

NEP and Learning Outcome-based Curriculum Framework (LOCF)

For

Scheme UG A4: Undergraduate Program: Interdisciplinary

HOME SCIENCE SUBJECT

(To be effective from the Academic Session 2024-25)



GURUGRAM UNIVERSITY, GURUGRAM

(A State University established by Govt. of Haryana Act No. 17 of 2017)

Scheme of Programme: Bachelor of Science in Home Science (Scheme
UG A4: (Interdisciplinary)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS				
			(Hrs)		Credits			TI		TE	PI	PE	Total	
Core Course(s)														
CC-ID1	Family Resource Management	240/HS/CC101	3		2	3		1	4	25	50	05	20	100
CC-ID2	Introduction to Clothing and Textiles	240/HS/CC102	3		2	3		1	4	25	50	05	20	100
CC-ID3	Introduction to Human Development and Family Studies	240/HS/CC103	3		2	3		1	4	25	50	05	20	100
Minor/ Vocational Course(s)														
MIC-1	One from pool		1		2	1		1	2	5	20	5	20	50
Multidisciplinary Course(s)														
MDC-1	One from pool		2	1		2	1		3	25	50	-	-	75
Ability Enhancement Course(s)														
AEC-1	One from Pool								2	15	35	5	20	50
Skill Enhancement Course(s)														
SEC-1	One from pool		2		2	2		1	3	15	35	5	20	75
Value-added Course(s)														
VAC-1	One from Pool								2					50
Total Credits									24					600

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
Core Course(s)														
CC-ID4	Fundamentals of Nutrition		3		2	3		1	4	25	50	05	20	100
CC-ID5	Extension Education & Communication		3		2	3		1	4	25	50	05	20	100
CC-ID6	Personal Financial Management & Consumer Studies		3		2	3		1	4	25	50	05	20	100
Minor/ Vocational Course(s)														
MIC-2	One from pool		1		2	1		1	2	5	20	5	20	50
Multidisciplinary Course(s)														
MDC-2	One from pool		2	1		2	1		3	25	50	-	-	75
Ability Enhancement Course(s)														
AEC-2	One from Pool								2					50
Skill Enhancement Course(s)														
SEC-2	One from pool		2		2	2		1	3	15	35	5	20	75
Value-added Course(s)														
VAC-2	One from Pool								2					50
Total Credits									24					600

Multidisciplinary Course from the department for pool of the Courses in the University

(These courses are to be offered to students of different discipline/Subject)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-1	Food Safety, Sanitation and Hygiene	240/HS/MD 101	2	1		2	1		3	25	50	-	-	75

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-2	Care and well-being across Lifespan		2	1		2	1		3	25	50	-	-	75

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MDC-3	Basics of Art and Design		2	1		2	1		3	25	50	-	-	75

Minor Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department to gain a broader understanding beyond the major discipline)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-1	Human Physiology	240/HS/MI101	1		2	1		1	2	5	20	5	20	50

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-2	Community nutrition		1		2	1		1	2	5	20	5	20	50

Semester 3

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-3	Food Microbiology		3	1		3	1		4	30	70	-	-	100

Semester 4

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
MIC-6	Diet and Nutrition Counseling		3		2	3		1	4	25	50	05	20	100

Vocation Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department and is focused on practical work, preparing students for a particular skilled profession.

Semester 4

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
VOC-1	Block printing		2		4	2		2	4	15	35	15	35	100

Semester 5

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
VOC-2	Baking techniques		2		4	2		2	4	15	35	15	35	100

Semester 6

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
VOC-3	Pot painting and Decoration		2		4	2		2	4	15	35	15	35	100

Skill Enhancement Course from the department for pool of the Courses in the University

(These courses are offered by each department for students of other departments/same department and is designed to provide value-based and/or skill-based knowledge and should contain both theory and lab/hands-on/training/field work.)

Semester 1

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
SEC-1	Food Preservation	240/HS/SE 101	2		2	2		1	3	15	35	5	20	75

Semester 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
SEC-2	Techniques of Resist Dyeing and Printing		2		2	2		1	3	15	35	5	20	75

Semester 6

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
SEC-3	Early Childhood Care and Education		2		2	2		1	3	15	35	5	20	75

Semester 8

Course Code	Course Title	Course ID	L	T	P	L	T	P	Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
SEC-4/ Field Training	One from Pool/ Discipline specific course								4					75

Semester	I		
Name of the Course CC-ID1	Family Resource Management		
Course Learning Outcomes (CLO): After completion of the course, the students will be able to: <div><div>1. Learn the meaning of resources, concepts related to management and their application.</div><div>2. Understand the Elements and Principles of Design.</div><div>3. Develop skills for effective Decision Making.</div><div>4. Understand the importance of managing time and energy as resources to get the most satisfaction out of its use</div></div>			
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 30 (25 TI + 05 PI) End Term Exam Marks: 70 (50 TE + 20 PE)	Time: 3hrs (Theory), 2hrs (Practical)		
Part B- Contents of the course			
Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
UNIT I <div><div>1. Introduction to Home Management: definition, basic concepts, Purpose and Obstacles of Management.</div><div>2. Introduction to Process of Management: Planning, organizing, controlling and evaluating.</div><div>3. Motivating factors of Management – Values, goals and standards and their Interrelationship. Theories of motivation – Maslow’s hierarchy of needs and Herzberg’s theory.</div></div>		CONTACT HOURS 12	
UNIT II <div><div>1. Resources in the family – definition, Classification, Characteristics, Factors affecting the use of resources.</div><div>2. Decision Making –Definition, meaning and importance, Types of decisions</div><div>3. Steps in decision making, Factors affecting decision, Inter-relatedness of decision.</div><div>4. Stages of family life cycle</div></div>		10	
UNIT III <div><div>1. Time Management: Concept, tools and steps</div><div>2. Energy Management: Concept, body mechanics, fatigue,</div><div>3. Work simplification- significance, Body mechanics, Mundel’s classes of change in work simplification, work-study techniques---pathway chart, operation chart</div></div>		12	
UNIT IV <div><div>1. Design– definition & types of Design: Structural and Decorative (Naturalistic, Stylized, Abstract and Geometric Design)</div><div>2. Elements of Design: Line, Form, Color, Texture, Pattern, Light and Space and their application in Interiors.</div><div>3. Principles of Design: Balance, Scale and Proportion, Rhythm, Emphasis, Harmony and their application in Interiors.</div><div>4. Colour– classification, dimension, Color schemes, Factors influencing the choice of colours in decoration</div></div>		11	
Practical (30 Hours) <div><div>1. Preparing time plans for students themselves and family.</div><div>2. Preparation of management process chart for household events.</div><div>3. Pathway chart for time and energy management.</div><div>4. Household article making through reuse and recycle/ green resource or A Model to conserve energy at the household level.</div><div>5. Making color wheel, value scale and color schemes (any three).</div><div>6. Floor decoration-Alpana and Rangoli.</div><div>7. Glass bottle and jar decoration or Painting.</div></div>			
Part C-Learning Resources <div><div>1. Gross, I., and Crandall E., (1963), Management for Modern Families. Appleton Century Craft New York.</div><div>2. Nickell P. and Dorsey J.M., (1970), Management in Family Living. Wiley Eastern Ltd. New Delhi.</div><div>3. Setharaman, P; Batra s. and Mehra, P; (2005) An Introduction to Family Resource Management CBS Publishers & Distributions, New Delhi.</div><div>4. Shukul, Maneesha and GandotraVeena, (2006) Home Management and Family Finance, Dominant Publishers and Distribution, Delhi.</div><div>5. Varghese M.A., Ogale N., Srinivasan K., (1985), Home Management, Wiley Eastern Publishers, New Delhi.</div><div>6. Deacon, Ruth E. and Firebaugh F.M. (1975). Home Management: Context and Concepts. Boston, Houghton Mifflin Company.</div><div>7. Saweera Ralhan, Resource (Home) Management, S. Dinesh & Co.</div><div>8. Bhargava, Bela. (2005). Family Resource Management and Interior Decoration. Apple Printer and V. R. Printers, Jaipur.</div><div>9. Goel, S. (2016). Management of resources for sustainable development. New Delhi: Orient Blackswan Pvt. Ltd.</div><div>10. Koontz, H., & O’Donnell, C. (2005). Management: A systems and contingency analysis of managerial functions. New York: McGraw-Hill Book Company.</div><div>11. Krishna Oberoi (2006). Resource Management for Better Homes. R.K. Offset, Delhi.</div><div>12. Mann, M.K. (2004). Home Management for Indian Families, Kalyani Publisher Ludhiana</div></div>			

Semester	I		
Name of the Course CC-ID2	Introduction to Clothing and Textiles		
After completion of course students will be able to			
<div>1. Classify and identify different types of textile fibers and yarns using various tests.</div> <div>2. Able to recognize the parts of the sewing machine and identify sewing problems and garment details.</div> <div>3. Identify the role and functions of clothing and recognize the factors affecting the selection of clothing.</div> <div>4. Understand the manufacturing process of natural and manmade fibres, their properties and end users.</div> <div>5. Explain the selection of fabrics for different end uses according to fabric properties.</div>			
Credits	Theory	Practical	Total
	3	1	4
Contact hours	3	2	5
Max. Marks:100	Time: 3hrs (Theory), 2hrs (Practical)		
Internal Assessment Marks: 30 (25 TI + 05 PI)			
End Term Exam Marks: 70 (50 TE + 20 PE)			
Instructions for Paper-Setter			
Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
UNIT I: SEWING			CONTACT HOURS
<div>1. Tools and types of equipment used in clothing construction - measuring tools, marking tools, cutting, sewing and Finishing tools.</div> <div>2. Sewing Machine - Parts and functions, basic operations, defects and remedies, care and maintenance required.</div>			10
UNIT II: Our Apparel			11
<div>1. Importance of clothing, sociological and psychological aspects of clothing.</div> <div>2. Factors affecting the selection of clothing according to climate, occasion, occupation, fashion & design.<div>a. Basic Terminology used for clothing and textiles: a. Clothing: bias, grainline, grain, dart, notches, gathers, fasteners, contours, facing, interfacing, placket, Selvedge, Seam, Seam Allowances, Seam finishes, Yoke, Gusset, Trimmings, and Fasteners .</div><div>b. Textile: fibre, filament, yarn, yarn count, thread count, twist, crimp, tensile strength, Fineness, Elongation, Elasticity, Resiliency, Absorbency, Heat conductivity, Dimensional Stability.</div></div>			
UNIT III- Selection of fabrics			12
<div>1. Selection of clothing according to different age groups (infant, toddler, teenager, adolescent, adults and old age), Factors influencing buying of readymade garments.</div> <div>2. Storage of clothes, Renovation and mending of clothes.</div> <div>3. Home furnishings: Standard size and selection of common household linen- towel, cushion cover, table linen, bed sheet and pillow cover</div>			
UNIT IV- Textile fibers and yarns			12
<div>1. Classification of textiles and their general properties</div> <div>2. Manufacture, properties and importance to the consumer of the following fibers: -<div>a. Natural Cellulosic and Proteinic fibers (Cotton, Linen, Wool, Silk)</div><div>b. Man-made fibers (Rayon, Nylon and Polyester)</div></div> <div>3. Yarn manufacturing process – Basic steps of Mechanical and chemical spinning.<div>a. Types of yarn – Spun and Filament, Simple and Fancy/Novelty</div><div>b. Yarn properties – Yarn count, Yarn twist</div></div> <div>4. Blended fabrics – Purpose of blending, Properties of common Blended Fabrics</div>			
Practical (30 Hours)			
<div>1. Demonstration, use and care of parts of the sewing machine and other equipment used in clothing construction.</div> <div>2. Identification of fibers – through visual inspection, burning test, chemical and microscopic test</div> <div>3. Prepare samples of basic hand processes: Running stitch, Visible and invisible hemming, tacking, running stitch, backstitch, buttonhole, blanket stitch and application of fasteners.</div> <div>4. Prepare samples of different seams: plain seam, Lapped, counter seam, run and fell seam and French seam.</div> <div>5. Prepare samples of basic machine processes: Tucks, Pleats, Gathers, finishing of necklines, Darts and Placket.</div> <div>6. To estimate the thread count of fabric.</div>			
Part C-Learning Resources			
<div>1. Hollen N. &Saddler J. (1949), “Textiles” (2nd Ed.). The Macmillan Company, New York. Colliee-Macmillan Limited, London.</div> <div>2. Gupta, S., Garg, N., Saini, R. (2005). Textbook of Clothing, Textiles and Laundry, India: Kalyani Publishers.</div> <div>3. Complete Book of Sewing- A Practical step-by-step Guide to Sewing Techniques, 1996, Dorling Kindersley Publishing Inc., London.</div> <div>4. Wingate, I. B. (1976). Textile Fabrics and their Selection. Prentice-Hall Inc., Engle Wood Cliffs, N.J.</div> <div>5. Paddock, K (1954). Textile Fibers and their Use (6th ed.). Oxford & IBH Publishing Co., Calcutta, Bombay, New Delhi.</div> <div>6. Ryan Mary Shaw, Clothing: A study in Human Behavior, Holt, Rinehart and Winston. Inc., New York, 1966.</div> <div>7. Wingate B. Isabel, Textile fabrics and their selection, New Jersey, Prentice Hall, 2nd edition, 1964</div> <div>8. Dhantyagi, S, Fundamentals of Textiles and their care, 4thed. New Delhi, Orient Long mans, 1983.</div> <div>9. Corbman, B. P. (1983). Textiles: Fiber to Fabric. Gregg Division McGraw-Hill</div>			

Part A - Introduction			
Semester	I		
Name of the Course CC-ID3	Introduction to Human Development and Family Studies		
Course Learning Outcomes (CLO): After completion of the course, the students will be able to: <div><div>1. Understand the association between parents, friends, relatives and society.</div><div>2. Understand about various developmental tasks and their importance in society.</div><div>3. Develop an understanding about the need for and importance of studying human growth and development across the life span, with specific reference to gender and cultural perspectives.</div><div>4. Develop insights regarding characteristics, needs and developmental tasks of different stages in the human life cycle.</div></div>			
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 30 (25 TI + 05 PI) End Term Exam Marks: 70 (50 TE + 20 PE)	Time: 3hrs (Theory), 2hrs (Practical)		
Part B- Contents of the Course			
Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
Unit 1: Introduction to Human Development: <div><div>1. Human Development: Definition, Concept and Scope of Human Development</div><div>2. Concept of Growth and Development, Difference between Growth and Development, Principles of Growth and Development,</div><div>3. Stages of development, Factors affecting development.</div><div>4. Prenatal Development and Factors influencing prenatal development.</div></div>			CONTACT HOURS 14
Unit 2 : Development in Infancy and Preschool years <div><div>1. Development tasks in infancy (0-2 yrs), Physical and Motor development, Social and Emotional development, Cognitive development, Language development (Pre speech forms of Communication.) and Affecting Factors.</div><div>2. Developmental task in Preschool years - Physical and Motor development, Social and Emotional development, Cognitive development, Language development and their affecting Factors.</div></div>			10
Unit 3: Developmental Task in childhood 6-8 years and Late Childhood 9-13 Years) <div><div>1. Physical and Motor development</div><div>2. Cognitive and Language development</div><div>3. Social and Emotional development.</div><div>4. Formal Schooling- its importance and Significance.</div><div>5. Effects of Success and Failure (Theory of Eric Erickson). 1.</div></div>			14
Unit 4-Family Studies; <div><div>1. Family: Meaning, Characteristics, Function and Types.</div><div>2. Family life cycle, family in crisis, family therapy, initiatives for child development.</div><div>3. Changing trends in Indian Families</div><div>4. Changing gender role in families, working environment and its impact on the individual, families and society.</div></div>			7
PRACTICAL (30 Hours) <div><div>1. Prepare a checklist to observe a preschool child</div><div>2. Make a poster on any developmental task of an infant and display it in the department.</div><div>3. Prepare one teaching aid for each domain; physical, cognitive, motor, social, emotional development for 6- 8 years.</div><div>4. Prepare a toy for infant.</div><div>5. Prepare a game for a 5-6 years old child.</div><div>6. Prepare a resource file of 5 stories and 5 rhymes in Hindi and English each for children of nursery school.</div><div>7. Make a questionnaire and interview the mothers regarding their concerns related to parenting of young (middle and late child hood) children and prepare report.</div></div>			
Part C-Learning Resources <div><div>1. Abhraham, M. F. (2006). Contemporary Sociology: An introduction to concepts and theories: New York: Oxford University Press.</div><div>2. Beattie, J. (1964). Other cultures. Cohen and West. · Das, V. (Ed.) (2003) The Oxford companion to sociology and social anthropology: volume 1 and 2.New Delhi: Oxford University Press.</div><div>3. Johnson, M.H. (2001). Sociology: A systematic introduction. New Delhi: Allied Publishers Limited.</div><div>4. Rawat, H.K. (2007). Sociolgy: Basic concepts. New Delhi: Rawat Publications. 39 · Srinivas, M.N. (Ed.) (1996). Caste: Its twentieth century avatar. New Delhi: Viking Penguin</div><div>5. Bee. H. (1995). The Developing Child. Harper Collins</div><div>6. Berk, L. E. (2007). Development through the lifespan. Delhi: Pearson Education</div><div>7. Rice. F. P. (1998). Human Development: A lifespan approach. New Jersey: Prentice Hall.</div><div>8. Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tata McGraw- Hill.</div><div>9. Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient Black Swan</div></div>			

MULTIDISCIPLINARY COURSE – HOME SCIENCE

Part A - Introduction				
Semester	I			
Name of the Course (MDC-1)	Food Safety, Sanitation and Hygiene.			
Course Learning Outcomes (CLO): 1. To learn about the basic concepts of food safety. 2. To identify the causes and prevention procedures for food borne illness, intoxication and infection. 3. To be able to list out common food adulterants in foods and understand the need for consumer education 4. Demonstrate good personal hygiene and safe food handling procedures.				
Credits	Theory	Tutorial	Practical	Total
	2	1	0	3
Contact Hours	2	1	0	3
Max. Marks:75 Internal Assessment Marks: 25 (Attendance-5, Assignment-5, Session Exam-15) End Term Exam Marks: 50 (50 Theory)	Time: 2 hrs (Theory), 1hrs (Tutorial)			
Part B- Contents of the Course				
Instructions for Paper-Setter Seven questions will be set in all. Question No.1 comprising objective/short answer type questions from the entire syllabus, will be compulsory. The remaining six questions will be set taking three questions from each section. The candidates will be required to attempt Q.No.1 & four others selecting two questions from each section. All questions carry equal marks.				
UNIT I 1. Concept and meaning of Food Safety, food adulteration, food hazards. 2. Food poisoning and food infection 3. Naturally occurring and environmental contaminants and food pathogens. Factors affecting food safety through supply chain. 4. Sources of contaminants: Physical, chemical and microbial hazards in different foods.			CONTACT HOURS 12	
UNIT II 1. Basic principles of Food hygiene and Sanitation - Personal and environmental Hygiene. 2. Hygiene aspects of Food handlers- Hygiene aspects in preparation and storage of food dish washing and garbage disposal 3. Safety of leftover foods. 4. Methods of sanitation and hygiene			10	
UNIT III 1. Food Adulteration and Adulterants: Meaning, Methods to identify the presence of adulterants 2. Types of adulteration in various foods-Intentional, incidental and metallic contaminants - Consequences of adulteration			11	
UNIT IV 1. Objectives of developing Food Safety and Standards 2. Current food safety regulations, 2001 3. FSSAI, FSMS, GMP, GHP 4. Statutory and regulatory requirements 5. Certification - HACCP, ISO-22000,FSSC-22000			12	
Part C-Learning Resources 1. Manay, S. and shadak Sharama samy, Food;Factsandprinciples, NewageInternational.(p) publishers,Newdelhi. 2. Mahtab,S,Bamji.S,Kamala Krishnaswamy, Brahmam G.N.V,Text book of Human Nutrition,Third edition, Oxford and IBH publishing co. private limited, NewDelhi. 3. Srilakshmi, B.,2002, Food Science,2 nd edition, New Age International private limited., New Delhi. 4. Swaminadhan ,M.,Advanced TextbookonFoodandNutrition,Vol.1,Second Edition, Bangalore printing and publishing Co.Ltd,Banglore,2012 5. Dietary Guidelines for Indians, ICMR, National Institute of Nutrition 6. Norman Marriott (1999), Principles of Food Sanitation, 4th ed., Sanitation in Food Processing, John A. Troller, 1993, Academic press.				

Minor Course

Course ID : 240/HS/MI101

Part A - Introduction			
Semester	I		
Name of the Course (MIC-1)	Human Physiology		
Course Learning Outcomes (CLO): 1. Students will gain insights about physiological functions of the human body. 2. Students will get an understanding of how all of the body's organ systems interact and function normally. 3. Understand the knowledge about the structural organization of the human body.			
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	1	2	3
Max. Marks:50 Internal Assessment Marks: 10 (05 Theory + 05 Practical) End Term Exam Marks: 40 (20 Theory + 20 Practical)	Time: 1hrs (Theory), 2hrs (Practical)		
Part B- Contents of the Course			
Instructions for Paper-Setter Seven questions will be set in all. Question No.1 comprising objective/short answer type questions from the entire syllabus, will be compulsory. The remaining six questions will be set taking three questions from each section. The candidates will be required to attempt Q.No.1 & four others selecting two questions from each section. All questions carry equal marks.			
UNIT I 1. Animal cell structure 2. Circulatory system – Structure and functions of heart 3. Blood composition, blood coagulation, blood pressure and blood groups 4. Hemoglobin		CONTACT HOURS 4	
UNIT II 1. Digestive System – Structure and functions of various parts of the alimentary canal; Digestion and absorption of food		3	
UNIT III 1. Reproductive System- Structure of female reproductive organ, Menstruation, pregnancy, lactation, and Menopause		4	
UNIT IV 1. Excretory system – Structure and functions of lungs, & skin 2. Functions of endocrine glands– pituitary, thyroid, and adrenal glands.		4	
Practical (30 Hours) 1. Draw a well labelled diagram of: Animal cell, Digestive system, circulatory system, lungs & female reproductive organ. 2. Measurement of Blood pressure and its relevance. 3. Case study of Iron deficiency Anemia, investigations and diagnosis. 4. Preparation of a project on various contraceptive devices. 5. Prepare chart/model of Digestive system and circulatory system. 6. Determination of pulse rate, hemoglobin and blood group.			
Part C-Learning Resources 1. Hygiene and preventive medicine 17th edition(2020) .Yashpal Bedi, CBS Publishers. 2. Textbook of Physiology 7th edition (2017)- A.K Jain. Avichal Publishing Company. 3. Textbook of human anatomy and physiology (2018). D.K Sharma & Sameer Rastogi; Mackingee publishers. 4. Marieb, E (2014). Human Anatomy and Physiology, 10th Edition, Addison-Wesley. 5. Practical Workbook of Human Physiology, K Sri Nageswari and Rajeev Sharma, 2nd Edition 2018 • Textbook of Practical Physiology, G K Pal and Pravati Pal 5th Edition (2020).			

Skill Enhancement Course

Semester	I		
Name of the Course CC-A1	Food Preservation Course Id: 240/HS/SE101		
Course Learning Outcomes (CLO): After completion of the course, the students will be able to: 1. Students will understand the principles of preservation behind methods of preservation. 2. Students will be able to comprehend the stages of cookery in food preservation. 3. Students will gain hands on experience about preparation of various food preservation-based recipes.			
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2	2	4
Max. Marks:75 Internal Assessment Marks: 20 (15 TI + 05 PI) End Term Exam Marks: 55 (35 TE + 20 PE)	Time: 2hrs (Theory), 2hrs (Practical)		
Part B- Contents of the course			

Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt	
Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.	
UNIT I 1. Importance of food preservation 2. Types of spoilage by micro-organisms and enzymes 3. Basic principles of food preservation	CONTACT HOURS 8
UNIT II 1. Methods of drying & dehydration used for preservation for selected products. 2. Role of packaging and storage in preservation.	7
UNIT III 1. Natural Food preservatives – Use of salt, acid, sugar, oil etc. (role and examples) 2. Chemical Preservatives- definition, role, permitted preservatives and FSSAI guidelines.	8
UNIT IV 1. Role of pectin in preserved foods 2. Stages in sugar cookery 3. Process of pickling	7
Practical (30 Hours) 1. Hands on experience in preparation of Jams, Jellies, marmalades, squash and sauces. 2. Hands on experience in pickle making (Mango, lemon, green chilli and mixed vegetables) 3. Hands on experience for preservation by drying technique by making papad and chips. 4. Visit to small scale food preservative making industries.	
Part C-Learning Resources 1. Maney S (2008). Foods, Facts and Principles, 3 rd Edition Published by Wiley Eastern, New Delhi. 2. Usha Chandrasekhar (2002) Food Science and Application in Indian Cookery, Phoenix Publishing House P. Ltd., New Delhi. 3. 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 4. Srivastava R.P. (2012), Fruit and vegetable preservation – Principles and Practices, International Book Distributing Co., (IBDC), New Delhi.	

UGA4: Undergraduate Interdisciplinary (B.Sc. Home Science)

Part A - Introduction			
Semester	II		
Name of the Course CC-ID4	Fundamentals of Nutrition		
Course Learning Outcomes (CLO): After completing this course, the learner will be able to: 1. Understand the relationship between food, nutrition and health. 2. Gain insights about functions of food, basic principles of food groups and balanced diet. 3. Gain insights about functions of various nutrients and their sources & gaining knowledge about clinical manifestations of excess/ deficiency of nutrients.			
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 30 (25 TI + 05 PI) End Term Exam Marks: 70 (50 TE + 20 PE)	Time: 3hrs (Theory), 2hrs (Practical)		
Part B- Contents of the Course			
Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
UNIT I Basic concepts in food and nutrition 1. Basic terms used in study of foods and nutrition. 2. Understanding relationship between food, nutrition and health 3. Functions of food-Physiological, psychological and social 4. Food groups and Food guide pyramid			CONTACT HOURS 07
UNIT II Nutrients : I Functions, dietary sources, RDA and clinical manifestations of deficiency/ excess of the following nutrients: 1. Carbohydrates 2. Proteins and Lipids			14

UNIT III Nutrients : II Functions, dietary sources, RDA and clinical manifestations of deficiency/ excess of the following nutrients: 1. Fat soluble vitamins-A, D, E and K 2. Water soluble vitamins – thiamin, riboflavin, niacin, pyridoxine, folate, vitamin B12 and vitamin C 3. Minerals – calcium, iron and iodine	14
UNIT IV Food Preparation Definition, principles and methods of cooking	10

1. Different methods of cooking, their advantages and disadvantages, fermentation, germination and supplementation 2. Food adulteration and food laws	
<p style="text-align: center;">Practical (30 Hours)</p> 1. Weights and measures. 2. Table setting and table manners 3. Food preparation, understanding the principals involved nutritional quality and portion size of: Beverages, Cereals, Pulses, Vegetables, Milk and milk products, Soups, Baked products, Snacks and salads. 4. Preparation of food items by fermentation and germination.	
Part C-Learning Resources <ol style="list-style-type: none"> Chadha R and Mathur P (eds)(2015). <i>Nutrition: A Lifecycle Approach</i>. Orient Blackswan, Hyderabad. Rekhi T and Yadav H (2014). <i>Fundamentals of Food and Nutrition</i>. Elite PublishingHouse Pvt Ltd., Delhi. Srilakshmi B (2014). <i>Nutrition Science, 6th Edition</i>. New Age International Ltd., Delhi. 	

Part A - Introduction			
Semester	II		
Name of the Course CC-ID5	Extension Education and Communication		
Course Learning Outcomes (CLO): After completing this course, the learner will be able to: 1. Perceive the importance of extension education 2. Acquire knowledge of the extension models and approaches 3. Gain knowledge on the need and importance of communication and its significance in the exchange of information 4. Analyze the models of Communication and the role of media in societal development			
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 30 (25 TI + 05 PI) End Term Exam Marks: 70 (50 TE + 20 PE)	Time: 3hrs (Theory), 2hrs (Practical)		
Part B- Contents of the Course			
Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
UNIT I 1. Extension Education- Meaning, principles, objectives and scope. (Broad and specific) Qualities of Extension Worker 2. Role of extension worker in rural development. 3. Classification of extension teaching methods a. According to form and use b. Advantages and limitations of extension teaching methods			CONTACT HOURS 12
UNIT II 1. 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. 2. Programme planning- Definition, meaning of the programme, planning, steps in programme planning			14
UNIT III 1. Meaning, scope and importance of communication. 2. Elements of Communication and barriers to communication. 3. Models of communication and various types of communication			9
UNIT IV 1. Classification of audio-visual aids- different aids, their scope, advantages and limitations, factors limiting the selection and use of audio-visual aids. 2. Use of radio talks, television, personal talk, conferences, tours, campaigns, village fair			7
Practical (30 Hours) 1. Use of any five non-projected aids to educate rural women on different aspects 2. Use of following software for making IEC material on problems in a rural area: a. PowerPoint presentation b. Microsoft Word/Google Docs. 3. Preparation of puppets as a media of communication. 4. Develop skills and use of following teaching methods: a. Role play b. Puppet Play.			

Part C-Learning Resources <div><div>1. Dahama, O.P and Bhatnagar O.P. (1995). Education and Communication for Development. New Delhi: Oxford and IBH Co.</div><div>2. Gupta,D.(2007).DevelopmentCommunicationinRuralSector.NewDelhi: Mukhopadhyay Abhijeet Publication</div><div>3. Nisha,M.(2006). UnderstandingExtension Education.New Delhi:KalpayPublications</div><div>4. Reddy,A.A.(2001).ExtensionEducation.Bapatla:SriLakshmiPress</div><div>5. RogersEverett,M.(2003).Diffusionof Innovations,5thEd.NewYork:TheFreePress</div><div>6. Singh,U.KandNayak,A.K.(2007).ExtensionEducation.NewDelhi:CommonWealthPublishers</div><div>7. Wilson,M.C.,andGallup,G.(1955).ExtensionTeachingMethods.Washington:US Department of Agriculture</div></div>

Part A - Introduction			
Semester	II		
Name of the Course CC-ID6	Personal Financial Management and Consumer Studies		
Course Learning Outcomes (CLO): After completing the course, the learner will be able to : <div><div>1. Gain knowledge of income, saving and investment management in the changing socioeconomic environment.</div><div>2. Understand the role of consumers in the economy, consumer problems, education and empowerment.</div><div>3. Comprehend issues related to consumer protection, legislative measures and redressal mechanisms.</div><div>4. Understand the schemes and services offered by banks and post offices and learn to fill out various bank and personal income tax forms.</div><div>5. Learn to undertake household food adulteration tests.</div></div>			
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
Max. Marks:100 Internal Assessment Marks: 30 (25 TI + 05 PI) End Term Exam Marks: 70 (50 TE + 20 PE)	Time: 3hrs (Theory), 2hrs (Practical)		
Part B- Contents of the Course			
Instructions for Paper-Setter Nine questions will be set in all. Question No.1 comprising of objective/short answer type questions from the entire syllabus, will be compulsory. The remaining eight questions will be set taking two questions from each unit. The candidates will be required to attempt Q.No.1 & four others selecting one question from each unit. All questions carry equal marks.			
UNIT I Personal Financial Management Income <div><div>1. Types of income, budget, definitions, types, Steps in making a budget, factors affecting budget</div><div>2. Family Savings – Types of savings – Brief knowledge of Bank, Insurance-General and life insurance policies terms and conditions & advantages, provident fund.</div><div>3. Credit- its use, types of credit, and problems in credit.</div><div>4. Taxation - Types. Basic calculation of income tax. Shares and debentures (only introduction).</div></div>			CONTACT HOURS 12
UNIT II Consumer Education <div><div>1. Consumer education- definition, need, objectives, media and the consumer.</div><div>2. Definition and classification of consumer according to age, social class and culture. Role and importance of the consumer in economy.</div><div>3. Consumer markets: types and functions, Market distribution channels. Consumer wants, consumer choice and factors influencing the choice of consumer behaviour.</div></div>			11
UNIT III Consumer Problems and Challenges <div><div>1. Types of consumer problems, causes and remedies.</div><div>2. Consumer buying motives. Guidelines for wise buying practices.</div><div>3. Malpractices and unfair trade practices i.e. adulteration, faulty weights and measures, false advertisement etc.</div><div>4. Buying aids –Labelling-types & labelling as a guide to buying, Branding and its advantages, Packaging-its functions, advantages and problems with packaging. Advertisement – Objectives, advantages and mode of advertising.</div><div>5. Grading and standardization. Definition and advantages, the difference between grading and standardization.</div><div>6. Changing nature of the business world e-commerce and e-business.</div></div>			12

UNIT IV Consumer protection 1. Consumer rights and responsibilities 2. Govt. Laws and Acts for Consumer Protection	10
3. Consumer organizations. Role of Voluntary organization for consumer protection and welfare. 4. Consumer Courts: Redress mechanism	
Practical (30 Hours) 1. Planning of budget for different income groups. 2. Calculation of income tax. 3. Learn about faulty weights and measures 4. Critical Analysis of labels of consumer products and standardized marks. 5. Write the procedure for filing a consumer complaint in practical file. 6. Designing of advertisements. 7. Learning to fill different forms of banks and paste in practical file. 8. To prepare a radio talk on types of food adulteration and detection methods	
Part C-Learning Resources 1. Consumer Economics by Surinder jit Kaur R.K. Lakhi and Joginder Singh 2. Consumerization Pattern in India B.D Gupta Tata Mcgraw Hill 3. Consumer Buying for better living Fitzrimmons C John Wiley & sons Inc. 4. Consumer Behaviors Schiffman Leon Prentice Hall Pub. 5. Mital, M., Sawhney, H. K. (2015). Family Finance and Consumer Studies. New Delhi: Elite Publishing House Pvt. Ltd. 6. Azmi, S.S.H. (1992): Sale Goods and Consumer Protection in India, Deep and Deep Publication, New Delhi. 7. D.N. Saraf (1990): Law of Consumer Protection in India, Tripathy Private Limited., N.M. New Delhi. 8. Gorden R. Foxall (1983): Consumer Macmillan Press Ltd., New York. 9. Gujeet Singh (1996): The Law of Consumer Protection in India, Deep and Deep Publication, New Delhi. 10. Himachalam, D. (1998): Consumer Protection and the Law, APH Publishing Corporation, New Delhi. 11. Jajie Mandana (1977): The Indian Market Place, Guidance to Consumer Education, Bangalore, Bridawan Publishing House, New Delhi. 12. Mehta, S.C. (1993): Indian Consumer: Studies and Cases for Marketing Decisions, New Delhi, Tata McGraw Hill Publishing, New York	

MULTIDISCIPLINARY COURSE – B.Sc. HOME SCIENCE

Part A - Introduction			
Semester	II		
Name of the Course (MDC-2)	Care and Well-being Across Lifespan		
Course Learning Outcomes (CLO): After completing this course, the learner will be able to: 1. Understand about care and well-being at different stages of life. 2. Demonstrate an understanding of one’s health issues / conditions, including prevention and appropriate intervention and treatment when needed. 3. Describe health and wellness programs and services offered, how to access, them and their value to their well-being.			
Credits	Theory	Tutorial	Practical
	2	1	0
Contact Hours	2	1	0
Max. Marks:75 Internal Assessment Marks: 25 (Attendance-5, Assignment-5, Session Exam-15) End Term Exam Marks: 50 (50 Theory)	Time: 2 hrs (Theory), 1hrs (Tutorial)		
Part B- Contents of the Course			