Rubbing and Perspiration 4. To understand Mechanism of various dyeing processes, application of dyes and Natural Dyes <hr/> 5*.To impart practical knowledge about preparation of Color Fastness to Washing, Lighting Rubbing and Perspiration, various dyeing processes, application of dyes and Natural Dyes		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time: 3 hrs.(T) 4 hrs.(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> • Introduction of Textile Processing • Steps in producing a fabric – Fibre and Yarn Processing, Yarn and Fabric Preparation. • Fabric Finishing: - • Preparatory Processes (Singeing, Desiring, Scouring, Bleaching, Heat-setting). • Routine Finishes (Beetling, Calendaring, Anti-shrink, Permanent Setting) • Special Purposes Finish (Flame Retardant, Water-repellent, Durable-press, Moth-proofing, Soil-repellent, Anti-static). 	11
II	<ul style="list-style-type: none"> • Layout in Designs, Repeat Bases, Drops Devices. • Colorant- Dyes and Pigments, Classification of Dyes and Pigments based on their application and chemical structure. • Define Dyeing, Stages of Dyeing, Methods of Dyeing, Classification of Dyeing. • Define Printing, Methods of Printing, and Types of Printing. 	10
III	<ul style="list-style-type: none"> • Colour Fastness to Washing, Lighting, Rubbing and Perspiration. • Identifying Printing and Dyeing Defects. • Dimensional Stability of Fabric. 	12

IV	<ul style="list-style-type: none"> • Mechanism of various Dyeing Processes, Application of Dyes on various Fibers/Fabrics and their fastness properties (Washing, Light, Perspiration and Rubbing Fastness, ISO Method), Reflectance of Dyes (Spectrophotometer). • Natural Dyes- Application and Ecological Concerns. • Recent Developments in Dyeing and Printing- Toxicity of Dyes, Banned Dyes, Eco-friendly Dyes, etc. Different Compliance Requirements & Azo-free Dyes & Metameric Effect. 	12
V*	<ul style="list-style-type: none"> • Scouring of Cotton. • Bleaching of Cotton with Hydrogen Peroxide. • Mercerization of Cotton. • Dyeing of Cotton with Direct, Reactive. • Dyeing of Silk with Acid and Basic Dyes • Making of Screens and Pastes for Printing, Block Printing, Screen Printing. • Printing of Cotton Fabric with Direct Style. • Finishing of Cotton Fabric with Softeners. • Finishing of Silk Fabric with Softeners. • Dyeing Fabrics using various Dyes viz Vegetable Dyes (Henna, Pomegranate, Madder, Indigo, etc.) Using Tie and Dye and Batik Techniques. • Pigment Printing, Discharge Printing, Block Printing, Tie and Dye, Batik Printing, Screen Printing, Stencil Printing. 	30
Suggested Evaluation Methods		

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	IV
Name of the Course	Fabric Construction
Course Code	B23-TFD-402
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To impart knowledge of fabric manufacture and fabric properties. 2. To enable students to understand fabric structures and to analyse them. 3. To give information about basics of fabric. 4. To enhance knowledge of fabric from basics. <hr style="width: 20%; margin-left: 0;"/> <p>5*To acquire skills for various fabric construction</p>

	techniques.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T)+20(P)=70		Time::3hrs (T) 4hrs(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Knitting Terminology – Wales, course, single knit, double knit, gauge, stitch density, stitch Length, loop. • Types of knitting- warp knitting & weft knitting 		10

	<ul style="list-style-type: none"> • Properties of knitted fabric • Difference between Knits and woven 	
II	<ul style="list-style-type: none"> • Knitting machines- flat bed & circular • Different types of knitting machine needles and their working • Knitted fabric defects 	11
III	<ul style="list-style-type: none"> • Non-woven methods of fabric construction: process, properties and end-uses • Felting • Bonding • Needle Punching 	10
IV	<ul style="list-style-type: none"> • Methods of decorative fabric construction • Lace making • Netting • Braiding • Knotting 	9
V*	<ul style="list-style-type: none"> • Making samples of basic knitting stitches. • Making of samples of different knots using Macramé. • Making of samples of Crochet. • Making samples of Narrow fabrics by Bradding. • Project work: Make an article using any technique 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Fashionpedia – the visual dictionary of fashion design, 2017 (Fashionary International) ● The little black book of Style, It Books, 2010. ● Fashion: The Essential Visual Guide to the World of Style, by Karen Homer, Aurum Press, 2018. 	

*Applicable for courses having practical component.

Session: 2023-24	
Part A - Introduction	
Subject	Bachelor of Vocation in Textile and Fashion Designing
Semester	IV
Name of the Course	Eco Textiles
Course Code	B23-TFD-403
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-3
Level of the course (As per Annexure-I	100-199
Pre-requisite for the course (if any)	Senior Secondary (10+2)
Course Learning Outcomes(CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To provide in - depth knowledge about needs of eco-textiles. 2. To familiarize the students with different types of eco – fibres, eco dyes , eco finishes and eco standards. 3. To acquaint the students with recent development in the field of functional textiles.

	4. To make students environment sensitive.		
	5*.To impart knowledge about nature friendly fibers.		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T) +10(P) =30 End Term Exam Marks:50(T) +20(P) =70		Time:3 hrs.(T) 4 hrs.(P)	
Part B- Contents of the Course			
<p><u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p><u>Instructions for the Candidate:</u> The candidates will attempt five questions in all, selecting at least one question from each unit as well as compulsory questions.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> • Definition, need and importance of eco-textiles, difference between eco and conventional textiles; eco textiles and sustainable development, eco- textiles and health. 		10

	<ul style="list-style-type: none"> Eco- friendly fibres; eco dyes; eco finishes; eco standards 	
II	<ul style="list-style-type: none"> Eco- textiles and environment. Role of different companies & designers in promotion of eco-textiles. 	10
III	<ul style="list-style-type: none"> Definition, functions & classification of functional apparel, factors affecting the use of functional apparel. Functional Fabric Structures- Knitted - weft knitted and warp knitted structures; non-woven types of laying - chemical bonding- thermal bonding- solvent bonding- hydro entanglement. Nano technology in textiles, environmental engineering applications. Smart Garments- Chameleonic garments, communicative garments, shape memory garments, responsive garments. 	10
IV	<ul style="list-style-type: none"> Protective Garments - Thermal protective garments , protective clothing from x-rays, gamma chamber, bullet proof, space suits, water proof & water breathable fabric etc. , geo textiles, defines textiles. Garments for medical & hospital use, antimicrobial textile wear, pathogen resistant surgical gown, implantable materials (Healthcare/ Hygiene products). High performance sportswear. Wearable Electronics- Musical jacket, garment fitted with electronics appliances like torch, mobile, calculator, motherboard etc. 	10
V*	<ul style="list-style-type: none"> Preparation and submission of report at least one topic 	30

KURUKSHETRA UNIVERSITY KURUKSHETRA



Scheme of Examination and Syllabus

For

Under-Graduate Programme

Subject: Home Science

Scheme - A

Under Multiple Entry-Exit

Internship and CBCS-LOCF in accordance to NEP-2020

w.e.f. 2023-24 (in phased manner)

KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Examination For Under-Graduate Programme in Subject Home
Science as per NEP 2020

Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to
w.e.f. 2023-24 (in phased manner)

Home Science
SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours / Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-1 4 credit	B23-HSE-101	Home and Interior Decor'	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-HSE-102	Elementary Home Science I	1	1	10	20	30	3hrs.
		Practical	1	2	5	15	20	4hrs.
MDC-1 3 credits	B23-HSE-103	Basics of Home Science I	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
AEC-1 2 credit	From available AEC-1 pool list of two credit as per NEP							
SEC-1 3 credit	From Available SEC-1 pool list of two credit as per NEP							
VAC-1 2 credit	From Available VAC-1 pool list of two credit as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hrs/ Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-2 4 credit	B23-HSE-201	Nutrition Science	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-HSE-202	Elementary Home Science II	1	1	10	20	30	3hrs.
		Practical	1	2	5	15	20	4hrs.
MDC-2 3 credits	B23-HSE-203	Basics in Home Science II	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
AEC-2 2 credit	From Available AEC-2 pool list of two credit as per NEP							
SEC-2 3 credit	From Available SEC-2 pool list of three credit as per NEP							
VAC-2 2 credit	From Available VAC-2 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-3 4 credit	B23-HSE-301	Basics of Clothing Construction & Apparel Designing	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
MDC-3 3 credits	B23-HSE-302	Basics in Home Science- III	2	2	15	35	50	3 hrs.
		Practical	1	2	5	20	25	4 hrs.
AEC-3 2 credit	From Available AEC-3 pool list of three credit as per NEP							
SEC-3 3 credit	From Available SEC-3 pool list of three credit as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-4 4 credit	B23-HSE-401	Advanced Apparel & Textile Designing	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M4(V) 4 credit	From Available CC-M4(V) pool list of four credit as per NEP							
AEC-4 2 credit	From Available AEC-4 pool list of three credit as per NEP							
VAC-3 2 credit	From Available VAC-4 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 4th semester (If not done in 2nd Semester)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-A5 4 credit	B23-HSE-501	Normal & Therapeutic Nutrition I	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M5(V) 4 credit	From Available CC M5(V) pool list of four credit as per NEP							

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-6 4 credit	B23-HSE-601	Family Dynamics & Counseling	3	3	20	50	70	3 hrs.
		Practical	1	2	10	20	30	4 hrs.
CC-M7(V) 4 credit	From Available CC-M7(V) pool list of four credit as per NEP							

Session: 2023-24**Part A - Introduction**

Subject	Bachelor of Home Science		
Semester	I		
Name of the Course	Home and Interior Décor'		
Course Code	B23-HSE- 101		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1 (Core Course)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none">1.To encourage experimentation with traditional and contemporary materials, technical processes and methods2. To impart knowledge and skills for making different floor plans for different income groups.3.To develop skills, abilities & knowledge that enable artistic production & creative problem solving skills.4. To develop and apply concepts of art & design to create aesthetically pleasing interiors. <hr/> <p>5*.To acquire professional and entrepreneurial skills like interior decoration, use of waste material and decorative pieces for economic empowerment.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.		
Instructions for the candidate: The candidates will attempt five questions in all, selecting two questions from each unit as well as compulsory questions.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Interior decoration: Objectives, importance of elements of art in interior decoration. ➤ Types of design: Structural and decorative and its Application. ➤ Elements of art: Line, Form, Texture, Light, Pattern, Colour, Space and its Application in Interior Decoration 	10
II	<ul style="list-style-type: none"> ➤ Principles of design: Rhythm, Balance, Proportion, Emphasis, Harmony and its Application in Interior Decoration ➤ Colour: Properties of Colour, Psychological Effect of Colour, Color Schemes and its Application in the Interior of a House. ➤ Lighting: <ul style="list-style-type: none"> a) Types and requirement for various activities b) Lighting fixtures in the home 	10
III	<ul style="list-style-type: none"> ➤ Table setting and table manners: Informal and Formal Table Settings (Buffet Style, Indian Style Restaurant Style, Cafe Style) ➤ Furniture: Types of Furniture, Furniture Arrangement for Different Areas (Bedroom, Drawing Room, Dining Room, Kitchen And its Types) Factors Affecting the Selection and Purchase of Furniture, Care and Maintenance of Furniture. 	10

IV	<ul style="list-style-type: none"> ➤ Flower arrangement: <ul style="list-style-type: none"> a) Different types of Flower Arrangement b) Accessories used and points to be considered for Flower Arrangement c) Flower Decoration for different Occasions ➤ Furnishings: <ul style="list-style-type: none"> a) Soft Furnishing (curtains, cushions, pillow and material for upholstered furniture) b) Wall Treatment and its types c) Window Treatment and Decoration d) Types of Floor Coverings 	10
V*	<ul style="list-style-type: none"> ➤ Preparation of house plans for different income groups (manual/computer aided). ➤ Floor decoration: Alpana and Rangoli. ➤ Pottery Painting and Decoration. ➤ Creating various art pieces/accessories using various types of materials and techniques like Paper cutting, Collage, Candle making, , Stone painting, Gift wrapping, Greeting cards with Decorative envelopes , Shopping bags/Decorative pouches, Accessories for Fashion Designing including Jewellery making (any 5). ➤ Table setting and Napkin folding. ➤ Flower arrangement for different Rooms and Occasions. ➤ Planning color Schemes for different Rooms manual/computer aided). 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
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Part C-Learning Resources

Recommended Books/e-resources/LMS:

- **Seetharaman P.(2019), Interior Design And Decoration,India:CBS.**
- **M.Pratap Rao (2020),Interior Design: Principles And Practice, India, Standard Publishers and Distributors Pvt Ltd**
- **Frida Ramstedt (2020), The Interior Design Handbook: Furnish, Decorate, and Style Your Space,Clarkson Potter publishing.**
- **Dr. Bhargava B. (2007), Principles of art,University Book House Pvt. Ltd.**
- Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.
- Riley &Bayen., (2003), The Elements of Design, Mitchell Beazley.
- Rutt Anna Hong (1961): Home furnishing,Wiley Eastern Pvt.Ltd.
- Bhat Pranav and Goenka Shanita (1990): The foundation of art and Design, Bombay: Lakhani Book Depot.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	II		
Name of the Course	Nutrition Science		
Course Code	B23- HSE-201		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2(Core Course)		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand basic concepts of nutrition & importance of water & carbohydrates. 2. To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients. 3. The students will be able to know the functions, sources, requirements and effects of excess and deficiency of different vitamins. 4. To understand the functions, sources, requirements and effects of excess and deficiency of different minerals.. <hr/> <p>5*.To impart practical knowledge about preparation of nutrient rich and some other recipes</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T)+20(P)=70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter : The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Definition of Nutrition, nutrients, recommended dietary allowance, balanced diet, health., reference man & reference woman and BMR-Definition and factors affecting BMR ➤ Water: Functions and sources of water for human body ➤ Carbohydrates: Classification, functions, sources & requirement, effects of deficiency and excess (in brief) ➤ Fibre: Types, functions, sources & requirement and health problems associated with excess and deficiency of fiber 	10
II	<ul style="list-style-type: none"> ➤ Protein: Classification. functions, sources & requirement ➤ Fats/ Lipids: Classification, functions, sources and requirements and health problems associated with excess and deficiency of lipids. ➤ Vitamins: Definition and classification of vitamins, difference between fat soluble & water soluble vitamins ➤ Fat soluble Vitamins: Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of: Vitamin A, D, E & K 	11
III	<ul style="list-style-type: none"> ➤ Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of various water soluble vitamins : Vitamin C, Vitamin B1 (Thiamine), Vitamin B2, (Riboflavin), Vitamin B6 (Pyridoxine), Vitamin B12 (Cyanocobalamin), Niacin and Folic acid. 	11

IV	<ul style="list-style-type: none"> ➤ Definition and Classification of Minerals ➤ Macro minerals: Functions, Sources, RDA, Effect of Excess and low intake of Calcium, Phosphorus, Magnesium, Sodium and Potassium ➤ Micro Minerals: Functions, sources and RDA, Effect of Excess and low intake of Iron, Iodine Fluorine & Zinc 	10
V*	<ul style="list-style-type: none"> ➤ Controlling Techniques: Weights and Measures, Standard and household measures for raw and cooked foods ➤ Classify foods on the basis of nutrients:-Protein, Iron, Calcium, Vitamin A, Vitamin C ➤ Planning, Calculation of nutritive value and Preparation of the following: <ol style="list-style-type: none"> 1. Paranthas/Poories – (simple & stuffed) 2. Sandwiches 3. Soups 4. Desserts 5. Sponge Cake 6. Main Course Dishes (any 2) ➤ Planning and preparing nutrient rich dishes: Protein, calcium, iron & vitamin A 	28
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: 		End Term Examination: 50 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Srilakshmi, B. (2017). Nutrition Science. New Age International Limited, Publishers, New Delhi.
- Agarwal,A. and Udipi, S. (2014). Text Book of Human Nutrition, Jaypee Medical Publication, New Delhi.
- Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
- ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
- Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi.
- Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi.
- Sunetra Roday (2017). Food Science and Nutrition, Oxford University Press, New Delhi.
- Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
- Raina U, Kashyap S, Narula V, Thomas S, Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai.
- Tikoo,S.S.(2022).Foods and Nutrition. Modern Publishers Jullunder.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	III		
Name of the Course	Basics of Clothing Construction and Apparel Designing		
Course Code	B23-HSE- 301		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-3(Core Course)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior secondary (10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Acquire the knowledge of application of elements of arts and principles of design in clothing construction and techniques of dress designing. 2. Students get aware about the fabric construction techniques and Non woven fabrics. 3. Gains information about the methods of developing design. 4. Students understand the concept of fashion, figure types and fitting. <hr/> <p>5*Students gain practical knowledge of drafting, cutting and stitching of basic children's garments.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper-Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Importance of Apparel Designing & its Role in Personality Development. ➤ Application of Elements of Arts and Principles of Designs in Clothing Construction ➤ Types of Designs: Structural & Decorative ➤ Wardrobe Planning: Principles, Steps involved and Importance. 	10
II	<ul style="list-style-type: none"> ➤ Fabric construction : <ul style="list-style-type: none"> ● Weaving : Parts and function of loom ● Types of weaves (plain, twill and their variation, satin and sateen weave.) ➤ Knitting : Types, characteristics, stitches used in knitting ➤ Non wovens fabrics: Felting, bonding, netting, braiding, laces 	10
III	<ul style="list-style-type: none"> ➤ Anthropometry: Definition, Importance and Equipment required <ul style="list-style-type: none"> ● Types of Anthropometric Measurements (vertical, horizontal, girth/round measurement) ● Care to be taken while taking Body Measurement ➤ Methods of developing Design/ Pattern: <ul style="list-style-type: none"> ● Drafting: Drafting Tools, Techniques, Advantages and Disadvantages of Drafting. ● Paper Pattern: Types, Principles, Advantages and Disadvantages of Paper Pattern. ● Draping: Techniques of Draping and Advantages And Disadvantages Of Draping. ➤ Preparation of Fabric: Preshrinking, Straightening The Grain, Pressing, Identify Face And Back, Square Up, Marking, Pinning, Types of Markings, ➤ Methods And Precautions For Cutting, Sewing & Finishing 	11

IV	<ul style="list-style-type: none"> ➤ Fashion: Concept , Importance and Terminology { Fad ,Style, Classic ,Silhouette Vogue ,Haute Couture, Niche ,Brand} ➤ Fashion Cycle and Fashion Favoring and Retarding Factors ➤ Figure Analysis and Fitting: Figure Types, Common Fitting Problems, Reason for Poor Fitting and their Remedies 	9
V*	<ul style="list-style-type: none"> ➤ Prepare Samples of Different Types Of Weaves. ➤ Prepare a Sample of Knitting (Any Two). ➤ Prepare a Sample Consisting of Ten Basic Embroidery Stitches : Stem Stitch, Chain Stitch, Feather Stitch, Herringbone, Stitch, Satin Stitch, Lazy Daisy Stitch, French Knots, Bullions Stitch, Cross Stitch, Long And Short Stitch. ➤ Drafting of Child's Bodice Block.& Sleeves Block. ➤ Cutting and Stitching of Napkins, Bib, Jhabla. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation:05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam:10 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: 		End Term Examination 50 20
Part C-Learning Resources		

Recommended Books/e-resources/LMS:

- Sushma Gupta, Neeru Garg and Renu Saini Test book of clothing and textiles and laundry Kalyani Pub.
- Doongaji S., Deshpande R., 1989. Basic processes and clothing construction. 2nd ed. New raj book depot, New delhi.
- Nornia D'Souza, 1998. Fabric Care, New Age International Pvt. Ltd., New Delhi
- G.J. Sumathi, 2022. Elements of fashion and apparel design, New Age International Publishers 2cc
- Ireland Patric, 1972. Basic Fashion Design, London, B.T. Bastford Ltd.
- W.S. Murphy, 2003. Textile weaving and design, Abhishek Publication.
- Hideaka Chijiwa, Colour Harmony- A Guide to creative colour combination
- Dantiyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publishers.
- Tikoo, S.S. (2022). Clothing and Textiles. Modern Publishers Jullunder.

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	IV		
Name of the Course	Advance Apparel and Textile Designing		
Course Code	B23-HSE-401		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-4(Core Course)		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Gain knowledge about different types of finishes given to fabrics. 2. Get acquainted with different types of dyes and methods of dyeing. 3. Acquire the technique of different types of printing. 4. Equipped with the knowledge of laundry process, soap making , stiffening and bluing agents. <hr/> <p>5*Students become able to do the drafting of various sleeves, collars and implement the technique of tie\ dye and printing on fabric ,and acquire knowledge of the process of stain removal.</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks: Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks: 50(T) +20(P) =70	Time:3hrs (T) 4hrs(P)
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Part B- Contents of the Course

Instructions for Paper-Setter:The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all,selecting atleast one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Fabric finishes: Definition and Objectives ➤ Classification of Finishes: <ul style="list-style-type: none"> • Physical: Singeing, Napping, Brushing, Shearing, sizing, Tentering, and Calendaring • Chemical: Mercerising, Durable finishes, • Special-purpose finishes: Wrinkle resistant , Water Resistant, Soil repellent, and Flame repellent ➤ Bleaching & its Types. 	10
II	<ul style="list-style-type: none"> ➤ Dyeing: Definition Classification of Dyes: (in Brief): ➤ On the Basis of Source of Dye: <ul style="list-style-type: none"> • Natural: Vegetable, Animal & Mineral • Synthetic Dye: Basic, Acidic & Neutral Dye ➤ On the Basis of Method of Dyeing: Sulphur Dyes, Direct Dyes, Vat Dyes, Mordant Dyes & Developed Dyes ➤ On the Basis of Stages of Dyeing: Raw Stock Dyeing, Skein Dyeing, Cloth Dyeing ➤ Simple Dyeing: Principles and Methods of Dyeing, Faults in Dyeing and Remedies ➤ Resist Dyeing: Tie and Dye, Batik and Screen 	11

III	<ul style="list-style-type: none"> ➤ Printing: Definition, Classification ➤ Methods of Printing: <ul style="list-style-type: none"> • Hand Printing: Block, Stencil, Screen • Machine Printing: Roller, Screen, Discharge, Resist and Duplex Printing. ➤ Care (Darning, Mending & Renovation) and Storage of Fabrics ➤ Dry Cleaning: Principle, Process (In Brief) and Advantages 	10
IV	<ul style="list-style-type: none"> ➤ Laundry: Process of Laundry, Laundry Equipment and their Uses. ➤ Stain Removal: <ul style="list-style-type: none"> • Types of Stains & Methods of Removing Stains(Solvent, Absorbent & Chemical Methods) • Removal Of Different Stains(Tea, Coffee, Fruits, Blood, Oil/ Ghee, Turmeric, Colour, Egg, Ink, Iron Rust, Lipstick, Nail Paint, Sweat, Perfume & Stain of Hot Iron) ➤ Soaps and Detergents: Types and Manufacture of Soap and Detergents. ➤ Stiffening Agent and Blueing Agent. 	9
V*	<ul style="list-style-type: none"> ➤ Drafting Of Sleeves: Puff, Umbrella, Raglan, Ruffle, Kimono. ➤ Drafting Of Collars: Baby Collar, Flat Peter Pan, Raised Peter- Pan, Chinese Band And Sailor's Collar. ➤ Drafting And Construction Of Children's Garment Frock (Any One) : A Line / Gathered / Party Wear. ➤ Prepare Samples And One Article Of Tie & Dye. ➤ Prepare A Sample of Batik. ➤ Prepare Samples of Block, Stencil And Screen Printing. ➤ Prepare Samples of Darning, Mending (Patching) and Renovation. ➤ Removal of Different Types of Stains : Tea, Coffee, Oil/ Ghee, Curry, Blood, Ink, Iron Rust, Lipstick, Nail Paint. 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ➤ Sushma Gupta, Neeru Garg and Renu Saini Test book of clothing and textiles and laundry Kalyani Pub. ➤ Doongaji S., Deshpande R., 1989. Basic processes and clothing construction. 2nd ed. New raj book depot, New delhi. ➤ Nornia D'Souza, 1998. Fabric Care, New Age International Pvt. Ltd., New Delhi ➤ G.J. Sumathi, 2022. Elements of fashion and apparel design, New Age International Publishers2cc ➤ Ireland Patric, 1972. Basic Fashion Design ,London, B.T. Bastford Ltd. ➤ W.S. Murphy, 2003. Textile weaving and design, Abhishek Publication. ➤ Hideaka Chijiwa, Colour Harmony- A Guide to creative colour combination ➤ Dantyagi, S. (1996). Fundamentals of Textiles and their Care. India: Orient Black swan Private Limited. D'Souza, N. (2014). Fabric Care. New Delhi: New Age International Publishers ➤ Tikoo, S.S. (2022). Clothing and Textiles. Modern Publishers Jullunder 	

*Applicable for courses having practical component.

Session: 2023-24**Part A - Introduction**

Subject	Home Science		
Semester	I		
Name of the Course	Elementary Home Science I		
Course Code	B23-HSE-102		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the concept and scope of Home Science 2. Learn about Elements and Principles of Art 3. Acquire knowledge about the role of Food , Balanced diet and Macronutrients in Human Body 4. Get acquainted with basic concepts of Textile fiber, Yarn and Weaving 5. Study about the concept of Human Development and Prenatal development <hr/> <p>5* Learn making of Colour wheel, Flower arrangement, Rangoli, Decorative article; Practice Weight & Measures, Sewing Machine, different seams, stitches and embroideries</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3

Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks: 20(T)+15(P)=35		Time: 1hrs (T) 2hrs(P)
Part B- Contents of the Course		
Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.		
Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Introduction to Home science: Concept and Scope ➤ Elements of Art ➤ Principles of Art 	4
II	<ul style="list-style-type: none"> ➤ Classification and Function of Food, Balanced Diet ➤ Macro Nutrients: Definition, Classification, Source, Function, Daily Requirement and Deficiency of Carbohydrate, Protein, Fat 	4
III	<ul style="list-style-type: none"> ➤ Textile Fibre: Definition and Classification ➤ Yarn: Definition, Properties and Types ➤ Weaving: Definition, Types and Variations 	4
IV	<ul style="list-style-type: none"> ➤ Meaning, Definition, Scope and Stages of Human Development ➤ Prenatal Development : Conception, Course of prenatal development 	4
V*	<ul style="list-style-type: none"> ➤ Draw a Colour Wheel ➤ Making of Flower arrangement for different occasions - Fresh & Dry ➤ Making Rangolies of different types ➤ One decorative/utility article from waste material ➤ Study of Weights and Measures- Raw and Cooked food (Rice, dal, chapatti, egg, seasonal vegetables and fruits etc.) ➤ Practice sewing machine, Plain seam, Run and Fell, French seam, Different necklines, Gathers, Pleats, Tucks, Basic Hand stitches for sewing. 	15
Suggested Evaluation Methods		

Internal Assessment:	End Term Examination:
➤ Theory <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 05 	20
➤ Practical <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:05 • Mid-Term Exam: 	15

Part C-Learning Resources

Recommended Books/e-resources/LMS:

- Varghese, M. A., Ogale, N.N., Srinivasan,K. (1917). Home Management. New Age International (P) Limited, New Delhi.
- Srilakshmi, B. (2017). Nutrition Science. New Age International Limited, Publishers, New Delhi.
- ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
- Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi.
- Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad.
- Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010). Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai.
- Bhatnagar P. (2004), Traditional Indian Costumes and Textiles, Abhishek Publications, New Delhi.
- Dawson, R. (1976). A Complete Guide to Embroidery. London & New York: Marshall Cavendish Publishers.
- Karolia, A. (2019). Traditional India Handcrafted Textiles: Techniques, Processes and Designs Vol.I and II, Niyogi books, Delhi
- Gupta, S.,Garg, N., Saini, R.(2000). Text Book of Clothing & textiles, Kalyani Pub; New Delhi.
- Feldman, R., & Babu, N. (2009). Discovering the life span. New Delhi: Pearson
- Walsh, B.A., Deflorio, L., Burnham, M.M., & Weiser, D.A. (2017). Introduction to Human Development and Family Studies. NY: Routledge.
- Tikoo,S.S.(2022).Family Resource Management. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Foods and Nutrition. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Clothing and Textiles. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Human Development. Modern Publishers Jullunder.

Session: 2023-24	
Part A - Introduction	
Subject	Home Science
Semester	II
Name of the Course	Elementary of Home Science II
Course Code	B23-HSE-202
Course Type: (CC/MCC/MDC/CCM/DSEC/ VOC/DSE/PC/AEC/VAC)	CC-M2
Level of the course (As per Annexure-I)	100-199
Pre-requisite for the course (if any)	12 th
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the concept of Work Simplification and Consumer Education 2. Acquire knowledge about the Micro Nutrients: Definition, Classification, Sources, Functions, Daily Requirements, Deficiency and Toxicity 3. Get acquainted with basic concepts of Traditional Textile, Hand Embroideries and Stitches 4. Understand the Concepts of Early Childhood and Adolescence <hr style="width: 20%; margin-left: 0;"/> <p>5* Learn Preparing Time plans, Scrap book showing different nutrients, Articles of embroidery, Samples of Tie & Dye, Block Printing and Placket Opening</p>

Credits	Theory	Practical	Total
		1	1
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks:10(T)+5(P)=15 End Term Exam Marks: 20(T)+15(P)=35		Time: 1hrs (T) 2hrs(P)	
Part B- Contents of the Course			
<p>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</p> <p>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.</p>			
Unit	Topics		Contact Hours
I	<ul style="list-style-type: none"> ➤ Work simplification: Meaning and Methods ➤ Consumer Education; Definition, Consumer Problems, Rights and Responsibilities of consumer, Consumer protection 		4
II	<ul style="list-style-type: none"> ➤ Micro Nutrients: Definition and Classification of Vitamin and Mineral ➤ Source, Function, Daily Requirement, Deficiency and Toxicity of Vitamin: A,D, B, C ➤ Source, Function, Daily Requirement, Deficiency and Toxicity of Minerals: Calcium, Iron, Iodine 		4
III	<ul style="list-style-type: none"> ➤ Introduction to traditional textiles of India (with reference to origin, production centres, techniques, designs and colours): Brocades, Baluchari, Jamdani, Bandhni ➤ Introduction to Hand Embroideries of India (with reference to Motifs, Color combination, Type of thread used, Stitches): Kantha, Phulkari, Kashida, Mirrorwork (Gujarat) 		4
IV	<ul style="list-style-type: none"> ➤ Early Childhood :Characteristics, Developmental tasks and Behaviour problems ➤ Adolescence: Characteristics, Developmental tasks and Socio emotional problems 		4

V*	<ul style="list-style-type: none"> ➤ Preparing time plans for adolescents and home makers ➤ Preparation of scrap book showing rich sources of different nutrients from all Food Groups ➤ Make one article of fancy embroidery using at least four stitches ➤ Preparation of samples: Tie and Dye, Block Printing ➤ Placket opening (continues, wrap and two piece placket) 	15
Suggested Evaluation Methods		
<p style="text-align: center;">Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 05 ➤ Practical <ul style="list-style-type: none"> • Class Participation: • Seminar/Demonstration/Viva-voce/Lab records etc.:05 • Mid-Term Exam: 		<p style="text-align: center;">End Term Examination:</p> <p>20</p> <p>15</p>
Part C-Learning Resources		

Recommended Books/e-resources/LMS:
<ul style="list-style-type: none"> ➤ Varghese, M. A., Ogale, N.N., Srinivasan, K. (1917). Home Management. New Age International (P) Limited, New Delhi. ➤ Srilakshmi, B. (2017). Nutrition Science. New Age International Limited, Publishers, New Delhi. ➤ ICMR (2010). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad. ➤ Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. ➤ Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad. ➤ Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010). Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai. ➤ Bhatnagar P. (2004), Traditional Indian Costumes and Textiles, Abhishek Publications, New Delhi. ➤ Dawson, R. (1976). A Complete Guide to Embroidery. London & New York: Marshall Cavendish Publishers. ➤ Karolia, A. (2019), Traditional India Handcrafted Textiles: Techniques, Processes and Designs Vol.I and II, Niyogi books, Delhi ➤ Gupta, S., Garg, N., Saini, R. (2000). Text Book of Clothing & textiles, Kalyani Pub; New Delhi. ➤ Feldman, R., & Babu, N. (2009). Discovering the life span. New Delhi: Pearson
<ul style="list-style-type: none"> ➤ Walsh, B.A., Deflorio, L., Burnham, M.M., & Weiser, D.A. (2017). Introduction to

Human Development and Family Studies. NY: Routledge.

- Tikoo,S.S.(2022).Family Resource Management. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Foods and Nutrition. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Clothing and Textiles. Modern Publishers Jullunder.
- Tikoo,S.S.(2022).Human Development. Modern Publishers Jullunder

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home Science		
Semester	I		
Name of the Course	Basics of Home science I		
Course Code	B23- HSE-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-1		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire knowledge of various concepts of food & nutrition science. 2. To enable the students to have basic knowledge of textiles fibres, yarn and various stitches 3. To have knowledge of and basic concepts related to human development 4. To have knowledge of family resource Management and extension education <hr/> <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">➤ Introduction to Home Science: Concept And Its Job Opportunities➤ Basic Terminology: Food, Nutrients, Nutrition, Health, Balanced Diet, Malnutrition (Over & Undernutrition),➤ Classification and Function of Food➤ Carbohydrate, Protein, Fat: Source, Function & Effect of Deficiency	10
II	<ul style="list-style-type: none">➤ Definition and Classification and Uses of Textile Fibers: (Cotton, Jute, Wool, Silk, Rayon, Nylon and Polyester) .➤ Yarn: Definition and Classification (Simple, Novelty and Complex).➤ Sewing Machine: Parts and Functions, Care and Maintenance	8
III	<ul style="list-style-type: none">➤ Human Growth and Development: Meaning and Concept, Factors Influencing Growth & Development➤ Developmental Milestones of Infancy (0-2 Years) and Early Childhood (3-6 Years):<ul style="list-style-type: none">● Physical and Motor Development● Social and Emotional Development● Cognitive and Language Development	9
IV	<ul style="list-style-type: none">➤ Resource Management - Definition and Importance .➤ Process of Time, Energy and Money Management.➤ Extension Education: Meaning and Importance➤ Qualities of an Extension Worker	9
V*	<ul style="list-style-type: none">➤ Cooking Terminology➤ Cooking of Following Recipes: Paratha, Pulao, Raita, Sandwich, Manchurian, Chocolates.➤ Basic Stitches: Hemming, Buttonhole Stitch, Blanket Stitch, Running Stitch➤ Prepare a Play Material for Infants/Preschoolers➤ Prepare Immunization Chart For a Child Up To 5 Years.	28

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	II		
Name of the Course	Basics of Home science II		
Course Code	B23- HSE-203		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ul style="list-style-type: none"> ● To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients ● To gain knowledge about clothing & fabric construction ● To gain knowledge about development during childhood and adolescence. ● To learn the relationships that characterize art and design practice and impart knowledge about consumer education <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)	

Part B- Contents of the Course

Instructions for Paper- Setter

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	<ul style="list-style-type: none">➤ Micro Nutrients: Definition and Classification of Vitamin and Mineral➤ Source, Requirement and Deficiency of Vitamin: A,D, E, K, B, C (In Brief)➤ Source, Requirement, Deficiency of Minerals: Calcium, Iron, Iodine, Sodium, Potassium	7
II	<ul style="list-style-type: none">➤ Factors Affecting Selection of Clothing., Weaving- Definition and Different Types of Weaves➤ Meaning and Objectives of Application of Finishes➤ Different Types of Finishes- Wrinkle Resistant , Water Resistant, Soil Repellent and Flame Repellent Finishes	8
III	<ul style="list-style-type: none">➤ Major Physical , Motor, Emotional and Cognitive Development Milestones Through Middle School Age.➤ Role of the Family and Community in Socialization of the Child.➤ Developmental Changes During Adolescence: Social, Emotional, Cognitive and Moral Development.	6
IV	<ul style="list-style-type: none">➤ Importance of Interior Decoration, Elements of Arts and Principles of Design. Consumer Protection Act & Consumer Rights, Standardized Marks {AGMARK, FPO, WOOL MARK, ECOMARK, ISI}	9
*V	<ul style="list-style-type: none">➤ Preparation of Vitamin Rich Recipes and Sponge Cake➤ Prepare Samples of Basic Weaves➤ Prepare a Teaching Aid For Children➤ Prepare a Color Wheel➤ Make Illustration of Following Standardized Marks: AGMARK, FPO, WOOL MARK, ECOMARK, ISI	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:04 ● Mid-Term Exam: 07 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: 	<p>End Term Examination:</p> <p>35</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ➤ Srilakshmi, B. (2002). Nutrition Science. New Age International Limited, Publishers, New Delhi. ➤ Srilakshmi, B. (2001) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. ➤ Khader, V.(2011) Text book on Food Storage & Preservation. Kalyani Publishers, New Delhi ➤ Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi. ➤ Swaminathan, M. (1988). Essentials of Food and Nutrition - An Advanced Text Book Vol. I and II. (2nd ed.) BAPPCO: Bangalore. ➤ Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi ➤ Kumar,K.(1993): Study of childhood and family. In T.S Saraswathi & B. Kaur (Eds).Human development and family studies in India: An agenda for research and policy New Delhi:Sage. ➤ Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur. ➤ Home Management- A Textbook of Home Science for Senior Students. The Educational Planning Group, Arya Publishing House, Karol Bagh, New Delhi. ➤ Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	III		
Name of the Course	Basics of Home Science III		
Course Code	B23 -HSE- 302		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	MDC-3		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2)		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To obtain knowledge about dietary management of diseases and modifications of normal diet for therapeutic purposes and preservation. 2.To impart knowledge about traditional embroideries of India and stain removal 3.To inculcate the skills of effective guidance & counseling 4.To impart knowledge about traditional embroideries of India and stain removal <hr style="width: 20%; margin-left: 0;"/> <p>5*.To impart practical training on various aspects of home science</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4

Max. Marks: 75 Internal Assessment Marks:15(T)+5(P)=20 End Term Exam Marks: 35(T)+20(P)=55		Time:3hrs (T) 4hrs(P)
Part B- Contents of the Course		
<u>Instructions for Paper- Setter:</u> The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.		
<u>Instructions for the candidate:</u> The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ➤ Meal Planning: Its Meaning & Principles ➤ Planning Diet for School Going Children & Adolescents; Food Preservation ➤ Principles and Home Scale Methods 	8
II	<ul style="list-style-type: none"> ➤ Traditional Embroideries of India: Chikankari, Phulkari, Kantha, Chamba And Kasuti. ➤ Soaps and Detergents, Starches, Blues And Bleaches ➤ Stain Removal-Classification of Stains, Methods of Removing Different Types of Stain 	7
III	<ul style="list-style-type: none"> ➤ Physical Changes, Health Problems and Adjustments in Old Age ➤ Guidance: Meaning and Its Types ➤ Skills and Characteristics of Effective Counseling 	9
IV	<ul style="list-style-type: none"> ➤ Various Color Schemes and its Application. Table Etiquettes and Table Setting – Formal and Informal ➤ Communication- Meaning, Importance and Types ➤ .Major Nutritional Problems in India; PEM, IDD, Anemia 	8
V*	<ul style="list-style-type: none"> ➤ Prepare a Counseling Aid for Children ➤ Preparation of Chocolate Cake & Pineapple Cake ➤ Make Rangoli/Alpana on Floor ➤ Prepare Samples of Embroidery Stitches / Tie & Dye 	30
Suggested Evaluation Methods		

<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.:04 ● Mid-Term Exam: 07 ➤ Practical <ul style="list-style-type: none"> ● Class Participation: ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: 	<p>End Term Examination:</p> <p>35</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ➤ Srilakshmi, B. (2001) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. ➤ Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. ➤ Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd. ➤ Saraswathi, T.S. & Kaur, B. (1993): The development of Children, New York: Scientific American Books. ➤ Srivastava S., Rani K.S. (2014): Textbook of Human Development, S.Chand publication, New Delhi. ➤ Tara L. Kuther (2022).Lifespan Development: Lives in Context. A Topical Approach,Second Edition.Western Connecticut State University, USA. ➤ Bela Bhargava (2005). Family Resource Management and Interior decoration. Apple Printer and V.R. Printers, Jaipur. ➤ Premalatha Mullick (2011). Textbook of Home Science, Kalyani Publishers, New Delhi. ➤ Sushma Gupta, Neeru Garg and Amita Aggarwal (1993). Home Management, Hygiene and Physiology. Kalyani Publishers, Ludhiana. ➤ Sushma Gupta, Neeru Garg and Renu Saini, 2013. Text book of clothing, textiles and laundry Kalyani Pub. ➤ Ray, G.L. (2004). Extension education and Management. Kalyani Publisher, New Delhi. ➤ Reddy, A.A.(2001).Extension Education. Bapatla : Sri Lakshmi Press. 	

*Applicable for courses having practical component.

KURUKSHETRA UNIVERSITY KURUKSHETRA



Scheme of Examinations and Syllabus

For

Under-Graduate Programme

Subject: FASHION DESIGNING

Multidisciplinary Scheme - A

Under Multiple Entry-Exit

Internship and CBCS-LOCF in accordance to NEP-2020

w.e.f. 2023-24 (in phased manner)

Department of Home Science

KURUKSHETRA UNIVERSITY KURUKSHETRA
Scheme of Examination For Under-Graduate Programme in Subject
Fashion Designing as per NEP 2020
Under multiple Entry-Exit, Internship & CBCS-LOCF-CCF in accordance to
w.e.f. 2023-24 (in phased manner)

Fashion Designing
SEMESTER-1

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-1 4 Credit	B23-FDS-101	Basics of design & Illustration	3	3	20	50	70	3 hrs.
		Basics of design & Illustration-Practical	1	2	10	20	30	4 hrs.
AEC-1 2 Credit	From available AEC-1 pool list of two credit as per NEP							
SEC-1 3 Credit	From Available SEC-1 pool list of two credit as per NEP							
VAC-1 2 Credit	From Available VAC-1 pool list of two credit as per NEP							

SEMESTER-2

Course	Paper(s)	Nomenclature of Paper	Credits	Hrs/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-2 4 Credit	B23-FDS-201	Concept of Fashion	3	3	20	50	70	3 hrs.
		Concept of Fashion -Practical	1	2	10	20	30	4 hrs.
AEC-2 2 Credit	From Available AEC-2 pool list of two credit as per NEP							
SEC-2 3 Credit	From Available SEC-2 pool list of three credit as per NEP							
VAC-2 2 Credit	From Available VAC-2 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 2nd semester

SEMESTER-3

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-3 4 Credit	B23-FDS-301	Indian Traditional Art	3	3	20	50	70	3 hrs.
		Indian Traditional Art- Practical	1	2	10	20	30	4 hrs.
AEC-3 2 Credit	From Available AEC-3 pool list of three credit as per NEP							
SEC-3 3 Credit	From Available SEC-3 pool list of three credit as per NEP							

SEMESTER-4

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-4 4 Credit	B23-FDS-401	Textile Chemistry	3	3	20	50	70	3 hrs.
		Textile Chemistry-Practical	1	2	10	20	30	4 hrs.
CC-M4(V) 4 Credit	From Available CC-M4(V) pool list of four credit as per NEP							
AEC-4 2 Credit	From Available AEC-4 pool list of three credit as per NEP							
VAC-3 2 Credit	From Available VAC-4 pool list of two credit as per NEP							

Internship of 4 credits of 4-6 weeks duration after 4th semester (If not done in 2nd Semester)

SEMESTER-5

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-A5 4 Credit	B23-FDS-501	Traditional Costumes	3	3	20	50	70	3 hrs.
		Traditional Costumes-Practical	1	2	10	20	30	4 hrs.
CC-M5(V) 4 Credit	From Available CC M5(V) pool list of four credit as per NEP							

SEMESTER-6

Course	Paper(s)	Nomenclature of Paper	Credits	Hours/Week	Internal Marks	External Marks	Total Marks	Exam Duration
CC-6 4 Credit	B23-FDS-601	Marketing & Merchandising	3	3	20	50	70	3 hrs.
		Marketing & Merchandising- Practical	1	2	10	20	30	4 hrs.
CC-M7(V) 4 Credit	From Available CC-M7(V) pool list of four credit as per NEP							

Session: 2023-24			
Part A - Introduction			
Subject	Fashion Designing		
Semester	I		
Name of the Course	Basics of Design and Illustration		
Course Code	B23-FDS-101		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-1		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	12 th pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To acquire knowledge of various concepts of fashion illustration 2.To know the concept of colours and its importance 3.To acquire knowledge about principals of design 4.To impart knowledge about fashion figures <hr/> <p>5*.To impart students knowledge about sketching and designing on sheet</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5 Hrs
Max. Marks: 100		Time:3hrs(T)	
Internal Assessment Marks: 20(T)+10(P)=30		4hrs(P)	
End Term Exam Marks :50(TH) 20(P) =70			
Part B-Contents of the Course			
<p>Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.</p> <p>Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.</p>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> • Introduction to art media and its applications – different art media like pencils, pencil colours, crayons, poster colours, erasers, acrylic rendering and shading skills • Design – definition and types. 	12
II	<ul style="list-style-type: none"> • Elements of art and design – line, form, shape, space, size, texture and colour. • Principles of design – harmony, proportion, balance, rhythm and emphasis. 	9
III	<p>Colour, dimension of colour, hue, value, intensity, colour schemes- their importance and application.</p> <ul style="list-style-type: none"> • Introduction and brief history of fashion illustrations. 	12
IV	<ul style="list-style-type: none"> • Fashion model drawing – basic human proportion, body figures and shapes and sketching postures • Optical illusions created through elements of art and principles of design. 	12
V*	<ul style="list-style-type: none"> • The basic drawing and rendering of equipment using pencils, crayons, poster colours, water colours, pencil colours • Figure Stylization – Illustrations – Basic croquis, division of the body to make the 8, 10 and 12 head croquis (front, side and ¾th profile) • Figure in motion- normal standing, walking, running and sitting • Figure drawing in S, T, X, Y poses. • Colour – Preparation of colour wheel, grey scales, colour schemes, tints and shades. • Creation of motifs using different forms and shapes. • Designing of following motifs and its types in different colour ways <ul style="list-style-type: none"> a. Geometrical b. Realistic c. Natural d. Stylized e. Vertical f. Horizontal g. Half Drop h. All over i. Diagonal • Sketching of: Caps, face, eye, nose, lips, hands, legs and hairstyles. 	30

Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	End Term Examination: 50 20	
Part C-Learning Resources		

*Applicable for courses having practical component.

SEMESTER-2**Session: 2023-24****Part A – Introduction**

Subject	Fashion Designing		
Semester	2		
Name of the Course	Concept of Fashion		
Course Code	B23-FDS-201		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-2		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To acquire knowledge of various concepts of fashion 2.To know the concept of origin of clothing 3.To equip with different fashion theories 4.To impart knowledge about fashion Psychology <hr/> <p>5*.to impart knowledge to students about the different styles of fashion</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks:20(T)+10(P)=30 End Term Exam Marks:50(T) +20(P) =70		Time:3hrs(T) 4hrs (P)	
PartB-Contents of the Course			
<u>Instructions for Paper- Setter :The examiner will set nine questions in all, selecting two questions from each unit and one compulsory question as well</u>			
Unit	Topics		Contact Hours

I	<ul style="list-style-type: none"> • Fashion terminology/ Terms related to the fashion industry –fashion, style, fad, classic, boutique, trends, designer, silhouette, Hi-Fashion, Fashion/selling seasons and collection, chic Custom made , mannequin , fashion , show, trend, forecasting, high fashion, fashion cycle, haute couture, couture, couturier, fashion director, fashion editor, line, knock-off avant-garde, bridge, buying house, apparel, fashion merchandising, pre –a –porter, sample. Fashion origin and evolution. Fashion cycle and differentiation on the basis of length of fashion cycle. • Types of fashion: haute couture, Prêt-a-porter and Mass Fashion. 	12
II	<ul style="list-style-type: none"> • Elements of design –line, shape or form, colour, size and texture. Application of structural and decorative design in a dress, selection and application of trimmings and decorations. Principles of design -balance – formal and informal, rhythm-through repetition, radiation and gradation, emphasis, harmony and proportion. • Application of principles of design in a dress. • Design-definition and types– structural and decorative design, requirements of a good structural and decorative design. Colour-definition, colour theories-prang colour chart, Dimensions of colour-hue, value, and intensity. Standard colour harmonies-application in dress design. • Principles of fashion. 	12
III	<ul style="list-style-type: none"> • Levels of Fashion Acceptance-Fashion leader, fashion role model, fashion follower, Fashion victims. • Fashion theories- trickle down, trickle across and bottom up theory. • Factors affecting and influencing fashion 	12
IV	<ul style="list-style-type: none"> • Fashion Inspiration and categories / Fashion seasons and their duration 	9

	<ul style="list-style-type: none"> • International Fashion center's and Worldwide Popular Fashion designers • Study of Indian designers – Tamil Nadu, Maharashtra, Rajasthan, Karnataka and Uttar Pradesh and International designers – France, Germany, U.S, United Kingdom and Italy (any one popular designer) 	
V*	<p>* Illustrate</p> <ul style="list-style-type: none"> • outfit for a special occasion • outfit for different climate • long -term fashion style • short-term fashion style • clothing of any two eras • casual wear for women by using lines ,shapes ,and textures • using crayons and poster colour draw fashion cycle stages 	30
Suggested EvaluationMethods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		<p>End Term Examination:</p> <p>50</p> <p>20</p>
PartC-Learning Resources		
Recommended Books/e-resources/LMS:		
<p>Reference Link: https://swayam.gov.in/ Learner support Material: NPTEL, Swayam (https://swayam.gov.in), E-library, E-books, online PDF material etc.</p>		
<p>Reference Books:</p>		

1. Kathryn Mikelvey, "Fashion source book", Blackwed science, UK
2. Sharon Le Fate, "Inside Fashion Design", Harper and Row Pub. NY.
3. Carter L, "The changing World of Fashion," G.P. Panama's Sons, NY
4. Second skin, "Horn MJ, 1981,
5. Study of clothing, "Houghm Mifflin Company, Bosien
6. Kafgen Mary, Individuality in clothing, Houghton Mifflin Company
7. Dynamics of fashion by Elaine stone.
8. Tikoo. SS (2022) Clothing & Textiles, Modern Publisher, Jullunder.

*Applicable for courses having practical component.

SEMESTER-3			
Part A – Introduction			
Subject	Bachelor of Fashion Designing		
Semester	3		
Name of the Course	Indian Traditional Arts		
Course Code	B23-FDS -301		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC- 3		
Level of the course (As per Annexure-I	100-199		
Pre-requisite for the course (if any)	12 th Pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To provide knowledge about traditional arts. 2. To provide introduction of stitches. 3. To provide knowledge about Indian Embroideries 4. Various Indian Traditional Textiles <hr/> <p>5* To Impart Knowledge to Students About the Different Traditional Arts</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20(T)+10(P)=30 End Term Exam Marks:3hrs (T), 2hrs (P)		Time: 3hrs(T) 4hrs(P)	

Part B-Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory.

Instructions for the Candidate: The candidates will attempt five questions in all, selecting one question from each unit and the compulsory question as well.

Unit	Topics	Contact Hours
I	Study the following traditional arts of India:- Pattachitra, Warli Art, Tanjore Art, Gond Art, Mandala, Lippan Art	9
II	Introduction, stitches, motifs, base fabrics, thread, techniques and colour combination used in embroideries of following: <ul style="list-style-type: none"> • Kutch Kathiawari and Sindhi of Gujrat • Phulkari of Punjab • Kantha of Bengal • Chikankari of Lucknow • Kasida of Kashmir • Kasuti of Karnatak 	12
III	Traditional textiles: Importance and history of hand woven textiles. Brocades, Jamavar, Dacca muslin and Jamdani, Chanderi, Maheshwari, Kanjivaram, kotaDoria and Baluchari. Resist printed textiles: Bandhani, Patola, Ikat and Pochampalli. Block Printed :Dabu, Sanganeri, Ajrakh, Batik Painted textile: Kalamkari and Madhubani. Regional variations in symbolic motifs.	12
IV	Woven shawls of Kashmir, Himachal Pradesh and North Eastern States. Floor Coverings- Carpets and Durries Textile surface ornamentation by beads, applique and ribbon.	12

V*	<p>Prepare samples of following:</p> <ul style="list-style-type: none"> ● Basic embroidery stitches. ◇ Kasuti of Karnatka ◇ Chikankari of Uttar Pradesh ◇ Kantha of Bengal ◇ Kashida of Kashmir ◇ Phulkari of Punjab. ◇ Kutch of Gujarat. ◇ Sindhi of Sind. ● Prepare 5 samples of Tie & Dye (Cotton & Silk). ● Block printing, Batik, Stencil, Screen & Fabric painting. <p>Prepare any two articles using any technique of surface ornamentation</p>	30
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.:05 ● Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>	
PartC-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <p>REFERENCES</p> <ul style="list-style-type: none"> • Pandit, S. 1976. Indian Embroidery: Its Variegated Charms. Baroda. • Mehta, R.J. 1970. Masterpieces of Indian Textiles. Bombay, D.B. Taraporevala Sons and Co. Pvt.Ltd. • Gillow. Indian Textiles. • Lehri, R.M. Indian Embroideries. 		

- Ghosh. Ikat Textiles of India
- Shailza, D. Naik. Traditional Embroideries of India
 - SodhiaManmeet, "Dress Designing", Kalyani publishers, New Delhi.
 - Lynton Linda, " The Sari", Thames &Hadson.
 - Anand M.R., "Textiles & Embroideries of India " Marg Publication Bombay, 1965.
- NaikShailaja D, " TraditionalEmbroideries of India" APH Publisher Corporation, New Delhi, 1996.
 - Chattopadhyay K, " Indian Embroidery", Wiley Eastern Ltd., New Delhi,
 - Tikoo. SS (2022) Clothing & Textiles, Modern Publisher, Jullunder.

*Applicable for courses having practical component.

SEMESTER-4

Session: 2023-24			
Part A–Introduction			
Subject	Bachelor of Fashion Designing		
Semester	4		
Name of the Course	Textile Chemistry		
Course Code	B23-FDS-401		
CourseType: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-4		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	12 th pass		
CourseLearningOutcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To acquire knowledge of various kinds of textile chemicals and their uses. 2.To know the concept of textile chemistry. 3.To acquire knowledge about principals of design. 4.To impart knowledge about fashion figures. <hr/> <p>5*.To impart students knowledge about sketching and designing on sheet</p>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5

Max. Marks: 100 Internal Assessment Marks: 20(T)10(P) End Term Exam Marks:50(TH)20(p)		Time:3hrs(T) 4hrs(P)
Part B-Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Unit	Topics	Contact Hours
I	<ul style="list-style-type: none"> ● Introduction to textile fibers, classification of fibers based on sources and origin, basic textile terminology. ● Primary and secondary properties of various fibers. ● Sequence of operations & purposes of short/long staple yarn manufacturing ● process, introduction & objectives of opening & cleaning, carding, combing, drawing, ● roving and spinning. 	12
II	<ul style="list-style-type: none"> ● Different methods and types of spinning. ● Introduction, Manufacturing & Properties of different natural and man-made fibers:- ● Cotton, Wool, silk, rayon, acetate and triacetate, polyamide (Nylon-6, nylon- 6.6) ● acrylics, modacrylic, elastomeric fibre. 	9
III	<ul style="list-style-type: none"> ● <input type="checkbox"/> Classification of Yarns: Carded and Combed yarns, woolen & worsted yarns, ● filament and spun yarns. ● <input type="checkbox"/> Yarn Properties – linear density, size, twist in yarn, crimp twist direction, strength ● and uniformity. ● <input type="checkbox"/> Textured yarns – type 	12
IV	<ul style="list-style-type: none"> ● Textured yarns – types and application, Fancy Yarns – types and uses. ● <input type="checkbox"/> Physical properties of Fabric – strength, abrasion resistance, crease recovery, ● stiffness, drapability, static charge, thermal conductivity, air permeability, water ● repellency, thickness, shrink resistance, pilling resistance. ● <input type="checkbox"/> Methods of determining the physical properties and interpretation of test results 	12

V*	<ul style="list-style-type: none"> • Fiber identification – visual, burning, microscopic and solubility test. • Fibre blends analysis. • Measurement and interpretation of yarn count, direct and indirect yarn. • Identification of type of yarn. • Evaluation of thread count and dimensional stability of fabric. • Evaluation of color fastness to washing and ironing. • Evaluation of crimp and twist in yarn. 	30
Suggested Evaluation Methods		
Internal Assessment: <ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.:05 • Mid-Term Exam: 10 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.:10 • Mid-Term Exam: NA 		End Term Examination: 50 20
Part C-Learning Resources		
Recommended Books/e-resources/LMS:		
<ul style="list-style-type: none"> • Vilensky. "Textile Science", CBS publisher, New Delhi, 1999. • Grosicki, Z. "Watson's Textile Design and Color" Blackwell Science, U.K., 1998. • Mishra, S.P. "A text book of fiber science and technology, New Age Intt., Delhi 2000. • Goswami, B.C. "Textile Yarns", Technology, structure and applications", Mc graw Hill. • Pizzoto's J.J. "Fabric Science", Fairchild Publication, New York. <ul style="list-style-type: none"> • Tikoo. SS (2022) Clothing & Textiles, Modern Publisher, Jullunder. 		

*Applicable for courses having practical component.

KURUKSHETRA UNIVERSITY KURUKSHETRA



Scheme of Examination and Syllabus for Under-Graduate Programme Multidisciplinary Scheme A (Subject: Clinical Nutrition & Dietetics)

**Under Multiple Entry-Exit, Internship and CBCS-
LOCF in accordance to NEP-2020 w.e.f. 2023-24
(in phased manner)**

CND 1

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DEPARTMENT OF HOME SCIENCE, KURUKSHETRA UNIVERSITY, KURUKSHETRA
Scheme of Examination for Under-Graduate Programme
Under Multiple Entry-Exit, Internship and CBCS-LOCF in accordance to NEP-2020
w.e.f. 2023-24 (in phased manner)

Subject: Clinical Nutrition & Dietetics

SEMESTER-1								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-1 4 credit	B23-CND-101	Basics of Food Science I	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.
CC-M1 2 credit	B23-CND-102	Fundamentals of Nutrition I	1	1	10	20	30	3 hrs.
		Practicum	1	2	5	15	20	4 hrs.

SEMESTER-2								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-2 4 credit	B23-CND-201	Basics of Food Science II	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.
CC-M2 2 credit	B23-CND-202	Fundamentals of Nutrition II	1	1	10	20	30	3 hrs.
		Practicum	1	2	5	15	20	4 hrs.

SEMESTER-3								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-3 4 credit	B23-CND-301	Human Nutrition I	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.
		Practicum	1	2	5	20	25	4 hrs.

SEMESTER-4								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-4 4 credit	B23-CND-401	Human Nutrition II	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.

SEMESTER-5								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-5 4 credit	B23-CND-501	Dietetics I	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.

SEMESTER-6								
Course	Paper(s)	Nomenclature of Paper	Credit	Hours/Week	Internal marks	External Marks	Total Marks	Exam Duration
CC-6 4 credit	B23-CND-601	Dietetics II	3	3	20	50	70	3 hrs.
		Practicum	1	2	10	20	30	4 hrs.

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	I		
Name of the Course	Basics of Food Science I		
Course Code	B 23- CND-101		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC-1		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire knowledge of various concepts of food science 2. To know the importance of various food groups 3. To understand the specific phenomenon related to all food groups 4. To impart knowledge about storage and processing of food group products 5*. To impart practical knowledge to students to prepare recipes using different cooking methods 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20 (T) + 10 (P) =30 End Term Exam Marks: 50 (T) + 20 (P) =70		Time: 3hrs (T) 4hrs (P)	

CND 4

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Part B- Contents of the Course

Instructions for Paper- Setter

Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.

Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.

Unit	Topics	Contact Hours
I	Food: Definition, Classification on the basis of source, foods groups, nutrients, functions and perishability Functions of food: Physiological, Psychological and Social	10
II	Food Preparation: Selection of foods, preliminary preparation of food, Cooking: Definition, Objectives, Principles Methods of Cooking – Principle, Advantages and disadvantages of: Moist Heat, Dry Heat, Frying, Combination, Radiation.	10
III	Cereals and Millets - Composition and nutritive value, cereal products, Breakfast cereals, role of cereals, cereal products and millets in cookery. Pulses and Legumes - Nutritive value of pulses and legumes, storage of pulses, use of pulses, anti - nutritional factors, germination	12
IV	Vegetables and Fruits – Classification, Composition & Nutritive value, storage & use, browning, preservation. Milk & Milk Products – Composition and Nutritive value, types of milk products, storage of milk products and role of milk & milk products in cookery.	13
V*	To conduct sensory evaluation of food To find the percentage of edible portion of foods. To determine the moisture content in given sample of flour To determine the gluten content in given sample of flour To study the effect of temperature, time of heating, concentration, addition of sugar and acid on gelatinization of starch. To demonstrate the best method of cooking rice.	30

	<p>To demonstrate the effect of soaking, hard water, sodium bicarbonate and papaya on cooking quality of pulses.</p> <p>To demonstrate the effect of acid, alkali and over cooking on vegetables containing different pigments.</p> <p>To demonstrate the effects of different amounts of water added to vegetables during cooking on flavor and appearance.</p> <p>To demonstrate enzymatic browning in vegetables and fruits and any four methods of preventing it.</p> <p>To determine the effect of varying proportions of acid, sugar, temperature, pectin and cooking time on formation of jelly</p> <p>To study the effect of heat on vegetables and fruits</p> <p>To demonstrate the factors affecting coagulation of milk protein.</p>	
Suggested Evaluation Methods		
<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 05 ● Seminar/presentation/assignment/quiz/class test etc.: 05 ● Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: 00 ● Seminar/Demonstration/Viva-voce/Lab records etc.: 10 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>	
Part C-Learning Resources		
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. 2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. 3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi. 4. Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi. 5. Sunetra Roday (2017). Food Science and Nutrition, Oxford University Press, New Delhi. 6. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad. 7. Raina U, Kashyap S, Narula V, Thomas S Suvira, Vir S, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai. 8. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi. 9. Swaminathan, M. (1988). Essentials of Food and Nutrition - An Advanced Text Book Vol. I and II. (2nd ed.) BAPPCO: Bangalore. 10. Swaminathan, M. Food Science. BAPPCO: Bangalore. 11. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. 		

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	I		
Name of the Course	Fundamentals of Nutrition I		
Course Code	B 23-CND-102		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC-M1		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand basic concepts of nutrition and RDAs 2. To understand the functions, sources, requirements and effects of deficiency and excess of carbohydrates and fibre 3. To understand the functions, sources, requirements and effects of deficiency and excess of proteins 4. To understand the functions, sources, requirements and effects of deficiency and excess of fats and oils 5*. To impart practical knowledge about preparation of nutrient rich and some other recipes 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks: 50 Internal Assessment Marks: 10(T) + 5(P) End Term Exam Marks: 20 (T) + 15(P)		Time: 3 hrs (T) 4 hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Understanding terminologies: Food, nutrition, health, nutrients, nutritional status, malnutrition-under nutrition, over-nutrition and optimum nutrition Food groups and Food Pyramid Functions of food – Physiological, Psychological and Social. Factors affecting food intake and food habits	03
II	Carbohydrates – Composition, classification, functions, RDA, food sources, deficiency and excess. Fiber – types, functions, sources, deficiency and excess.	04
III	Proteins – Composition, classification, functions RDA, food sources and deficiency.	04
IV	Fats & Oils – Composition, classification, functions, RDA, food sources, deficiency and excess.	04
V*	Planning and preparation of energy dense recipes Planning and preparation of low energy recipes Planning and preparation of high fiber recipes Planning and preparation of low fiber recipes Planning and preparation of protein dense recipes Planning and preparation of low fat and zero oil recipes	30
Suggested Evaluation Methods		
Internal Assessment:		End Term Examination:
<ul style="list-style-type: none"> ➤ Theory <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 05 ➤ Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 05 • Mid-Term Exam: NA 		20
		15

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Mudambi S R and Rajagopal M V, Fundamentals of Foods, nutrition & Diet therapy, New Age International Publishers, 6 th Edition. 2020
2. Bamji, M.S, Textbook of Human Nutrition, Oxford & IBH Publishing Co Pvt. Ltd,4th Edition. 2019
3. Srilakshmi B, Dietetics, New Age International Publishers, 8 th Edition. 2019
4. Swaminathan, M, Handbook of Food and Nutrition, The Bangalore Press, 5 th Edition. 2018
5. Srilakshmi B, Nutrition Science, New Age International Publishers, 6 th Edition. 2017
6. Longvah T Anathan R, Bhaskarachary K, and Venkaiah k, Indian food composition table, NIN.ICMR, 2 nd Edition. 2017
7. Gibney M.J, Nutrition and Metabolism, Wiley- Blackwell, 2003
8. Carolyn D. Berdanier, Advanced Nutrition, Macronutrients, CRC press, 2 nd Edition.2000
9. Emma. S. Weigley, Robinson's Basic Nutrition and Diet Therapy, Pearson publication, 1st Edition. 1996

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	II		
Name of the Course	Basics of Food Science II		
Course Code	B 23- CND-201		
Course Type: (CC/MCC/MDC/CC-M/ DSEC/VOC/DSE/PC/AEC/VAC)	CC-2		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To acquire knowledge of nutritive value of various food groups 2. To know the importance of various food groups. 3. To equip with different cooking methods and techniques used while food preparation. 4. To impart knowledge about improving nutritional quality of various foods. 5*. To impart practical knowledge to students to understand and differentiate about physical and chemical properties various food groups. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20 (T) + 10 (P) =30 End Term Exam Marks: 50 (T) + 20 (P) =70		Time: 3hrs (T) 4hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Effect of cooking on nutritive value of food stuffs Methods of enhancing nutritive value: Fermentation, Germination, Supplementation, Enrichment and Fortification	10
II	Egg – Composition & nutritive value of egg, quality of egg and use of egg. Foam formation Flesh Food – Composition & nutritive value of meat, fish & poultry, storage and uses of flesh food.	12
III	Fats & Oils – Nutritional importance and composition, specific fats, role of fats / oils in cookery. Nuts & Oilseeds – Nutritional importance and composition, role of nuts and oilseeds in cookery	10
IV	Sugar & Sugar Products – Nutritive value of sugar and related products, storage & uses, caramelisation. Spices & Condiments – Nutritive, aesthetic and medicinal value of spices and condiments.	13
V*	To demonstrate the formation of ferrous sulphide in boiling egg and its preventive measures. To demonstrate the effect of addition of acid, fat, salt, water and sugar on the texture of omelettes. To study the effect of salt, acid, sugar and fat on the stability of egg white foam and other variables. To determine the smoking point of fats and oils. To study the effect of sugar on the boiling point of water. To demonstrate the process of sugar recrystallisation through the preparation of fondant, fudge and <i>shakarpara</i> . To detect metanil yellow in spices. Project presentation on market survey on ready to eat/ ready to cook food products	30

Suggested Evaluation Methods	
<p style="text-align: center;">Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>50</p> <p>20</p>
Part C-Learning Resources	
Recommended Books/e-resources/LMS:	
<ol style="list-style-type: none"> 1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. 2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. 3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi. 4. Mahtab, S. Bamji, Kamala Krishnasamy, Brahmam G.N.V (2012) Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi. 5. Sunetra Roday (2017). Food Science and Nutrition, Oxford University Press, New Delhi. 6. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad. 7. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai. 8. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi. 9. Swaminathan, M. (1988). Essentials of Food and Nutrition - An Advanced Text Book Vol. I and II. (2nd ed.) BAPPCO: Bangalore. 10. Swaminathan, M. Food Science. BAPPCO: Bangalore. 11. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. 	

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	II		
Name of the Course	Fundamentals of Nutrition II		
Course Code	B 23- CND-202		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC – M2		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the functions, sources, RDAs and effects of deficiency and excess of fat-soluble vitamins 2. To understand the functions, sources, RDAs and effects of deficiency of water- soluble vitamins 3. To understand the functions, sources, RDAs and effects of deficiency and excess of macro-minerals 4. To understand the functions, sources, RDAs and effects of deficiency and excess of micro-minerals 5*. To impart practical knowledge about preparation of nutrient rich and some other recipes 		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks: 50		Time: 3hrs (T) 4 hrs (P)	
Internal Assessment Marks: 10 (T) + 5 (P)			
End Term Exam Marks: 20 (T) + 15 (P)			

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Fat-soluble Vitamins: Classification, sources, RDAs, functions and deficiency and excess of the following: A, D, E & K	04
II	Water-soluble Vitamins: Classification, sources, RDAs, functions and deficiency and excess of the following: B1, B2 , Niacin, B6, Folic acid and B12, C	04
III	Macro Minerals – functions, sources, RDA and deficiency of the following: Calcium, Phosphorus, Sodium & Potassium	04
IV	Micro Minerals – functions, sources, RDA and deficiency of the following: Iron, Iodine, Fluorine & Zinc	03
V*	Planning and preparation of Vitamin A rich recipes Planning and preparation of Vitamin C rich recipes Planning and preparation of Vitamin B complex rich recipes Planning and preparation of Calcium rich recipes Planning and preparation of Iron rich recipes Planning and preparation of Folate rich recipes	30
Suggested Evaluation Methods		
Internal Assessment:		End Term Examination:
> Theory <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 05 		20
> Practicum <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 05 • Mid-Term Exam: NA 		15

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Mudambi S R and Rajagopal M V, Fundamentals of Foods, nutrition & Diet therapy, New Age International Publishers, 6 th Edition. 2020
2. Bamji, M.S, Textbook of Human Nutrition, Oxford & IBH Publishing Co Pvt. Ltd,4th Edition. 2019
3. Srilakshmi B, Dietetics, New Age International Publishers, 8 th Edition. 2019
4. Swaminathan, M, Handbook of Food and Nutrition, The Bangalore Press, 5 th Edition. 2018
5. Srilakshmi B, Nutrition Science, New Age International Publishers, 6 th Edition. 2017
6. Longvah T Anathan R, Bhaskarachary K, and Venkaiah k, Indian food composition table, NIN.ICMR, 2 nd Edition. 2017
7. Gibney M.J, Nutrition and Metabolism, Wiley- Blackwell, 2003
8. Carolyn D. Berdanier, Advanced Nutrition, Macronutrients, CRC press, 2 nd Edition.2000
9. Emma. S. Weigley, Robinson's Basic Nutrition and Diet Therapy, Pearson publication, 1st Edition. 1996

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	III		
Name of the Course	Human Nutrition I		
Course Code	B 23- CND-301		
Course Type: (CC/MCC/MDC/CC-M / DSEC/ VOC/DSE/PC/AEC/VAC)	CC-3		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand the concept and principles of meal planning 2. To know about nutritional requirements during infancy and breast feeding 3. To understand the nutritional requirements of toddlers and pre-schoolers 4. To know the nutritional needs of school going children 5*. To prepare nutritious meals for different age groups 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20 (T) + 10 (P) =30 End Term Exam Marks: 50 (T) + 20 (P) =70		Time: 3hrs (T) 4hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
<p>Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.</p> <p>Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.</p>		
Unit	Topics	Contact Hours
I	Introduction to meal management – Balanced diet, Basic principles of meal planning, objectives and steps in meal planning.	10
II	Nutrition during infancy – Nutritional requirements, Breast feeding, Formula feeding, Introduction of supplementary food.	15
III	Nutrition during early childhood (Toddler / Pre School) growth and nutrient needs, nutrition related problems.	10
IV	Nutrition of school children – Nutritional requirements, School lunch programmes: ANP, SNP and MDM	10
V*	Planning, calculation and preparation of meals for all age groups mentioned in theory	30
Suggested Evaluation Methods		
<p align="center">Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 		<p align="center">End Term Examination:</p> <p align="center">50</p> <p align="center">20</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Modern Nutrition in Health and Disease – Goodhearh, R. S.
2. Recommended dietary allowance for Indians – I.C.M.R., 1980
3. Nutrition and Development- Winick 1973, Univ. of Calombia.
4. Biology of Nutrition – Eclames 1972, Palaniuma Press
5. Foods & Nutrition – Krause 1972, Saunders.
6. Proteins and Human Foods 1970, Lowrie, Avi. Pub. Co.
7. Nutrition & Physical fitness – BoGert L.J.
8. Principles of Nutrition – Wilson, L.D. and Fisher. K.H.
9. Standardised diets for Hospital – National Nut. Advisory Committee
10. Nutrition in Health & Disease – Cooper, L. Barher, L. Mitehell, Hand Rynheraen.
11. Nutrition A comprehensive – Beaton and McHanery, Treatise Vol-1, II, & III.
12. Human Nutrition & Dietetics – Davidson S., Passmore, R., Brook, J.E. and Truswell.
13. Foods and Nutrition – Rankin, W. Munn. Hildath E.N.
14. Iron deficiency – Holiberth, H.C. Harvorth, Vannotti, N.Y.
15. Trace Elements in Human and Animal Nut. – Underwood, N.Y.

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	IV		
Name of the Course	Human Nutrition II		
Course Code	B 23- CND-401		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC-4		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. To understand nutritional needs of adolescents 2. To know about nutritional requirements during pregnancy 3. To understand the nutritional requirements of lactating mothers 4. To know the nutritional needs of elderly people 5*. To prepare nutritious meals for different age groups 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 20 (T) + 10 (P) =30 End Term Exam Marks: 50 (T) + 20 (P) =70		Time: 3hrs (T) 4hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Nutrition during adolescence – Nutritional requirements, food choices and eating habits. Problems of eating by adolescents	10
II	Nutrition in pregnancy – Nutritional requirements, Physiological changes and complications of pregnancy.	13
III	Nutrition during lactation – Physiology of lactation, nutritional requirements.	12
IV	Geriatric nutrition – Nutritional requirements, nutrition related problems of elderly persons	10
V*	Planning, calculation and preparation of meals for all age groups mentioned in theory	30
Suggested Evaluation Methods		
<p style="text-align: center;">Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 <p>➤ Practicum</p> <ul style="list-style-type: none"> • Class Participation: 00 • Seminar/Demonstration/Viva-voce/Lab records etc.: 10 • Mid-Term Exam: NA 		<p style="text-align: center;">End Term Examination:</p> <p style="text-align: center;">50</p> <p style="text-align: center;">20</p>

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Modern Nutrition in Health and Disease – Goodhearh, R. S.
2. Recommended dietary allowance for Indians – I.C.M.R., 1980
3. Nutrition and Development- Winick 1973, Univ. of Calombia.
4. Biology of Nutrition – Eclames 1972, Palaniuma Press
5. Foods & Nutrition – Krause 1972, Saunders.
6. Proteins and Human Foods 1970, Lowrie, Avi. Pub. Co.
7. Nutrition & Physical fitness – BoGert L.J.
8. Principles of Nutrition – Wilson, L.D. and Fisher. K.H.
9. Standardised diets for Hospital – National Nut. Advisory Committee
10. Nutrition in Health & Disease – Cooper, L. Barher, L. Mitchell, Hand Rynheraen.
11. Nutrition A comprehensive – Beaton and McHanery, Treatise Vol-1, II, & III.
12. Human Nutrition & Dietetics – Davidson S., Passmore, R., Brook, J.E. and Truswell.
13. Foods and Nutrition – Rankin, W. Munn. Hildath E.N.
14. Iron deficiency – Holiberth, H.C. Harvorth, Vannotti, N.Y.
15. Trace Elements in Human and Animal Nut. – Underwood, N.Y.

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	V		
Name of the Course	Dietetics I		
Course Code	B 23- CND-501		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC-5		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand the role of dietician and hospital diets 2. To learn dietetic management of fevers, infections and surgical conditions 3. To understand dietary management of GI disorders 4. To learn dietary management of diabetes mellitus 5*. To plan, calculate and prepare diets of various Diseases 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3hrs (T) 4 hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Role and Responsibilities of a Dietitian Diet Therapy: Routine hospital diet, Regular diet, Light diet, Soft Diet, Full Fluid Diet, Liquid diet.	06
II	Dietary Management of fevers and infections: Typhoid, Malaria and Tuberculosis. Diet in Pre & Post Surgical Conditions	15
III	Dietary Management of gastro intestinal disorders: Diarrhea, Constipation, Peptic ulcer	12
IV	Dietetic Management of Diabetes Mellitus – Classification, predisposing factors, Diagnosis, Dietary management.	12
V*	Planning, calculation and preparation of diets for all disease conditions mentioned in theory	30
Suggested Evaluation Methods		
Internal Assessment:		End Term Examination:
> Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 		70
> Practicum <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/Demonstration/Viva-voce/Lab records etc.: 05 • Mid-Term Exam: NA 		30

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Mudambi S R and Rajagopal M V, Fundamentals of Foods, nutrition & Diet therapy, New Age International Publishers, 6 th Edition. 2020
2. Bamji, M.S, Textbook of Human Nutrition, Oxford & IBH Publishing Co Pvt. Ltd,4th Edition. 2019
3. Srilakshmi B, Dietetics, New Age International Publishers, 8 th Edition. 2019
4. Swaminathan, M, Handbook of Food and Nutrition, The Bangalore Press, 5 th Edition. 2018
5. Srilakshmi B, Nutrition Science, New Age International Publishers, 6 th Edition. 2017
6. Longvah T Anathan R, Bhaskarachary K, and Venkaiah k, Indian food composition table, NIN.ICMR, 2 nd Edition. 2017
7. Gibney M.J, Nutrition and Metabolism, Wiley- Blackwell, 2003
8. Carolyn D. Berdanier, Advanced Nutrition, Macronutrients, CRC press, 2 nd Edition.2000
9. Emma. S. Weigley, Robinson's Basic Nutrition and Diet Therapy, Pearson publication, 1 st Edition. 1996

Session: 2023-24			
Part A – Introduction			
Subject	Clinical Nutrition & Dietetics		
Semester	VI		
Name of the Course	Dietetics II		
Course Code	B 23- CND-601		
Course Type: (CC/MCC/MDC/CC-M /DSEC/VOC/DSE/PC/AEC/VAC)	CC-6		
Level of the course (As per Annexure-I)	100 – 199		
Pre-requisite for the course (if any)	12 th pass		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To understand dietary management of renal and gall bladder diseases 2. To learn dietetic management of Cardio vascular diseases and auto-immune disorders 3. To understand dietary management of weight imbalance 4. To learn dietetic management of liver diseases and cancer 5*.To impart practical knowledge of how to plan, calculate and prepare diets of various diseases 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks: 100 Internal Assessment Marks: 30 End Term Exam Marks: 70		Time: 3hrs (T) 4 hrs (P)	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u>		
Instructions for the examiner: The examiner will set nine questions in all, selecting two questions from each unit and one compulsory objective type question.		
Instructions for the candidates: The candidate will attempt five questions in all, selecting one question from each unit and one compulsory question.		
Unit	Topics	Contact Hours
I	Dietary Management of Renal diseases: Dietary Management in Kidney Stones, Glomerulonephritis, Acute and chronic renal failure. Dietary management in diseases of gall bladder: Gall Stones	12
II	Dietetic Management of Cardiovascular diseases: Dietary management in Hypertension and Atherosclerosis. Diet in Auto-immune disorders	12
III	Dietary Management in Weight Imbalance: Dietary management of Under-weight, Over-weight and Obesity	09
IV	Dietetic Management of diseases of liver: Dietary Management of Infective hepatitis, Jaundice and Cirrhosis Dietetic Management in Cancer	12
V*	Planning, calculation and preparation of diets for all disease conditions mentioned in theory	30
Suggested Evaluation Methods		
Internal Assessment:		End Term Examination:
> Theory <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/presentation/assignment/quiz/class test etc.: 05 • Mid-Term Exam: 10 		70
> Practicum <ul style="list-style-type: none"> • Class Participation: 05 • Seminar/Demonstration/Viva-voce/Lab records etc.: 05 • Mid-Term Exam: NA 		30

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Mudambi S R and Rajagopal M V, Fundamentals of Foods, nutrition & Diet therapy, New Age International Publishers, 6 th Edition. 2020
2. Bamji, M.S, Textbook of Human Nutrition, Oxford & IBH Publishing Co Pvt. Ltd. ,4th Edition. 2019
3. Srilakshmi B, Dietetics, New Age International Publishers, 8 th Edition. 2019
4. Swaminathan, M, Handbook of Food and Nutrition, The Bangalore Press, 5 th Edition. 2018
5. Srilakshmi B, Nutrition Science, New Age International Publishers, 6 th Edition. 2017
6. Longvah T Anathan R, Bhaskarachary K, and Venkaiah k, Indian food composition table, NIN.ICMR, 2 nd Edition. 2017
7. Gibney M.J, Nutrition and Metabolism, Wiley- Blackwell, 2003
8. Carolyn D. Berdanier, Advanced Nutrition, Macronutrients, CRC press, 2 nd Edition.2000
9. Emma. S. Weigley, Robinson's Basic Nutrition and Diet Therapy, Pearson publication, 1st Edition. 1996

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	IV		
Name of the Course	Indian Food Nutrition		
Course Code	B23-VAC-327		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VAC)	VAC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. To have knowledge about the food pyramid and benefits of traditional Indian foods. 2. To know the importance of functional foods & probiotics. 3. To get knowledge about cereal and millet based convenience foods. 4. Role of Indian spices, fruits & vegetables in Indian diets <hr/> <p>5*. NA</p>		
Credits	Theory	Practical	Total
	2	-	2
Contact Hours	2	-	2
Max. Marks:50 Internal Assessment Marks:15 End Term Exam Marks: 35		Time:3 hrs.	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Understanding Indian food, types of Indian foods and foods consumed in different regions of India. Advantages of traditional Indian diets. Indian food pyramid: a way to balanced diet, My plate concept	7
II	Food terminology : functional food, nutraceuticals, convenience foods, health food, designer food, probiotics, ,prebiotics, intermediate moisture foods, hurdle Technology Present & future scope of functional foods Use of traditional fermented food as a source of probiotics	6
III	Cereal based traditional Food: snack foods: Fried, fermented & traditional sweets ready to cook convenience foods millet based traditional food: nutritive value of millet convenience foods of millet	8
IV	Major healthy foods in Indian cuisine Health benefits of major Indian spices Fruit and Vegetable based convenience foods	7
V*		

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 4 ● Seminar/presentation/assignment/quiz/class test etc.: 4 ● Mid-Term Exam: 7 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: -- ● Seminar/Demonstration/Viva-voce/Lab records etc.: ● Mid-Term Exam: -- 	<p>End Term Examination:</p> <p>35</p> <p>NA</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ol style="list-style-type: none"> 1. Srilakshmi, B. (2017) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi. 2. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. 3. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi. 4. SunetraRoday (2017). Food Science and Nutrition, Oxford University Press, New Delhi. 5. Longvah, T, Ananthan, R., Bhaskarachary, K., Venkaiah, K (2017). Indian Food Composition Tables (IFCT), Indian Council of Medical Research, National Institute of Nutrition, Hyderabad. 6. Raina U, Kashyap S, Narula V, Thomas S Suvira, VirS, Chopra S (2010) Basic Food Preparation: A Complete Manual, 4th Edition, Orient Black Swan Ltd, Mumbai. 7. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi. 8. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi. 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A – Introduction			
Subject	Bachelor of Home science		
Semester	IV		
Name of the Course	Baking Techniques		
Course Code	B23-VOC-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	VOC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To have knowledge of ingredients used in baking 2.To know about role of leavening and Moistening agents 3.To obtain knowledge about cake preparation, their faults and decoration ideas. 4. To enable the students to have knowledge of breadmaking <hr/> <p>5*.To have practical knowledge of baking and preparation of bakery items.</p>		
Credits	Theory	Practical	Total
	2	2	4
Contact Hours	2	4	6
Max. Marks:100 Internal Assessment Marks:15(T) +15(P)=30 End Term Exam Marks: 35(T) +35(P)=70		Time:3hrs(T) 4hrs(P)	
Part B- Contents of the Course			

Instructions for Paper- Setter:The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Introduction to Bakery, different bakery products, Bakery equipments. Basic Materials Used in Bakery and their role in baking. Flours And Flour Mixtures: Types of flours & suitability of flours for bakery products, flour selection, properties and specifications	07
II	Egg, Fats & oils: Types & functions of fats & oils in bakery products. Sweeteners: Types of sugars & functions. Leavening agents: Types; a) Biological leaveners b) Chemical leaveners c) Commonly used leavening agents .Moistening Agents	08
III	Cakes: Different types of cakes. Cake making techniques & General Precautions in cake preparation . Cake decoration and Cake faults & causes	07
IV	Some terms used in Process of Bread making: Fermentation, leavening, Pouching the dough, Fermentation of the sponge, Dividing & scaling, Rounding, Intermediate proofing, Moulding, Pan proofing, Baking the bread, Slicing & packaging. Essential and optional Ingredients used in bread .Bread quality: External and Internal Characteristics	08
V*	<ul style="list-style-type: none"> ● Study of various types of baking equipments; ● Type of baking ingredients, flour, yeast, salt and their uses; ● Preparation and cost calculation of different types of bakery products: Traveller's cake, Pineapple cake, Coffee walnut cake, Biscuit & Nan khatai, Pizza, Pastry, Garlic Bread, Red velvet cake and Muffins ● Cake decoration 	52

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation:04 ● Seminar/presentation/assignment/quiz/class test etc.:04 ● Mid-Term Exam:07 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation:05 ● Seminar/Demonstration/Viva-voce/Lab records etc.:10 ● Mid-Term Exam:NA 	<p>End Term Examination:</p> <p>35</p> <p>35</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● Dubey, S.C. (2017). Basic Baking, 5th Edition, ChanakyaMudrakPvt. Ltd., New Delhi. ● Rainact, AL. (2013). Basic Food Preparation – Complete Manual, 3rd Edition, Orient Longman Pvt Ltd., Mumbai ● Manay, S &Shanaksharaswami, M. (2014).Foods : Facts and Principles, New Age Publishers, New Delhi 	

*Applicable for courses having practical component.

Session: 2023-24			
Part A - Introduction			
Subject	Bachelor of Home science		
Semester	II		
Name of the Course	Frozen Food Technology		
Course Code	B23-SEC-204		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	SEC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	Senior Secondary(10+2) or equivalent in any stream		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1.To understand the concept and types of freezing 2.To get knowledge about process of freezing and recent techniques 3.To get knowledge about effect of freezing on various parameters of food quality 4.To understand freezing and thawing of fruits & vegetables <hr/> <p>5*.To impart practical knowledge about preparation, storage and packaging of frozen foods.</p>		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75 Internal Assessment Marks:15(T) +5(P)=20 End Term Exam Marks: 35(T) +20(P)=55		Time:3hrs	

Part B- Contents of the Course

Instructions for Paper- Setter: The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the candidate: The candidates will attempt five questions in all, selecting atleast one question from each unit as well as compulsory questions.

Unit	Topics	Contact Hours
I	Freezing: need and effectiveness of freezing as food preservation, advantages and limitations of Frozen Food Quick and slow freezing, disadvantages of slow freezing Points to be kept in mind while selecting freezing method	10
II	Pre- treatment prior to freezing: blanching, dehydro freezing and osmotic dehydration. Freezing Technology: a) air or Still freezing b) air blast freezing c) Fluidized bed freezing d) indirect contact freezing e) Immersion freezing f) cryogenic freezing g) Tunnel freezing	11
III	Physical changes in Frozen Food. Effect of Freezing on texture, colour and flavour of food. Effect of freezing on principal constituents of food: a) Water. b) Protein , lipids And carbohydrates. c) Vitamins And minerals.	11
IV	Method of freezing fruits and vegetables. Introduction to thawing, changes during thawing and its effect on food .Future trends in frozen food technology.	10
V*	<ol style="list-style-type: none"> 1. To study basic equipments used for freezing 2. To learn the process of blanching :Boiling method & steam method 3. To freeze vegetables: Peas, corns, beans, carrot, tomato or any seasonal vegetables 4. To freeze fruits: apples, strawberries, mango, pineapple or any seasonal fruits 5. Storing in bags 6. Preparation of ice cream 	30

Suggested Evaluation Methods

<p>Internal Assessment:</p> <p>➤ Theory</p> <ul style="list-style-type: none"> ● Class Participation: 04 ● Seminar/presentation/assignment/quiz/class test etc.: 04 ● Mid-Term Exam: 07 <p>➤ Practicum</p> <ul style="list-style-type: none"> ● Class Participation: Nil ● Seminar/Demonstration/Viva-voce/Lab records etc.:05 ● Mid-Term Exam: NA 	<p>End Term Examination:</p> <p>35</p> <p>20</p>
<p>Part C-Learning Resources</p>	
<p>Recommended Books/e-resources/LMS:</p> <ul style="list-style-type: none"> ● http://practicalaction.org/evaporative-cooling-in-india. ● http://www.akamaiuniversity.us/PJST10_2_935.pdf ● http://www.fao.org/climatechange/17850-0c63507f250b5a65147b736_4492c4144d.pdf ● Mudambi, S.V. and Rajagopal, M.V. 2001. Fundamentals of Foods & Nutrition. New Age International (P) Ltd. Publishers, New Delhi. 405p. ● Parker, R. 2003. Introduction to food science. Delmar Thomson Learning, New York. 636p. ● Roy, S.K. and Khardi, D.S. 1985. Zero Energy Cool Chamber. India Agricultural Research Institute, New Delhi, India. Research Bulletin No.43: 23-30. ● Tucker, G. and Featherstone, S. 2011. Essentials of thermal processing. John Wiley and Sons., Oxford. 288p 	

*Applicable for courses having practical component.