KURUKSHETRA UNIVERSITY, KURUKSHETRA

Scheme of Examinations for B.Sc. Home Science under CBCS/LOCF w.e.f. 2020-21 in Phased Manner

Semester-I

Course	Paper Code	Nomenclature	Credits	Contact Hr./week	Exam time (hr)	External Marks	Internal Marks	Total
CC1	HS101-A	Food Science	3	3	3	60	15	75
	HS101-B	Basic Nutrition	3	3	3	60	15	75
	HS101-(A+B)	Practical	2	4	3	50	-	50
CC2	HS102-A	Introduction to Human Development	4	4	3	80	20	100
	HS102-B	Life Span Development-I	4	4	3	80	20	100
CC3	HS103-A	Human Physiology & Promotive Health	4	4	3	80	20	100
	HS103-B	Introductory Chemistry	3	3	3	60	15	75
	HS103-B	Practical	1	2	3	25	-	25
AECC-1	ENG100	Functional English	2	2	3	40	10	50
OR								
	EVS	Environment Studies	2	2	3	40	10	50
Total			26	29				650

Semester-II

Course	Paper Code	Nomenclature	Credits	Contact Hr./week	Exam time (hr)	External Marks	Internal Marks	Total
CC4	HS201-A	Introduction to clothing and apparel selection	3	3	3	60	15	75
	HS201-B	Aesthetic in apparel, methods of developing designs	3	3	3	60	15	75
	HS201-(A+B)	Practical	2	4	3	50	-	50
CC5	HS202-A	Management of family resources	4	4	3	80	20	100
	HS202-B	Household Equipment & consumer protection	4	4	3	80	20	100
CC6	HS203-A	Hygiene	2	2	3	40	10	50
	HS203-B	Nutritional Biochemistry	3	3	3	60	15	75
	HS203-B	Practical	1	2	3	25	-	25
	HS 203 C	Introductory Bakery	2	4	3	50	-	50
AECC-2	EVS	Environment Studies	2	2	3	40	10	50
OR								
	ENG100	Functional English	2	2	3	40	10	50
Total			26	31				650

Semester-III

Course	Paper Code	Nomenclature	Credits	Contact Hr/week	Exam time (hr)	External Marks	Internal Marks	Total
CC7	HS301-A	Introduction to textile & Clothing construction	3	3	3	60	15	75
	HS301-B	Laundry Science & Finishing of Fabrics	3	3	3	60	15	75
	HS301-(A+B)	Practical	2	4	3	50	-	50
CC8	HS302-A	Housing and space management	3	3	3	60	15	75
	HS302-B	Interior Design & home décor	3	3	3	60	15	75
	HS302-(A+B)	Practical	2	4	3	50	-	50
CC9	HS303-A	Early Childhood Education & Children with special needs	3	3	3	60	15	75
	HS303-B	Life Span Development-II	3	3	3	60	15	75
	HS303-(A+B)	Practical	2	4	2	50	-	50
SEC-1	HS305	Personality Development	2	2	3	40	10	50
Total			26	32				650

Semester-IV

Course	Paper Code	Nomenclature	Credits	Contact Hr/week	Exam time (hr)	External Marks	Internal Marks	Total
CC10	HS401-A	Nutrition in Life Cycle	3	3	3	60	15	75
	HS401-B	Food preservation and Community Nutrition	3	3	3	60	15	75
	HS401-(A+B)	Practical	2	4	3	50	-	50
CC11	HS402-A	Family transition and population education	4	4	3	80	20	100
	HS402-B	Adulthood; Guidance & Counseling	3	3	3	60	15	75
	HS402-B	Practical	1	2	3	25	-	25
CC12	HS403-A	Community Development and Extension Education-I	3	3	3	60	15	75
	HS403-B	Community Development & Extension Education-II	3	3	3	60	15	75
	HS403-C	Computer Applications in Communication & Media Design	2	4	3	50	-	50
SEC-2	HS404	Basics of Physics	2	2	3	40	10	50
Total			26	31				650

Semester-V

Course	Paper Code	Nomenclature	Credits	Contact Hr/week	Exam time (hr)	External Marks	Internal Marks	Total
DSE1	HS501-A	Dietetics-I	4	4	3	80	20	100
	HS501-A	Practical	2	4	3	50	-	50
			OR					
	HS501-B	Therapeutic Nutrition-I	4	4	3	80	20	100
	HS501-B	Practical	2	4	3	50	-	50
DSE2	HS502-A	Entrepreneurial Techniques in Home Science-I	4	4	3	80	20	100
	HS502-A	Practical	2	4	3	50	-	50
			OR					
	HS502-B	Entrepreneurship & Enterprise Management-I	4	4	3	80	20	100
	HS502-B	Practical	2	4	3	50	-	50
DSE3	HS503-A	Indian Textiles Heritage and Designing	4	4	3	80	20	100
	HS503-A	Practical	2	4	3	50	-	50
			OR					
	HS503-B	MOOCS in relevant subject	6	-	-	-	-	150
SEC-3	HS504	E-Commerce of artifact	2	2	3	50	-	50
Total			20	26				500

Semester-VI

Course	Paper Code	Nomenclature	Credits	Contact Hr/week	Exam time (hr)	External Marks	Internal Marks	Total
DSE4	HS601-A	Dietetics-II	4	4	3	80	20	100
	HS601-A	Practical	2	4	3	50	-	50
		OR						
	HS601-B	Therapeutic Nutrition-II	4	4	3	80	20	100
	HS601-B	Practical	2	4	3	50	-	50
DSE5	HS602-A	Entrepreneurial Techniques in Home Science-II	4	4	3	80	20	100
	HS602-A	Practical	2	4	3	50	-	50
		OR						
	HS602-B	Entrepreneurship & Enterprise Management-II	4	4	3	80	20	100
	HS602-B	Practical	2	4	3	50	-	50
DSE6	HS603	Advance Apparel designing & Fashion illustrations	4	4	3	80	20	100
	HS603	Lab	2	4	3	50	-	50
SEC-4	HS604	Introductory cosmetology	2	4	3	50	-	50
Total			20	28				500

Total Credits

Course	Number of Courses	Credits	Contact Hours/ week	Marks (25/credit)
Core Course	12	96	117	2400
AECC	2	4	4	100
SEC	4	8	8	200
Discipline Specific Elective	6	36	48	900
Total	**24**	**144**	**177**	**3600**

*Practical exams will be held annually.

Total Credits: 96 Core + 04 AECC+ 8 SEC + 36 DSE = 144

Note: It is an interdisciplinary scheme. Hence, it will be taught by various Internal Departments of IIHS.

Programme Outcomes (POs) for UG courses of Faculty of Life Sciences

1. To develop skills in graduate students to be able to acquire theoretical and practical knowledge in fundamentals of biology in respective disciplines of plants, animals, microbes and environment.
2. To inculcate ability to critically evaluate problems and apply lateral thinking and analytical skills for professional development.
3. To create awareness on ethical issues, good laboratory practices and biosafety.
4. To develop ability in youth for understanding basic scientific learning and effective communication skills.
5. To prepare youth for career in teaching, industry, government organizations and self-reliant entrepreneurship.
6. To make students aware of natural resources and environment and its sustainable utilization.
7. To provide learning experience in students that instills deep interest in biological science for the benefit of society.

Programme Specific Outcomes (PSOs) for B.Sc. Home Science

1. **PSO1:** To impart knowledge and facilitate the development of skills and techniques in different areas of Home science (namely Foods, nutrition & dietetics, Human development, Textile and fashion technology and community resource management) required for personal, professional and community advancement.
2. **PSO2:** To inculcate in students, values and attitudes that enhance personal and family growth and to sensitize then to various social issues for the development of human society.
3. **PSO3:** To promote in students a scientific temper and competencies in research to enable contribution to the national and international knowledge base in Home science and allied fields.
4. **PSO4:** Consequently, to empower our women students such that they are able to effect positive changes at multiple levels.

B.Sc. (HOME SCIENCE)
SEMESTER – I
CC1: Food Science

Course No.: HS 101-A **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

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 question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To acquire knowledge of various concepts of food science.
2. **CO2:** To develop the ability to apply the principles of food science into practical situation.
3. **CO3:** To know the importance of nutrition and various food groups.
4. **CO4:** To get knowledge about improving nutritional quality of various foods.
5. **CO5:** To equip with different cooking methods and techniques used while food preparation.

UNIT-I

1. Food - definition, classification and functions.
2. Food Groups and food guide pyramid along with its importance.
3. Basic food groups - composition and nutritional contributions of the following foods:
   - Cereals: composition and nutritive value
   - Pulses: Composition and nutritive value, toxic constituents in pulses, processing of pulses to remove toxins
   - Fruits and Vegetables: Composition and nutritive value, pigments in fruits and vegetables
   - Milk and Milk Products: Composition and nutritive value, processing of milk, types of milk and milk products
   - Nuts and Oilseed: Composition and nutritive value
   - Meat; Fish, Poultry: Composition and nutritive value
   - Egg: Composition and nutritive value
   - Condiments and spices: Composition and nutritive value,
   - Sugar and Jaggery: Composition and nutritive value, types of sugars.

UNIT-II

1. Cooking:
   - Definition, objectives and principles of cooking of food.
   - Different methods of cooking- their merits and demerits.
   - Effect on cooking and heat on nutritive values of foods.

2. Improving nutritional quality of foods using methods:
   - Germination,
   - Fermentation,
   - Supplementation
   - Fortification and Enrichment.

REFERENCES:

1. Srilakshmi, B. (2001) Food Science (2nd edition). New Age International Pvt. Ltd. Publishers: New Delhi.
2. Antia, F.P. (1990) Clinical Dietetics and Nutrition. Oxford Univ. Press: Delhi/Bombay.
3. Rajalakshmi, R. (1990) Applied Nutrition (3rd ed.) Oxford and IBH Pub. Co. Pvt. Ltd.: New Delhi.
4. Swaminathan, M. (1988). Essentials of Food and Nutrition - An Advanced Text Book Vol. I and II. (2nd ed.) BAPPCO: Bangalore.
5. Swaminathan, M. Food Science. BAPPCO: Bangalore.
6. Mudambi, S.R. and Rao S. Fundamentals of Food & Nutrition. (2nd ed.) Wiley Eastern Ltd.: New Delhi.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 101-A: Food Science

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	3	3	3	2	3
CO2	3	3	3	3	3	3	3
CO3	3	2	3	3	3	2	3
CO4	3	3	2	3	3	3	3
CO5	3	2	3	2	3	3	3
Average	3	2.6	2.8	2.8	3	2.8	3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 101-A: Food Science

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	3	2	3
CO2	3	3	3	2
CO3	3	2	3	3
CO4	2	3	3	3
CO5	2	3	3	3
Average	2.6	2.8	2.8	2.8

PRACTICAL
Food Science

MM: 25
Time allowed: 3 Hrs.
Course Credit- 1

Course Outcomes: The course learning outcomes for practical of this course are-

1. **CO1:** Prepare various recipes using various cooking methods.
2. **CO2:** To calculate the nutritive value of the recipe prepared.

Syllabus:

1. Laboratory conduct and responsibilities
2. Knowledge of different food stuffs in English, Hindi and local language.
3. Terms used in cookery
4. Weight and measures
5. Identification and listing of various food groups along with their standard weights equivalent to household measures.
6. Preparation of Recipes:
   - Rice: Plain rice and Pulao
   - Chapatti: Plain roti and Missi roti
   - Parantha: Stuffed parantha, Pizza parantha
   - Idli: Plain, stuffed idli and fried idli
   - Bread Recipes: Ghughra sandwich, Bread Pizza
   - Fried Recipes: Pin wheel samosa, Pizza puf
   - Besan Recipes: Chilla and Dhokla
7. Recipes based on Germination:
   - Sprouted moong dal chat
   - Sprouted moong dal chilla
8. Recipes based on Fermentation:
   - Kulcha
   - Bhatura
   - Recipes based on Supplementation:
   - Paushtik Khichri
   - Nutritious Poha

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 101-A (Practical): Food Science

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	3	2	2	2	3
CO2	3	3	2	3	2	3	3
Average	3	2.5	2.5	2.5	2	2.5	3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 101-A (Practical): Food Science

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	3
CO2	3	2	3	2
Average	3	2	2.5	2.5

B.Sc. (HOME SCIENCE)
SEMESTER – I
CC1: Basic Nutrition

Course No.: HS 101-B **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

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 question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To enable students to understand the relation of nutrition to health.
2. **CO2:** To understand the functions, sources, requirements and effects of excess and deficiency of different nutrients.
3. **CO3:** To get knowledge about recommended dietary allowances of various nutrients.
4. **CO4:** To learn culinary skills involved in preparation of various nutritious dishes.

UNIT-I

1. Nutrients in food: Definition, functions, sources, recommended dietary allowances, effects of deficiency and excess (in brief) of Carbohydrates, Proteins, Lipids
2. Water: Functions and sources of water for human body, effects of excess and low intake of water on human body.
3. Fibre: Types of fibre, functions or role of dietary fibre in the human body, sources of fibre and effect of deficiency of fibre in human beings.

UNIT-II

1. Functions, sources, recommended dietary allowances, effects of excess & deficiency (in brief) of
   - Fat soluble vitamins: Vitamin A, Vitamin D, Vitamin E and Vitamin K
   - Water soluble vitamins: Vitamin C, Vitamin B1 (Thiamine), Vitamin B2, (Riboflavin), Vitamin B6 (Pyridoxin), Vitamin B12 (Cyanocobalamin), Niacin and folic acid.

2. Functions, Sources, RDA, Effect of Excess and low intake of
   - Macro Minerals: Calcium, Magnesium, Phosphorus, Sodium and Potassium
   - Micro Minerals: Iron, Iodine and Fluorine.

REFERENCES:

1. Bamiji, M.S.; Rao, N.P. and Reddy, V. (Editors) (1999). Textbook of Human Nutrition. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
2. ICMR (1990). Nutrient Requirements and Recommended Dietary Allowance for Indians. A Report of the Expert Group of ICMR. NIN, Hyderabad.
3. Joshi, S.A. (2002). Nutrition and Dietetics (2nd ed.) New Delhi: Tata Mc Graw Hill Pub. Co. Ltd.
4. Kaushik, V.K. (1998). Readings in Food, Nutrition and Dietetics Vol. I and II. Jaipur Book Enclave.
5. Khanna, K; Gupta, S; Pasi SJ; Seth, R; Mahna, R and Puri, S. (2010). Nutrition and Dietetics. New Delhi: Elite Publishing House.
6. Narsinga Rao BS (1988). Dietary fibre in Indian diets and its nutritional significance. Nutrition Foundation of India Bulletin 9 (4).
7. Robinson CH and Lawler MR (1982). Normal and Therapeutic Nutrition (16th ed) New York: mcMillion Pub. Co. Inc.
8. Srilakshmi, B. (2002). Nutrition Science. New Age International Limited, Publishers, New Delhi.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 101-B: Basic Nutrition

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	1	3	3	2	3
CO2	2	3	2	2	3	3	3
CO3	3	2	3	3	3	2	2
CO4	2	3	2	3	3	2	3
Average	2.5	2.5	2.0	2.75	3	2.25	2.75

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 101-B: Basic Nutrition

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	3
CO2	2	2	3	2
CO3	3	3	2	3
CO4	2	3	2	3
Average	2.5	2.5	2.0	2.75

PRACTICAL
Basic Nutrition

MM: 25
Time allowed: 3 Hrs.
Course Credit: 1

Course Outcomes: The course learning outcomes for practical of this course are-

1. **CO1:** Prepare various nutrient specific rich recipes.
2. **CO2:** To calculate the nutritive value of the recipe prepared and understand its nutritional facts.

Syllabus:

1. Snacks (Two recipes each)
    - Vitamin A rich snacks
    - Iron rich snacks
    - Calcium rich snacks
    - Protein rich snacks
    - Energy rich
    - Low fat
2. Main course dish: Any Two
    - Cheese Chilly
    - Manchurian
    - Ghia Kofta
    - Dal Makhani
    - Vegetable Korma
    - Any other two of your choice
3. Beverages
    - Hot: Different types of tea and coffee
    - Cold: Fruit punch and any shake or masala lassi, smoothies
4. Salad: Any Two
    - Russian salad
    - Corn salad
    - Any other two of your choice
5. Soups: Any Two
    - Tomato soup
    - Dal soup
    - Minnestrone soup

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 101-B (Practical): Basic Nutrition

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	2	2	3
CO2	3	3	2	3	2	3	3
Average	2.5	2.5	2.0	2.5	2.0	2.5	3.0

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 101-B (Practical): Basic Nutrition

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	2	2	2	3
CO2	2	2	3	2
Average	2.0	2.0	2.5	2.5

B.Sc. (HOME SCIENCE)
SEMESTER – I
CC2: Introduction to Human Development

Course No.: HS 102-A **MM: 80+20=100**

Time allowed: 3 Hrs.

Course Credit: 4

Instructions for the Examiner:

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 question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To understand and identify key concepts in multiple areas of lifespan psychology including concepts, facts and theoretical perspectives
2. **CO2:** To identify the basic research and evaluation methods used in lifespan psychology, including the strengths and weaknesses of each method.
3. **CO3:** To have knowledge of and explain concepts related to human development.
4. **CO4:** To apply development theory to the analysis of child observations, surveys, and interviews using investigative research methodologies.

UNIT-I

1. Human development as a discipline, Importance of studying Human development and multidisciplinary nature of Human Development.
2. Understanding the meaning of Growth & Development and study the differences between them.
3. Concept and principles of Human Growth and Development.
4. Trends and issues of human development (nature versus nurture; continuity versus discontinuity; early experience versus later experience).
5. Stages and domains of human development throughout life.

UNIT-II

1. Theories of Development: Psychoanalytic theory of Sigmund Freud and Erik Erikson's psychosocial theory, cognitive theory of Piaget, Bandura's social cognitive theory.
2. Developmental tasks during life span including physical, motor, social, emotional, cognitive, language and moral development.
3. Methods of Child Study and data collection - observation, interview, questionnaire, case study, experimental, cross-sectional, longitudinal methods.

REFERENCES:

1. Hurlock, Elizabeth B. (1987). Developmental Psychology, A life-span approach. Fifth Edition. Tata McGraw Hill Publishing Company Ltd. New Delhi.
2. Hurlock, Elizabeth B. (1987). Child Development Sixth Edition. MC- Graw Hill Book Co. New Delhi.
3. Berk, Laura E (1999). Child Development. Prentice Hall of India, Private Ltd. New Delhi.
4. Papalie, Diane E. (1986). A child's World. Fourth Edition. McGraw Hill Book Company New Delhi.
5. Ambron S.R. (19710): Child Development, Rinchart Prep, San Francisco.
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.
8. Gordon, L.J. (19710), Human Development New York: Harper & Row.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 102-A: Introduction to Human Development

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	1	2	2	2	3
CO2	3	3	2	1	2	3	3
CO3	3	3	2	3	3	2	3
CO4	2	3	3	3	3	2	3
Average	2.5	2.75	2.0	2.25	2.5	2.25	3.0

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 102-A: Introduction to Human Development

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	2
CO2	3	2	3	2
CO3	3	3	3	3
CO4	3	3	3	3
Average	3.0	2.5	2.75	2.5

B.Sc. (HOME SCIENCE)
SEMESTER – I
CC2: Life Span Development-I

Course No.: HS 102-B **MM: 80+20=100**

Time allowed: 3 Hrs.

Course Credit: 4

Instructions for the Examiner:

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 question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To analyze major developmental milestones for children from conception through early childhood in the areas of physical, psychological, cognitive, and language development.
2. **CO2:** To know about the stages of prenatal development and the significance of prenatal care.
3. **CO3:** To examine and evaluate the role of play and its relationship to development at various stages.
4. **CO4:** To Apply lifespan psychological concepts to the solutions of current issues and problems of prenatal development and infancy.

UNIT-I

1. Life span development during prenatal stage:
   - Conception, signs of pregnancy and discomforts during pregnancy.
   - Teratology and hazards to prenatal development.
2. Stages of prenatal development:
   - Prenatal growth and activities in first, second and third trimesters of pregnancy.
   - The birth process (stages of delivery of baby and placenta), complications during delivery and types of birth.
3. Care of the infant (0-2 years)
   - Physical Characteristics of the neonate- size, weight, body-proportion, body temperature, neonatal capacities and 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.

UNIT-II

1. Developmental milestones of infancy (0-2 years) and early childhood (3-6 years):
   - Physical and motor development
   - Social and emotional development
   - Cognitive and language development
2. Play: types, functions and Importance of play in infancy and preschool years.
3. Role of family, peers and television in young child's life.

REFERENCES:

1. Hurlock, Elizabeth B. (1987). Developmental Psychology, A life-span approach. Fifth Edition. Tata McGraw Hill Publishing Company Ltd. New Delhi.
2. Hurlock, Elizabeth B. (1987). Child Development Sixth Edition. MC-Graw Hill Book Co. New Delhi.
3. Berk, Laura E (1999). Child Development. Prentice Hall of India, Private Ltd. New Delhi.
4. Papalie, Diane E. (1986). A child's World. Fourth Edition. McGraw Hill Book Company New Delhi.
5. Ambron S.R. (19710): Child Development, Rinchart Prep, SanFrancisco.
6. Lerner Hultsch (1983): Human Development a life span perspective, New York, McGraw Hill Book, Co.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 102-B: Life Span Development- I

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	1	3	3	1	3
CO2	3	2	2	2	3	3	3
CO3	2	3	3	3	3	3	3
CO4	1	3	3	3	3	2	3
Average	2.25	2.5	2.25	2.75	3.0	2.25	3.0

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 102-B: Life Span Development- I

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	3	2	3
CO2	3	3	2	2
CO3	3	3	2	3
CO4	3	3	3	3
Average	3.0	3.0	2.25	2.75

B.Sc. (HOME SCIENCE)
SEMESTER – I
CC3: A Human Physiology & Promotive Health

Course No.: HS 103-A **MM: 80+20=100**

Time allowed: 3 Hrs.

Course Credit: 4

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four question from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To define various systems in body.
2. **CO2:** To acquire knowledge of digestive system as a base for human nutrition.
3. **CO3:** To illustrate reproductive system as a pillar for human development.
4. **CO4:** To enable students to gain knowledge about prevention of disease in relation with nutrition.

UNIT-I

1. The Cell
   - Animal cell structure, composition of protoplasm.
   - Cell division mitosis and meiosis, difference between mitosis and meiosis.
2. The Skeleton
   - Different Bones (Names & Number)
   - Joints of the Skeleton (Names with examples)
3. The Digestive System
   - Structure and functions of various parts of alimentary canal
   - Digestion in the stomach, Digestion and absorption in small intestine and large intestine
   - Digestive glands- functions of liver, pancreas and salivary glands, role of hormones in digestive system.

4. The Circulatory System

- Composition and functions of blood
- Structure and Functions of heart
- Blood Pressure

UNIT-II

1. The Respiratory System
   - Respiratory passage; its parts & functions
   - Structure and functions of lungs.
2. The Excretory System
   - Structure and functions of kidneys
   - Mechanism of urine formation
3. The Reproductive System
   - Structure of reproductive organs in a woman, menstrual cycle
   - Role of hormones in reproductive health
4. The Nervous System
   - Major parts of the nervous system
   - Structure and functions of brain, spinal cord and nerve cell (Neuron)
   - Sense organs - Structure of Eye and Ear
   - Eye defects
5. Concept of Positive Health
6. Immunity
   - Definition and types of immunity
   - Vaccination schedule (Triple Vaccine, BCG, Polio drops etc.)

REFERENCES:

1. Chaterzeee (1988) Human Physiology, Calcutta, Medical Agency.
2. Pears E.C. (1988) Anatomy and Physiology for nurses- Delhi Oxford University, Press.
3. Clothing Textile and Physiology- Ritu Kapoor Vidaya Publications, Ludhiana.
4. A text book of biology- Dhami & Dhami Pradeep Publications.
5. Elementary biology- K N Bhati

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 103-A: Human Physiology & Promotive Health

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	2	2	3	1	3
CO2	3	3	2	2	3	2	3
CO3	3	2	3	2	3	-	3
CO4	3	3	2	2	3	2	3
Average	3.0	2.75	2.25	2.0	3.0	1.6	3.0

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 103-A: Human Physiology & Promotive Health

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	2
CO2	3	2	3	2
CO3	3	2	3	3
CO4	3	3	3	3
Average	3.0	2.75	3.0	2.5

B.Sc. (HOME SCIENCE)
SEMESTER – I
Introductory Chemistry

Course No.: HS 103-B **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four question from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To have comprehensive knowledge understanding of major concept of chemistry.
2. **CO2:** To enable students to use modern instrumentation for chemical analysis in relation with home science.
3. **CO3:** To review and apply knowledge of chemicals in the fields of clothing and textiles.

UNIT-I

1. Concept of element, mixture and compound. Atomic and Molecular masses. Mole Concept and Molar masses, Normality. Molarity and Mass percentage. Simple numerical problems based on them.
2. Subatomic particles: Electrons, Protons and Neutrons, Atomic No., Atomic Weight, Bohr's model of an atom.
3. Modern Periodic Law and Periodic Table, Electronic configuration of elements (Na, Mg, C, N, O, F, Cl, H). Periodic properties: Atomic size, Ionization energy, Electron affinity and Electronegativity.

UNIT-II

1. Chemical Bonding: Ionic, Covalent, Coordinate and H-bonding.
2. Concept of Acids, Bases & Salts, pH and pH Scale. Numerical based on pH. Buffer solutions. Concept of oxidation and reduction.
3. Soaps and synthetic detergents, advantages and disadvantages.
4. Synthetic Polymers: Structure and uses of the following polymers (PVC, Teflon, Nylon - 6, 6 Polyester).
5. Chemical Composition in Cosmetics: Creams, Perfumes, Talcum Powder, Deodorants, Lipsticks, Nailpolish, Shampoo & Hair dye.
6. Paints and Varnishes their composition and uses.

REFERENCES:

1. Conceptual chemistry for class XI by S.K. Jain, R. Chand.
2. NCERT Chemistry for class XI & XII.
3. Pradeep's New Course Chemistry Class XI & XII by S.N. Dhawan, Kheterpal & P.N. Kapil.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 103-B: Introductory Chemistry

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2.5	2	2.5	3	2	3
CO2	3	2.5	3	2.5	3	3	3
CO3	3	3	2	2.5	3	3	3
Average	3	2.6	2.3	2.5	3	2.6	3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 103-B: Introductory Chemistry

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	1.5	3	2
CO2	3	2.5	2.5	2
CO3	2.5	2	2	2.5
Average	2.8	2	2.5	1

PRACTICAL
Introductory Chemistry

MM: 25
Time allowed: 3 Hrs.
Course Credit- 1

Course Outcomes: The course learning outcomes for practical of this course are-

1. **CO1:** To gain knowledge about preparation of standard solutions in the lab.
2. **CO2:** To acquire hands-on experience with using instruments for chemical analysis in relation to Home Science.

Syllabus:

1. Preparation of solutions (Normal/Molar), Sodium Hydroxide, Sodium Carbonate and Hydrochloric Acid.
2. Preparation of Crystals of Copper Sulphate and Potash Alum.
3. To determine the normality and strength of given Sodium Hydroxide Solution by volumetric titrations using phenolphthalein as an indicator.
4. To determine the normality of the given HCl solution by titrating it against standard Sodium Carbonate solution using methyl orange as an indicator.
5. Preparation of Soaps, using any two oils (Coconut oil/ castor oil).

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 103-B (Practical): Introductory Chemistry

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	1.5	2	2	2	1	3
CO2	2.5	2.5	2.5	3	3	2	2.5
Average	2.7	2	2.2	2.5	2.5	1.5	2.7

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 103-B (Practical): Introductory Chemistry

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	1
CO2	3	2.5	3	3
Average	3	2.2	3	2

B.Sc. (HOME SCIENCE)
SEMESTER – I
AECC-1: Functional English / Environment Studies

Course No.: ENG 100/ EVS **MM: 50**

Time allowed: 3 Hrs.

Course Credit: 3

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC4: An Introduction to Clothing and Apparel Selection

Course No.: HS 201-A **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four questions from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To understand the elements and principles of designing.
2. **CO2:** To understand the concept of renovating and mending of clothing.
3. **CO3:** To provide the students with the sense of clothing and fashion in different age groups.
4. **CO4:** To understand the concepts of clothing in relation to complexion, figure and occasion.

UNIT-I

1. Basic Terminology used for clothing:
   - Fiber- filament, staple, natural fiber, synthetic fiber, regenerated fiber, luster.
   - Yarn- spun yarn, filament yarn, yarn twist.
   - Fabric- selvedge; grain-lengthwise, crosswise, bias; warp, weft.
   - Garment- allowance, applique, armhole, basic pattern, clip, cord piping, cap, dart, drape, dress form, drop, ease, facing, fastening, flap, fray, facing, gathers, hem, hemline, interfacing, loop, lining, notch, pinking, piping, placket, pucker, princess line, rip, contour, silhouette, cutting line, stitching line, stay stitching, smocking, seam, tucks, top stitch, etc.
2. Equipment and Sewing tools used for measuring, drafting, cutting and stitching and their maintenance.
3. Parts of Sewing Machine and their functioning:
   - Defects and remedies
   - Care of Sewing Machine

4. Anthropometry:
    - Definition, Importance and equipment required
    - Measurements needed for different garments (frock, blouse, lady's shirt, salwar, churidar, pyjama/ pant)
    - Types of anthropometric measurements (vertical, horizontal, girth/round measurement)
    - Care to be taken while recording body measurement
    - Limitations of taking direct measurement

UNIT-II

1. Meaning and Importance of Clothing.
2. Clothing requirements for infants, toddlers, preschoolers and elementary school children.
3. Factors affecting selection of clothing:
    - Social Factors
    - Economic Factors
    - Environmental Factors
    - Physiological Factors
4. Clothing requirements for different physiological conditions.
    - Pregnant lady
    - Lactating mother
5. Care and Storage of clothing:
    - Mending
    - Renovation
    - Storage

REFERENCES:

1. Tanous, Helen Nicol: Designing Dress Patterns, Illinois, Chas A. Bennettco
2. Bane, A./ (1974): Tailoring, Mc graw Hill
3. Bray Nathalie (1978): Dress Pattern Designing, London, Crossby Lockwood and Staples
4. Goldsworthy, M. (1980); Simple dressmaking, London, Mills and Boon Ltd.
5. Goldsworth, M. (1980): Sample Dressmaking, Mills and boon Ltd.
6. Sushma Gupta, Neeru Garg and Renu SainiTest book of clothing and textiles and laundry – Kalyani Pub.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 201-A: An Introduction to Clothing and Apparel Selection

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	2	2	2
CO2	2	1.5	2	2	1.5	2	3
CO3	2	2.5	3	2	2	2	2
CO4	1.5	2	2.5	2	1.5	2	2.5
Average	1.7	2	2.3	2	1.7	2	2.3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 201-A: An Introduction to Clothing and Apparel Selection

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	3.0
CO2	3	3	2	3.0
CO3	3	2	2.5	3.0
CO4	3	3	2	2.5
Average	3.0	2.5	2.1	2.8

PRACTICAL
An Introduction to Clothing and Apparel Selection

MM: 25
Time allowed: 3 Hrs.
Course Credit- 1

Course Outcomes: The course learning outcomes for this course are-

1. Knowledge about the application of tools, equipment and part of sewing machine.
2. Develop measurement skills for taking body measurements.
3. Provides understanding about basic stiches.
4. Enhancement of knowledge by various methods of mending and renovation techniques of fabric.

Syllabus:

1. Use and care of parts of sewing machine and other equipment used in clothing construction.
2. Methods of taking body measurements.
3. Making samples of the following basic stitches – Hemming, tacking, back stitch, running stitch, interlock stitch, buttonhole and application of fasteners.
4. Mending: Patching, Darning, Quilting
5. Renovation: To make an article of pouches, bags, decorative piece etc. by renovating a used cloth with help of various basic stitches and mending techniques.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 201-A (Practical): An Introduction to Clothing and Apparel Selection

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	1	2	1.5	2	3	1	2
CO2	1.5	2	2	1	2.5	2	2
CO3	1	2	1.5	1	3	1	1.5
CO4	2	2	2	1	2.5	2	1.5
Average	1.3	2	1.7	1.2	2.7	1.5	1.7

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 201-A (Practical): An Introduction to Clothing and Apparel Selection

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	1	2	2
CO2	3	1	1	2
CO3	2	1	2	1
CO4	2	2	1	1
Average	2.5	1.2	1.5	1.5

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC4: Aesthetic in Apparel and Methods of Developing Design

Course No.: HS 201-B **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four questions from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To understand the role and function of clothing.
2. **CO2:** To acquire knowledge of process of garment construction.
3. **CO3:** To develop skills required for sewing and stitching.
4. **CO4:** To develop creative skills required for garment designing.

UNIT-I

1. Principles of design in clothing and their importance in apparel designing.
2. Fashion designing from a digital perspective.
3. Analysis of design elements in apparel in relation to figure, complexion, occasion, size and season:
   - Analysis of line
   - Analysis of shape
   - Analysis of color
   - Analysis of texture

UNIT-II

1. Methods of developing design/ pattern:
   - Drafting: Drafting tools, techniques, advantages and disadvantages of drafting.

- Paper pattern: Types and principles of paper pattern and advantages and disadvantages of paper pattern.
- Draping: Techniques of draping and advantages and disadvantages of draping.

2. Preparation of fabric in clothing construction:
   - Preparation of fabric: Preshrinking, Straightening the grain, Pressing, Identify Face and back, Square up
   - Layout: Surface, Types of fabric folds, factors considered for layout
   - Marking: Pinning, types of markings, precautions
   - Cutting: Methods and Precautions
   - Sewing: Preparing machine; Sewing tips, methods and precautions
   - Finishing: Seam allowance neatening; Removal of bastings, threads, marks; Pressing and folding

REFERENCES:

1. Tate and Grissom: Family clothing, Bray Nathalie (1978): Dress Pattern Designing, London, Crossby
2. Lockwood and Staples, Goldsworthy, M. (1980); Simple dressmaking, London, Mills and Boon Ltd.
3. Teery Brackenbury: Knitted Clothing Technology, Blackwell Science Ltd., London.
4. Gupta Sushma (2005) TextBook of Clothing Textiles and Laundry, Kalyani Publishers New Delhi.
5. Sushma Gupta, Neeru Garg and Renu Saini: Textbook of Clothing, Taxtile & Laundry, Kalyani Pub.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 201-B: Aesthetic in Apparel and Methods of Developing Design

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2.5	2.0	1.0	2.0	3.0	2.0	1.0
CO2	3.0	2.0	2.5	1.0	3.0	1.0	2.0
CO3	3.0	2.5	2.0	1.0	3.0	1.0	1.0
CO4	3.0	1.0	2.0	2.0	3.0	2.0	1.5
Average	2.8	1.7	1.8	1.5	3.0	1.5	1.3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 201-B: Aesthetic in Apparel and Methods of Developing Design

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3.0	2.0	3.0	3.0
CO2	3.0	2.5	3.0	3.0
CO3	3.0	3.0	3.0	3.0
CO4	3.0	2.5	3.0	3.0
Average	3.0	2.8	3.0	3.0

PRACTICAL
Aesthetic in Apparel and Methods of Developing Design

MM: 25
Time allowed: 3 Hrs.
Course Credit- 1

Course Outcomes: The course learning outcomes for this course are-

1. Enrichment of knowledge about seems and processes used in apparel designing.
2. Familiarization with basic embroidery stitches.
3. Develop capability for drafting and cutting of garments.
4. skill acquisition for construction of different garments.

Syllabus:

1. Making samples of the following:
   - Seams- plain seam, counter seam, run and fell seam, French seam and mantua maker.
   - Processes- pleats, tucks, gather's with band, darts and plackets.
2. Embroidery stitches:
   - Stem stitch, Chain stitch, Feather stitch, Herring bone stitch, Satin stitch, Lazy daisy stitch, French knots, Bullions stitch, Cross stitch, Long and short stitch
3. Drafting, cutting and stitching of simple garments.
   - Drafting of child's bodice block and sleeve block, Nappy, Bib, Jhabla, Bloomer

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 201-B (Practical): Aesthetic in Apparel and Methods of Developing Design

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2.5	2	1	2	3	2	1
CO2	3	2	2.5	1	3	1	2
CO3	3	2.5	2	1	3	1	1
CO4	3	1	2	2	3	2	1.5
Average	2.8	1.7	1.8	1.5	3	1.5	1.3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 201-B (Practical): Aesthetic in Apparel and Methods of Developing Design

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	3
CO2	3	2.5	3	3
CO3	3	3	3	3
CO4	3	2.5	3	3
Average	3	2.8	3	3

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC5: Management of Family Resources

Course No.: HS 202-A **MM: 80+20=100**

Time allowed: 3 Hrs.

Course Credit: 4

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four questions from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To understand the concept of human and non-human resources and its functions.
2. **CO2:** To acquaint students with the skills of management of time.
3. **CO3:** To skill students about work simplification techniques and energy management.
4. **CO4:** To impart knowledge about savings, investments, budget and energy management.

UNIT-I

1. Definition, concept and objectives of home management
2. Process of Management: Planning, organizing, controlling and evaluation
3. Family life cycle and its stages
4. Qualities and responsibilities of a good home maker
5. Motivating factors of management:
   - Values: Definition, classification and characteristics
   - Goals: Definition, classification, characteristics and factors affecting goal setting
   - Standards: Definition, classification and characteristics
6. Process of decision making:
   - Definition and importance of decision making
   - Types of decision
   - Steps in decision making process
7. Resources: Meaning, classification and characteristics

UNIT-II

1. Time Management:
   - Time demand during various stages of family life cycle
   - Time and utility plan: Characters to consider in making time and utility plan, steps in making time and utility plan
   - Steps in management of time
2. Energy Management
   - Energy demand during various stages of family life cycle
   - Management of energy (Planning, Controlling and evaluating)
   - Types of efforts
   - Types of fatigue and various ways to overcome fatigue
3. Work Simplification:
   - Definition, Importance and Techniques of work simplification
4. Ergonomics:
   - Concept, significance and principles of ergonomics
5. Money Management:
   - Sources of Money: Wages, Salary, Rent, Profits, Interests
   - Types of Income: Regular and Irregular income
   - Types of Expenditure and factors affecting family expenditure
   - Types of buying: Cash Buying, Credit Buying, and other ways of buying
   - Budget: Definition, importance and types of budget
   - Savings and investments: Meaning, objectives and types

REFERENCES:

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. The Educational Planning Group

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 202-A: Management of Family Resources

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	3	2	3
CO2	2	3	2	2	3	3	2
CO3	3	2	3	2	2	2	2
CO4	2	2	2	2	1	3	1
Average	2.25	2.25	2.25	2.0	2.25	2.5	2.0

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 202-A: Management of Family Resources

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	2	2	2	3
CO2	2	2	2	2
CO3	3	2	3	3
CO4	2	2	3	3
Average	2.25	2.0	2.5	2.75

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC5: A Household Equipment & Consumer Protection

Course No.: HS 202-B **MM: 80+20=100**

Time allowed: 3 Hrs.

Course Credit: 4

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four questions from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To get knowledge and working of household equipment and tools.
2. **CO2:** To equip the students with proper care and storage of household equipment.
3. **CO3:** To make aware about consumerism.
4. **CO4:** To acquaint with consumer protection laws.

UNIT-I

1. Difference between equipment and tools. Factors affecting requirement of household equipment.
2. Use, care, and storage of household equipment.
3. Kitchen tools and equipment
   - Classification on the basis of their mode of operation: Hand operated, Electrically operated
   - Classification on the basis of their utility: Major kitchen equipment and minor kitchen equipment
   - Classification on the basis of their use: Cooking utensils and Serving utensils
4. Equipment for personal care and recreation: Hair dryer, hair straightener, Epilator, water filter, Iron, air conditioner, television, radio, L.C.D, C.D. player, cell phone, computer and laptop, inverter.
5. Equipment related to cleaning and washing: Manual and electrical equipment including washing machine, vacuum cleaner, immersion rods, floor scrubber etc.

UNIT-II

1. Consumer: Definition and role of consumer in market
2. Rights, responsibilities and problems of consumers
3. Consumer Protection Laws in India
4. Consumer Protection Act
5. Standardizing and Quality control measures
   - ISI, BIS, FPO, AGMARK, Eco mark, Wool mark, Silk mark, Cotton mark, Handloom mark, BEE star labelling.
6. FSSAI: Regulation on food labelling
7. 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
8. Buying and paying for goods and services
   - Cash buying
   - Credit buying
   - Guarantees
   - Warrantees

REFERENCES:

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.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 202-B: Household Equipment & Consumer Protection

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	2	2	2	3	3	2
CO2	2	3	2	3	2	2	2
CO3	3	2	2	3	3	2	2
CO4	2	3	1	2	2	3	1
Average	2.25	2.5	1.75	2.5	2.5	2.5	1.75

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 202-B: Household Equipment & Consumer Protection

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	2	2	2	3
CO2	2	2	2	2
CO3	3	2	3	3
CO4	2	2	3	3
Average	2.25	2.0	2.5	2.75

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC6: Hygiene

Course No.: HS 203-A **MM: 40+10=50**

Time allowed: 3 Hrs.

Course Credit: 2

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four question from each section/unit and one compulsory objective type question.

Instructions for the Candidate:

The candidate will attempt five questions in all, selecting at least one question from each unit as well as compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To define concepts of promotive health, disease and prevention.
2. **CO2:** To illustrate various communicable and non-communicable disease.
3. **CO3:** To acquire personal and hygiene.

UNIT-I

1. Infectious Diseases- Causes, Symptoms, Mode of Spread, Treatment and Prevention.
2. Diseases spread through Water and Food- Cholera, Diarrhòea, Hepatitis, and Tuberculosis.
3. Diseases spread by insects- Malaria, Dengue.
4. Diseases caused by viruses- Polio, measles, chicken pox, cold.
5. Diseases spread by contact and soil - Leprosy, Tetanus.
6. Immune Disorders- AIDS.

UNIT-II

1. Personal Hygiene
   - Physical Health- Regular Habits in daily living, eating and eliminating, cleanliness of body and different organs.
   - Mental Health- meaning, types and management of stress, rest and sleep.

2. Institutional Hygiene
3. Public health organizations- WHO, ICMR and National Health Programmes (Malaria Eradication, Leprosy and Tuberculosis, Pulse Polio).

REFERENCES:

1. Hygiene and preventive medicine- Yashpal Bedi.
2. Home Management and Hygiene- Sweera Relhan, Dinesh Publication

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 203-A: Hygiene

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3.0	2.0	3.0	2.0	2.0	1.0	1.0
CO2	2.5	1.0	2.5	2.0	2.5	2.5	2.5
CO3	3.0	1.0	1.0	1.0	2.0	2.0	1.0
Average	2.8	1.3	2.1	1.6	2.1	1.8	1.5

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 203-A: Hygiene

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3.0	2.0	1.0	1.0
CO2	2.0	1.0	2.0	1.0
CO3	2.0	2.0	2.0	1.0
Average	2.3	1.6	1.6	1.0

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC6: Nutritional Biochemistry

Course No.: HS 203-B **MM: 60+15=75**

Time allowed: 3 Hrs.

Course Credit: 3

Instructions for the Examiner:

The examiner will set nine questions in all, selecting four questions from each unit and one compulsory objective type question.

Instructions for the Candidates:

The candidate will attempt five questions in all, selecting two questions from each unit and one compulsory question.

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To enable the students to learn the concepts of biochemistry.
2. **CO2:** To analysis various problems in relation to human nutrition.
3. **CO3:** To acquire knowledge about nutrition, health and disease.
4. **CO4:** To equip the students with the appropriate tool for analysis in field of biochemistry.

UNIT-I

1. Nutrients in food- Definition, classification, structure, general properties, digestion, absorption and metabolism of Carbohydrates, Proteins, Nucleic acids, Lipids (including iodine number, Acid value and Saponification value).
2. Hormones: Chemical classes, mechanism of actions of hormones.

UNIT-II

1. Chemistry, physiological importance of fat soluble vitamins (A, D, E and K) and water soluble vitamins- B1, B2, B6, B12 niacin, folic acid and vitamin C.
2. Biological role of Macro minerals (calcium, magnesium, phosphorus, sodium, potassium) and micro minerals (Iron, iodine, fluorine, zinc, copper, selenium, cobalt).

3. Enzymes- Definition, chemical nature, classification, importance and factors affecting enzyme activity. Co-factor, co-enzyme.

REFERENCES:

1. Pant, M.C. (latest edition): Essentials of Biochemistry, Kedar Nath, Ram Nath & Co.
2. Conn. E.E. & Stumfp P.K. (latest edition)
3. Outlines of Biochemistry, Wiley Eastern Pvt. Ltd.
4. Principles of Biochemistry by J.L. Jain
5. Principles of Biochemistry by Leherninger
6. Practical Biochemistry by David T Plummer

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 203-B: Nutritional Biochemistry

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	3	2	2.5	3	2.5	3
CO2	3	3	2.5	2.5	3	3	3
CO3	3	3	2.5	2	3	3	3
CO4	3	2.5	3	3	2.5	2.5	3
Average	3	2.8	2.5	2.5	2.8	2.7	3

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 203-B: Nutritional Biochemistry

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	3	2.5
CO2	2	2.5	3	2.5
CO3	3	2	3	2
CO4	1.5	2	3	2.5
Average	2.3	2.1	3	2.3

PRACTICAL
Nutritional Biochemistry

MM: 25
Time allowed: 3 Hrs.
Course Credit- 1

Course Outcomes: The course learning outcomes for practical of this course are-

1. **CO1:** To obtain knowledge about preparation of various solutions used in Qualitative biochemical analysis.
2. **CO2:** To analyse the samples qualitatively for presence of biomolecules (carbohydrates, proteins and lipids) and estimation of Vitamin C, chloride.

Syllabus:

1. Preparation of solutions of different concentrations and expressing concentrations in different units.
2. Preparation of buffer solution (Acetate buffer-0.2 Molar, pH-10.2).
3. Qualitative analysis of different Carbohydrates, Protein and Lipids.
4. Determination of Vitamin C by titrimetric method and fat (demonstration by Soxhlet apparatus) in different food stuff.
5. Determination of saponification value and acid value of two different fats or oils.
6. Develop a chromatogram of known amino acids and mixture of amino acids by 2-D paper chromatography.
7. Estimation of chloride in table salt by titrimetric method.

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 203-B (Practical): Nutritional Biochemistry

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	3	2	2.5	2	2.5
CO2	3	2	2.5	2	3	2	2.5
Average	3	2	2.7	2	2.7	2	2.5

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 203-B (Practical): Nutritional Biochemistry

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	3	1.5	3	2
CO2	3	1.5	2.5	2
Average	3	1.5	2.7	2

B.Sc. (HOME SCIENCE)
SEMESTER – II
CC-6: Introductory Bakery (Practical)

Course No.: HS 203-C **MM: 50**

Time allowed: 3 Hrs.

Course Credit: 2

Course Outcomes: The course learning outcomes for this course are-

1. **CO1:** To understand the basic concept and importance of baking.
2. **CO2:** To give the knowledge of various baking equipment used in bakery science.
3. **CO3:** To learn the skill in preparation of various baked products.
4. **CO4:** To get practical knowledge of bakery unit.

Syllabus:

1. Study of various types of bakery equipment
2. Type of baking ingredients: flour, yeast, salt, egg, type of fat etc. and their uses
3. Preparation of various types of bakery products: Cake, pastry, biscuit, muffin, cookies, buns
4. Calculation of nutritional value of each recipe
5. Visit to bakery unit

Mapping of Course Outcomes with Program Outcomes (CO/PO)
Paper No. HS 203-C: Introductory Bakery

COs/POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	2	3	2.5	2.5	3	2	2
CO2	3	3	3	3	3	1	2
CO3	2	3	3	3	3	2	3
CO4	2	3	3	2.5	3	3	3
Average	2.2	3	2.8	2.7	3	2	2.5

Mapping of Course Outcomes to Program Specific Outcomes (CO/PSO)
Paper No. HS 203-C: Introductory Bakery

COs/PSOs	PSO1	PSO2	PSO3	PSO4
CO1	2.5	1	2	1
CO2	3	2	3	3
CO3	3	2	3	3
CO4	3	2	3	3
Average	2.8	1.7	2.7	2.5

B.Sc. (HOME SCIENCE)
SEMESTER – II
AECC-2: Environment Studies / Functional English

Course No.: EVS/ ENG 100 **MM: 50**

Time allowed: 3 Hrs.

Course Credit: 4