

KURUKSHETRA UNIVERSITY

KURUKSHETRA

(Established by the state legislature Act XII of 1964)
A⁺ Grade NAAC Accredited)

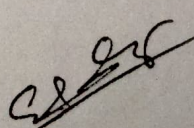


REVISED

**Scheme of Examination and Syllabus for
Under-Graduate Programme**

**Subject: Chemistry Minor Paper i.e. CC-M1,
B-23 CHE-103**

**Under Multiple Entry-Exit, Internship and
CBCS-LOCF in accordance to NEP-2020
w.e.f. 2023-24**


Chairperson,
Department of Chemistry
K.U. KURUKSHETRA.

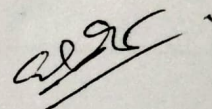
DEPARTMENT OF CHEMISTRY, KURUKSHETRA UNIVERSITY, KURUKSHETRA

Revised Scheme & Syllabus for Under-Graduate Programme Subject: Chemistry Minor
Paper i.e. CC-M1, B-23 CHE-103 Minor Chemistry-I w.e.f. the session 2023-2024

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	B-23 CHE-101	Chemistry-I	3	3	20	50	70	3 hrs.
	MCC-1		Practical	1	2	10	20	30	3 hrs.
Scheme C only	MCC-2	B-23 CHE-102	Physical Chemistry-I	3	3	20	50	70	3 hrs.
	4 credit		Practical	1	2	10	20	30	3 hrs.
Scheme A & D	CC-M1	B-23 CHE-103	Minor Chemistry-I	1	1	10	20	30	2 hr
	2 credit		Practical	1	2	05	15	20	2 hrs
Scheme A, C & D	MDC-1	B-23 CHE-104	Introductory Chemistry-I	2	2	15	35	50	3 hrs.
	3 credits		Practical	1	2	5	20	25	3 hrs.
Scheme C only	CC-M1	From Available CC-I/MCC-I of 4 credits as per NEP							
4 credit									
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	B-23 CHE-201	Chemistry-II	3	3	20	50	70	3 hrs.
	MCC-3		Practical	1	2	10	20	30	3 hrs.
4 credit									

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Scheme C only	DSEC- 1 4 credit	B-23 CHE- 202	Chemistry Skill- I	3	3	20	50	70	3 hrs.
			Practical	1	2	10	20	30	3 hrs.
Scheme A & D	CC-M 2 2 credit	B-23 CHE- 203	Minor Chemistry-II	1	1	10	20	30	3 h
			Practical	1	2	05	15	20	3 hrs



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CC-M1

Session: 2023-24			
Part A - Introduction			
Subject	Chemistry		
Semester	I		
Name of the Course	Minor Chemistry-I		
Course Code	B23-CHE-103		
Course Type: (CC/MCC/MDC/CC- M/DSEC/VOC/DSE/PC/AEC/VA C)	CC-M		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	4.0		
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 Covalent bonding in simple molecules. 2. To get the basics of rates of chemical reactions and factors affecting it. 3. To learn about the nomenclature, classification and methods of preparation of alkenes. 4. To learn about qualitative knowledge of conductors, semiconductors and insulates. <hr/> <p>5*. Hand on practice in preparation of solutions, compounds, estimation and determination of physical properties of some compounds.</p>		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	15	30	45
Max. Marks:30 + 20* Internal Assessment Marks:10 + 05* End Term Exam Marks: 20 + 15*		Time:02+ 02* hrs	

Part B- Contents of the Course

Instructions for Paper- Setter

Note: The examiner is requested to set nine questions in all, selecting two questions from each SECTION and one question (Question No.1 based on entire syllabus will consist of short answer type. All questions carry equal marks. The candidate is required to attempt five questions in all selecting one from each SECTION. Question No.1 is compulsory. Log table and non-programmable calculator is allowed.

Unit	Topics	Contact Hours
I	Covalent Bond Shapes of simple inorganic molecules and ions based on valence shell electron pair repulsion (VSEPR) theory and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.	4
II	Chemical Kinetics Concept of reaction rates, factors influencing the rate of reaction, Order and molecularity of a reaction, integrated rate expression for zero and firstorder reactions.	4
III	Alkanes (upto 5 carbon atoms) Alkanes, nomenclature, classification of carbon atoms in alkanes. Isomerism in alkanes, methods of formation: Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids.	4
IV	Metallic Bond and semiconductors Metallic bond – Qualitative idea of Band theory of metallic bond (conductors, semiconductors, insulators).	3
V	1. To determine the melting point of given organic compound. 2. To prepare a pure sample of dibenzalacetone from benzaldehyde. 3. Acid/Base Titration: Determination of strength of HCl using NaOH. 4. To determine the refractive index of given liquid. 5. To study the process of sublimation of camphor or phthalic acid.	30

Suggested Evaluation Methods

Internal Assessment: 10 + 05*

➤ **Theory**

- Class Participation: 3
- Seminar/presentation/assignment/quiz/class test etc.: 3
- Mid-Term Exam: 4

➤ **Practicum**

- Class Participation: NA
- Seminar/Demonstration/Viva-voce/Lab records etc.: 05
- Mid-Term Exam: NA

End Term Examination:

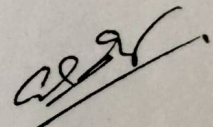
20 + 15*

Part C-Learning Resources

Recommended Books/e-resources/LMS:

1. Dhawan S.N., Organic Chemistry, Vol 1 Pardeep Publication.
2. Kapoor, K.L. (2015), A Textbook of Physical Chemistry, Vol 1, 6th Edition, McGrawHill Education.
3. Khosla, B.D.; Garg, V.C.; Gulati, A. (2015), Senior Practical Physical Chemistry, R. Chand & Co, New Delhi.
4. Lee, J.D.; (2010), Concise Inorganic Chemistry, Wiley India.

*Applicable for courses having practical component.


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