

BOARD OF HOME-SCIENCE STUDIES



FACULTY OF SCIENCE
SYLLABUS FOR
B.Sc. (HOME-SCIENCE) (HONOURS)
As Per NEP – 2020
PROGRAMME - SEMESTER- 7 & 8
(General Home Science & Food and Nutrition)
EFFECTIVE FROM JUNE, 2023

Programme Objectives

- **To provide comprehensive knowledge**
of Home Science disciplines including Nutrition, Human Development, Textiles & Clothing, Family Resource Management, and Extension Education.
- **To develop scientific understanding**
Of food, nutrition, health, and human physiology for improving individual, family, and community well-being.
- **To enhance practical and life skills**
Related to food preparation, meal planning, budgeting, textile care, child care, and household management.
- **To promote awareness of health, hygiene, and sustainable living,**
enabling students to adopt and advocate healthy lifestyles.
- **To empower women through education**
By developing self-reliance, leadership qualities, and decision-making skills.
- **To encourage community engagement and social responsibility**
through extension activities, nutrition education, and rural/urban outreach programs.
- **To build employability and entrepreneurial skills**
In areas such as dietetics, food processing, apparel design, child care services, and community development.
- **To prepare students for higher education and research**
In Home Science and allied interdisciplinary fields.
- **To foster ethical values, professionalism, and social sensitivity**
relevant to family and societal development.
- **To align education with national priorities**
Such as nutrition security, women empowerment, health awareness, and sustainable development.

Programme Outcomes

PO1. Disciplinary Knowledge

Demonstrate comprehensive knowledge of core areas of Home Science such as Nutrition, Human Development, Textiles & Clothing, Family Resource Management, and Extension Education.

PO2. Scientific and Analytical Skills

Apply scientific principles and analytical skills to solve problems related to food, nutrition, health, child development, and family welfare.

PO3. Practical and Technical Skills

Perform practical skills in food preparation, nutritional assessment, textile construction, child care practices, and household management.

PO4. Health and Nutrition Awareness

Promote health, hygiene, balanced diets, and healthy lifestyles at individual, family, and community levels.

PO5. Communication and Extension Skills

Communicate effectively and conduct awareness programmes, demonstrations, and extension activities for community development.

PO6. Employability and Entrepreneurship

Acquire skills for employment and self-employment in areas such as dietetics, food processing, apparel designing, child care services, NGOs, and community-based organizations.

PO7. Ethical Values and Social Responsibility

Exhibit ethical behaviour, social sensitivity, and responsibility towards family, society, and the environment.

PO8. Gender Sensitization and Empowerment

Develop awareness of gender equity, women empowerment, and inclusive social development.

PO9. Lifelong Learning and Higher Education

Pursue higher education, research, and lifelong learning in Home Science and allied disciplines.

PO10. Sustainability and Environmental Awareness

Adopt sustainable practices in food, textiles, resource management, and lifestyle choices

Course Outcomes (COs)

Core Course 1: Food & Nutrition

After completing this course, students will be able to:

- CO1: Explain the basic concepts of nutrients and their functions in the human body.
- CO2: Plan balanced diets for different age groups and physiological conditions.
- CO3: Apply principles of food safety, hygiene, and food preservation.
- CO4: Perform practical skills related to cooking methods and nutrient retention.

Core Course 2: Human Development

- CO1: Describe growth and development across the life span.
- CO2: Analyse physical, cognitive, emotional, and social development.
- CO3: Apply child care and guidance principles in family and institutional settings.
- CO4: Identify developmental challenges and appropriate interventions.

Core Course 3: Textiles & Clothing

- CO1: Identify natural and synthetic textile fibres and fabrics.
- CO2: Explain yarn and fabric construction techniques.
- CO3: Apply clothing selection, care, and maintenance principles.
- CO4: Demonstrate basic garment construction skills.

Core Course 4: Family Resource Management

- CO1: Explain principles of resource management in the family.
- CO2: Apply budgeting, time, and energy management techniques.
- CO3: Analyse housing, interior design, and ergonomics concepts.
- CO4: Promote sustainable and efficient household practices.

Core Course 5: Extension Education / Community Nutrition

- CO1: Explain the role of Home Science in community development.
- CO2: Plan and conduct nutrition and health awareness programmes.
- CO3: Use communication tools and extension methods effectively.
- CO4: Evaluate community needs and propose appropriate interventions.

Core Course 6: Food Science / Food Processing

- CO1: Describe physical, chemical, and microbiological properties of foods.
- CO2: Apply food processing and preservation techniques.
- CO3: Understand quality control and packaging methods.
- CO4: Develop value-added food products.

Skill Enhancement / Value-Added Courses

- CO1: Develop vocational and entrepreneurial skills related to Home Science.
- CO2: Apply practical knowledge for self-employment and income generation.
- CO3: Demonstrate teamwork, leadership, and communication skills.

Project / Internship / Field Work

- CO1: Apply theoretical knowledge to real-life situations.
- CO2: Conduct basic surveys, data collection, and report writing.
- CO3: Demonstrate professional ethics and social responsibility.

SEMESTER – 7

GENERAL HOME SCIENCE



BHAKT KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH
SCHEME FOR CONTACT HOURS AND EXAMINATION SETUP - FOR SEM. 7
EFFECTIVE FROM – JUNE -2026 – STRUCTURE PROGRAMME

Summary of the Syllabus – General Home Science

Sem . No.	Sr. No .	Category Of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
Sem-7 General Home Science	1	Major-17	Maternal Health and Nutrition	6	4 (3+1) = 5	75	50	50	100	2
	2	Major-18	Residential Interior Space Design	6	4 (3+1) = 5	75	50	50	100	2
	3	Major-19	Advance Physiology	6	4 (3+1) = 5	75	50	50	100	2
	4	Minor-07	FN - 7.1 Food Service Management	6	4 (3+1) = 5	75	50	50	100	2
			FRM -7.2 Consumer Information And Redressal							
			CT - 7.3 Appreciation of textile craft							
			HD - 7.4 Geriatric Care							
			EDEX - 7.5 Gender Media And Society							
	5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6	60				
			or							
		Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6	60				
			or							
		MDSC-1	Food safety and Quality Control	6	4 (3+1) = 5	75	50	50	100	2
		MDRC - 1	Research Methodology - 1	6	2	30	25	25	50	1
		Total			22					

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks –SEE	50
Programme	UG		External Marks – CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-17		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2.Hours
Course Title	Maternal Health and Nutrition			
COURSE OBJECTIVE :-				
1. Provide comprehensive knowledge of maternal physiology, reproductive health, and nutritional needs during different stages of pregnancy.				
2. Develop understanding of nutritional requirements and dietary planning during pregnancy and lactation.				
3. Create awareness about maternal malnutrition, anaemia, gestational diabetes, and other pregnancy-related disorders.				
4. Familiarize students with maternal health programs, policies, and guidelines for improving maternal and child health.				
COURSE OUTCOMES :-				
1. Explain the physiological and nutritional changes occurring during pregnancy and lactation.				
2. Identify nutritional requirements of women at various stages of reproduction including preconception, pregnancy, and lactation.				
3. Plan and recommend balanced diets suitable for pregnant and lactating women based on socioeconomic and cultural factors.				
4. Apply knowledge of national and international maternal health programs in real-life community and clinical settings.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	INTRODUCTION TO PREGNANCY			15
	• Meaning and importance			
	• Physiological and biochemical changes			
	• Stages of pregnancy			
	• Milestones of foetal development			
	• Factors affecting festal development Factors affecting foetal development			
	• Complications in foetal development			
	• Adolescence pregnancy			
	• Process of birth			

UNIT – 2	NUTRITION DURING PREGNANCY • Importance of Nutrition before pregnancy • Nutritional requirement and its importance in pregnancy • Balanced diet in pregnancy • Dietary management in pregnancy • Required test and importance of regular check-up during pregnancy	15
UNIT - 3	NUTRITION DURING POST PREGNANCY AND LACTATION • Importance of electrician • Importance of colostrum • Nutritional requirement of lactating women • Composition of mother's milk • Management of breastfeeding • Complications in breastfeeding • Breastfeeding in special conditions	15
UNIT - 4	COMPLICATIONS IN PREGNANCY AND GOVERNMENT PROGRAMS AND GOVERNMENT PROGRAMS RELATED TO IT A - nutritional problems- Anaemia, Preeclampsia, Gestational diabetes, HIV B - Programs : • ICDS • POSHAN ABHIYAN • PRADHANMANTRI MATRU VANDANA YOJANA • PRADHANMANTRI SURAKSHIT MATRUTVA ABHIYAN • MISSION INDRADHANUSH • CHIRANJEEVI YOJANA • JANANI SURAKSHA YOJANA • JANANI SHISHU SURAKSHA YOJANA	15
PRACTICALS – 15 HRS		
1. Prepare one day meal planning for pregnant women. 2. Prepare list of nutrition rich dishes for pregnant women. 3. Prepare one day meal planning for lactating women. 4. Conduct survey and collect information regarding nutritional and health status of pregnant women in your area and prepare its report. 5. Collect information on government schemes and programs related to pregnant women.		

Suggested Reading & Reference Online Sources

1. International Food Policy Research Institute (1997). Care and Nutrition: Concepts and Measurement. International Food Research Institute Washington DC., USA.
2. International Child Health: A Digest of Current Information.
3. Barker, D.J.P. (1998). Mothers, Babies and Health in Later Life. Edinburgh, Churchill Livingstone
4. Ward, R.H.T; Smith, S.K. Donnai, D. (Eds.) (1994) Early Fetal Growth and Development. London, RCOG Press.
5. Sachidev, IIPS and Choudhary, P. (1995), Nutrition in Children Developing Country Concerns. Cambridge Press, New Delhi.
6. King, F.S. (1992). Helping Mothers to Breastfeed Association for Consumers Action on Safety and Health, Mumbai.
7. Wallace, H.M. and Giri, K. (1990). Health Care of Women and Children in Developing Countries. Third Party Publishing Co. Oakland.
8. Tanner, J.M. (1988) Foetus into Man: Physical Growth from Conception to Maturity. Weaton and Co. Ltd., Great Britain.
9. Luke, B. Johnson, T.R.B.; Petrie, R.H. (1993). Clinical Maternal Fetal Nutrition. Little Brown and Co. Boston
10. ACC / SCN Reports.
11. WHO (1999) Nutrition for Health and Development: Progress and Prospects on the Eve of the 21th Century. WHO / NHD /99.9. Geneva.
12. Alderman, H; Behrman, J.; Lavy; Menon, R. (1997) Child Nutrition, Child Health and School Enrollment. Policy Research Working Paper 1700. Washington DC. World Bank
13. Rajpura.,M.R. (2012).Maternal and Child Nutrition. Jaipur:Arravali Prakashan

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks- CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-18		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2.0Hours
Course Title	Residential Interior Space Design			
COURSE OBJECTIVE :-				
- To understand the factors influencing residential space design for optimum comfort and functionalism. - To understand the aesthetical concept in designing the interior - To develop skill and understanding of adequate facility for work, relaxation, rest, comfort, privacy, care, aesthetics etc. through interior space designing. - To study the materials along with fittings and fixtures used in residential interiors. - To develop skills of drawing the working details and execution drawings.				
COURSE OUTCOMES :-				
- After completing the course, students will be able to: - Understand the fundamentals of residential interior design, including design elements, principles, and space planning. - Analyse factors influencing the furnishing of residential interiors and select appropriate furnishings based on functionality, aesthetics, and maintenance requirements. -Apply design considerations such as orientation, circulation, privacy, lighting, ventilation, flexibility, roominess, services, and cost while planning residential spaces. - Demonstrate knowledge of furniture design principles and identify different types of furniture suitable for various residential interiors. - Evaluate and incorporate current trends, materials, finishes, and technologies in interior design to create modern and sustainable residential environments. -Prepare residential floor plans, furniture layouts, lighting plans, and design portfolios using manual drafting and/or computer-aided design techniques.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	In-depth understanding of residential interior space design from design point of view.			15
1.1	Space Planning and Functional Zoning			
1.2	Aesthetics and Visual Composition			
1.3	Lighting and Environmental Quality			
1.4	Human-Cantered Design and User Experience			

UNIT – 2	Study of factors influencing furnishing of residential interior spaces. Their use & care.	15
2.1	Functional Requirements	
2.2	Aesthetic Considerations	
2.3	Material Selection and Durability	
2.4	Care and Maintenance of Furnishings	
UNIT - 3	Factors to be considered while designing.	15
3.1	Space Planning and Circulation Grouping of users' areas, circulation between spaces, flexibility, and privacy.	
3.2	Environmental Considerations Orientation, light and ventilation, and provision of services.	
3.3	Aesthetics and Spatial Quality Roominess (spaciousness), aesthetics, and overall visual appeal.	
3.4	Furniture Design and Cost Considerations Basics and types of furniture design, furniture selection, and budget/cost factors.	
UNIT - 4	Current Trends in Interior Design	15
4.1	Sustainable and Eco-Friendly Design	
4.2	Smart Home Integration	
4.3	Biophilic Design	
4.4	Minimalist and Multifunctional Spaces	
PRACTICALS - 15 HRS		
1 Residential floor plan. (Graph paper)		
2 Floor plan with Furniture. (Drawing sheet/Computer)		
3 Project work: New trends in Interior Designing portfolio – Any one (Different types of Laminates, Tiles, Shades of paints, Wall covering materials, Floor covering materials, Fitting and Fixtures, Types of Curtains, Windows)		
4 Use of Lighting in Interior.		
Suggested Reading & Reference Online Sources		
1. Alexander, N.J. Mercoust Brace (1972): Designing Interior Environment. Havanovich Inc.		
2. Ball, Victoria K 1655 (1980): The Art of Interior Design. Mc Millan & Co., New York.		
3. Bhatt, P.D., Goenka S. (1990): Foundation of Arts Design, Ikhari Book Depot, Bombay.		
4. Butler Margaret G.E. Grecks Benyl S. (1980): Fabric Furnishing, E.T. Badsford Ltd., London.		
5. Chudley, R. (1987): Construction Technology Vol. 1-2 1-IBS Long man Ltd., new York.		
6. G.V. Robert (1983): Rendering with Pen + Ink. Thames, Hudson, London		
7. Gustafsan Karen and Yes Robert (1983): Corporate Design, Thomas and Hudson, London.		
8. Grandjean Ettiens (1978): Ergonomics of the Home, Taylors and Fracis Ltd., London		
9. Grandjean Ettieens (1979): Human Dimensions and Interior Space Whitney, New York.		
10. Laoch, Sid Del har, Techniques of Interior Design, Rendering and Presentation, McGraw Hill, New York.		
11. Leinbac (1986): Visualization Techniques, McMillan (Prentice hall), new Jersey.		
12. Rangwala, N. Building Materials.		
13. Encyclopedia of Interior Design.		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks -SEE	50
Programme	UG		External Marks- CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-19		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 .Hours
Course Title	Advance Physiology			
COURSE OBJECTIVE :-				
1. Advance their understanding of scope of the relevant issues and topics Of human physiology.				
2. Enable the students to understand the integrated function of all Systems and the grounding of nutritional science in physiology.				
3. Understand alterations of structure and function in various organs and systems in disease conditions				
COURSE OUTCOMES :-				
• After successful completion of the course, the learner will be able to: • Explain the concept of homeostasis and the role of body systems in maintaining internal balance. • Describe mechanisms of body temperature regulation and physiological responses to heat and cold. • Analyse the composition and functions of blood, cardiovascular regulation, and factors influencing blood pressure. • Explain reproductive physiology including gametogenesis, pregnancy, fetal development, parturition, and lactation. • Describe the structure and function of neurons and the mechanism of nerve impulse transmission. • Identify and interpret abnormal constituents of urine in relation to physiological health.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Homeostasis • Concept of Homeostasis • Role of Body system in maintaining Homeostasis			15
UNIT - 2	Body temperature, Temperature Regulation • Normal Body Temperature • Heat Production& Heat loss • Regulation of Body Temperature			15
UNIT - 3	Blood • Composition of blood • Plasma, plasma proteins and its functions • Blood cells – Types and functions • Coagulation of blood • Blood group & Rh factor • Structure of heart, junctional tissue & its regulation • Blood pressure & factors affecting blood pressure			15

UNIT – 4.1	Reproductive System • Types and Structure of Chromosome, Karyotype • Spermatogenesis and ogenesis • Pregnancy- development of fertilized ovum up to placental stages • Different stages of development of fetus. • Parturition –different stages of labour • Structure of breast- lactation & secretion of milk	15
4.2	Nervous System • Types of neurons • transmission of nerve impulse in nerve fibers & synapse	
PRACTICALS - 15 HRS		
1 Demonstration of barr body 2 Blood group and Rh –factor 3 Estimation of Haemoglobin 4 Total count of WBC and RBC 5 Differential count of WBC 6 Measurement of blood pressure (After Exercise & during rest) 7 Abnormalities of urine- sugar, protein, bile salt, ketone bodies & blood 8 Measurement of body temperature and pulse rate (After Exercise & During rest) 9 Study of permanent slides different organs of System - Digestive, Respiratory, Circulatory, Reproductive, Endocrine and Nervous.		
Suggested Reading & Reference Online Sources		
1 Human physiology – C.C.Chatterjee 2 Human Physiology – Agrawal 3 Text book of Medical Physiology – Guyton 4 Essentials of Medical Physiology- By- K Sembulingam ; Prema Sembulingam Jaypee Brother Medical Publishers Ltd 5 Essentials of Medical Physiology- Guyton sanders, Oxford University, London 6 Human Physiology-By C.B. Fox		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2. Hours
Course Title	FN / Food Service Management			
COURSE OBJECTIVE :-				
- To understand the principles and scope of food service management. - To acquire skills in menu planning, quantity food production, and food service operations. - To develop competencies in managing resources, personnel, and finances in food service establishments. - To ensure food safety, hygiene, and quality standards in food service systems. To foster entrepreneurship and professional leadership in the food service industry.				
COURSE OUTCOMES :-				
Upon successful completion of the course, students will be able to:				
- Explain the concepts, scope, organization, and management principles of various food service establishments. - Plan nutritionally balanced and cost-effective menus and apply principles of quantity food production and recipe standardization. - Demonstrate competence in procurement, storage, inventory management, and cost control practices in food service operations. - Apply principles of facility planning, equipment management, human resource management, and customer service in food service settings. - Implement food safety, sanitation, quality assurance, and sustainability practices in commercial and institutional food service systems. - Develop entrepreneurial and managerial skills for establishing, operating, and evaluating food service enterprises.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Food Service Management			15
1.1	History and Development of Food Service System			
1.2	Objectives and functions of Food Service organization			
1.3	Importance of Food Service System			
1.4	- Types of food service establishments: - Commercial food services - Institutional food services - Transport catering - Outdoor catering - Fast-food and specialty restaurants			

UNIT - 2	Menu Planning and Food Production Management	
2.1	Meaning of menu Planning Principles of menu planning	
2.2	Types of menus: • À la carte • Table d'hôte • Cyclic menu • Static menu	15
2.3	Factors Affecting Menu Planning	
2.4	Quantity food production	
UNIT - 3	Food Management – Records and Controls	
3.1	Food Management – Records and Controls	
3.2	Types of Records • Purchase records • Store records (inventory) • Production records • Sales records	15
3.3	Cost Control in food production • Food cost control • Labour cost control • Waste control • Budget monitoring	
3.4	Importance of Records and Control	
UNIT - 4	Delivery and Service – Styles	
4.1	Meaning of Food Service system and Styles	
4.2	Types of Service Styles • Table service • Buffet service • Self-service • Counter service	15
4.3	Characteristics of Good Service	
4.4	Importance of Service Styles	
	PRACTICALS	
1	Menu Planning Preparation Any one event: • Social event/functions • School meal program • Hospital diet service • Industrial canteen • Restaurant service	

2	Food Service Record Maintenance Preparing: • Daily purchase record • Inventory (store) record • Sales record • Waste record
3	Cost Control Exercise • Calculating cost per dish • Raw material price list • Steps to maintain minimal Waste • To plan production according to Budget
4	Service Styles Demonstration • To demonstrate Table service and buffet service • Process of Order taking and serving • Practice of Customer handling • Follow of Hygiene and serving etiquette
REFERENCE	
1. West, Wood & Harger – <i>Food Service in Institutions</i> .	
2. Sethi Mohini – <i>Institutional Food Management</i> .	
3. June Payne-Palacio & Monica Theis – <i>Introduction to Foodservice</i> .	
4. Marian C. Spears – <i>Foodservice Organizations: A Managerial and Systems Approach</i> .	
5. FSSAI Manuals on Food Safety and Hygiene.	

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.2		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2. Hours
Course Title	FRM / Consumer information and Redressal			
COURSE OBJECTIVE :-				
- To equip and impart knowledge on consumer related facts and issues - To develop awareness about consumer rights and responsibilities - To understand laws related to consumer protection - To enable students to make informed consumer decisions - To familiarize students with redressal mechanisms and procedures				
COURSE OUTCOMES :-				
Upon successful completion of the course, students will be able to:				
- Explain the concepts, rights, responsibilities, and protection mechanisms available to consumers in the marketplace. - Interpret consumer protection laws, policies, and institutional frameworks established for safeguarding consumer interests. - Evaluate sources of consumer information, product labels, standards, certifications, and quality assurance marks for informed decision-making. - Demonstrate the procedures for filing consumer complaints and seeking redressal through appropriate consumer dispute resolution mechanisms. - Develop awareness and advocacy skills to promote consumer education, ethical consumption, and responsible consumer behaviour.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Consumer Movement and Protection			
1.1	- Consumer movement - Concept and meaning of consumer - Evolution of consumer movement (Global and India) - Origin and growth - Consumer problems: Adulteration, unfair trade practices (Hoarding and black marketing), misleading advertisements.			15
1.2	Consumer protection - Objectives and need for consumer protection. - Legal problems in buying and paying for goods and services. - Consumer representation, Govt. agencies, consumer organization, legal cells in industries, public interest legislation.			

	• Quality control and standardization - national and global	
UNIT - 2	Consumer Information AND Consumer Rights and Responsibilities	
2.1	A. Consumer information: • Sources of consumer information: advertisements (print, electronic media), labels, packages. • Buying aids: Quality marks: ISI, Agmark, ISO, FSSAI, Hallmark, Bureau of Indian Standards. • Consumer education and awareness programs	15
2.2	B. Consumer Rights and Responsibilities: • Consumer rights: • Right to safety • Right to be informed • Right to choose • Right to be heard • Right to seek redressal • Right to consumer education	
2.3	• Consumer responsibilities: • Critical awareness • Action against complaints • Social responsibility • Environmental responsibility	
UNIT - 3	Consumer Protection Laws: • Consumer protection laws: Consumer Protection Act (COPRA), 1986, 2019. • Consumer organizations: - Consumer Guidance Society, CERC (Consumer Education and Research Centre). • E-commerce and consumer protection	15
UNIT - 4	Consumer Redressal Mechanism • Redressal mechanisms: Three-tier redressal system: 1. District Consumer Disputes Redressal Commission 2. State Consumer Disputes Redressal Commission 3. National Consumer Disputes Redressal Commission • Procedure for filing a complaint: Drafting, Documentations and Appeal • Alternative Redressal Systems: ➤ Verbal and written complaints ➤ Media connected services ➤ Third party assistance - Arbitrator, ombudsman ➤ Institutional assistance: Ex. NGOs ➤ Lok Adalats	15

PRACTICALS – 15 HRS

1. Consumer Complaint Drafting/ Preparation of complaint letters

- Prepare a complaint against: (Any one)
 - Defective product
 - Online shopping fraud
 - Misleading advertisement
- Include:
 - Bill/invoice (sample)
 - Description of problem
 - Relief sought

2. Label Analysis of Consumer Products/ Label reading and product comparison

- Select 2–4 packaged products (food/cosmetics)
- Study:
 - Ingredients
 - MRP
 - Manufacturing/expiry date
 - Certification marks (ISI, AGMARK, FSSAI, Hallmark)
- Compare brands and conclude which is better

3. Advertisement Analysis

- Collect 2–3 advertisements
- Identify:
 - False claims
 - Emotional appeal
 - Hidden information
- Suggest whether it is misleading or ethical

4. Comparative Market Survey

- Compare same product from different shops/brands
- Check:
 - Price variation
 - Quality
 - Packaging
- Suggest best buy

REFERENCE

1. D.N. Saral (1990): Law of consumer protection in India, Tripathy Private Limited, N.M.New Delhi
2. Gurjeet Singh (1996): The Law of Consumer Protection in India, Deep and Deep Publication, New Delhi.
3. Jajie Mandana (1977): The Indian Market Place, Guidelines to Consumer Education, Bangalore, Brindawan Publishing House, New Delhi.
4. Gaden R.Foxall (1983): Consumer Choice, Macmillan Press Ltd, New York
5. Mehta S.C.(1993): Indian Consumers: Studies and Cases for Marketing Decisions, New Delhi. Tata McGraw Hill Pub, New York.
6. Himachalam, D. (1998): Consumer Protection and the Law, AHP Publishing Corporation, New Delhi.
7. Sherlikar, S.A. Trade Practice and Consumer Protection. Himalaya Publishing House, Mumbai.
8. Gulshan, S.S.(1994): Consumer Protection and Satisfaction, Wiley Eastern Ltd, Mumbai.
9. Azmi S.S.H.(1992): Sale Goods and Consumer Protection in India, Deep and Deep Publications, New Delhi.
10. Seelharaman, P. and Sethi, M. (2001): Consumerism: Stretegies and Tactics, CBS Publishers, New Delhi.
11. Sethi, M. and Seetharaman, P. (1994): Consumerism: A Growing Concept, Phoenix Publishers, New Delhi.

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.3		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2. Hours
Course Title	CT / Appreciation of textile craft			
COURSE OBJECTIVE :-				
- To understand the concept, types, and significance of textile crafts. - To study traditional and modern textile techniques and materials. - To analyze the cultural and economic role of crafts in society. - To develop knowledge of marketing and promotion of textile crafts.				
COURSE OUTCOMES :-				
- Students will be able to identify and classify different textile crafts. - Students will understand various techniques and materials used in textile crafts. - Students will evaluate the cultural and economic importance of crafts. Students will gain basic skills in marketing and promoting textile products.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Craft			15
1.1	Meaning and Definition of Crafts			
1.2	History and Development of Crafts			
1.3	Role and Responsibilities of a Craftsperson			
1.4	Philosophy and Aesthetics of Indigenous and Contemporary Textile Crafts			
UNIT - 2	Textile Crafts			15
2.1	Types-traditional and modern			
2.2	Materials fiber, yarn, fabric and products			
2.3	Traditional Textile Decoration Techniques Traditional Needle Craft Techniques – Kashida, Kasuti, Kantha, Chikankari, Kutchi Work, Phulkari Dyed, Painted and Printed Textiles – Kalamkari, Bandhani, Ikat, Pichwai, Ajrakh, Bagru			
2.4	Traditional Textile Craft Woven Saris of India-Brocades, Jamdani, Baluchar, Paithani, Chanderi, Kanjeevarams Shawls and Carpets of various centres			

UNIT – 3	Cultural and Economic Empowerment through Crafts	15
3.1	Textiles crafts in national economy	
3.2	Cultural Preservation	
3.3	Income Generation	
3.4	Women & Rural Empowerment	
UNIT - 4	Marketing and Promotion of Textile Crafts	15
4.1	Role of Marketing in Crafts	
4.2	Branding and Packaging	
4.3	Role of Exhibitions and Fairs	
4.4	Digital Promotion	
PRACTICALS – 15 HRS		
1	Traditional techniques- Bandhej & Laharia Make a Home Textile Product using Bandhej & Laharia Techniques	
2	Traditional Needle Craft Techniques – Embroidery Develop bags, pouches, yokes, or borders using embroidery techniques for a desired product	
3	Painted and Printed Textile Techniques Study and demonstration of painted and printed textile techniques including Kalamkari, , Ikat, Pichwai, Ajrakh and Bagru (block printing/mud resist printing)	
4	Visit to craft centre/museum	
REFERENCE		
1.Balfour, A. & Irwin, J. – Indian Textiles: Past and Present		
2.Chishti, Rta Kapur – Saris of India		
3.Chattopadhyay, Kamaladevi – Handicrafts of India		
4.Dhamija, Jasleen – Handwoven Fabrics of India		
5.Gillow, John & Barnard, Nicholas – Traditional Indian Textiles		
6.Goswamy, B.N. – Indian Costumes in the Collection of the Calico Museum of Textiles		
7.Laila Tyabji – Craft Traditions of India		
8.Singh, Martand – Indian Textiles		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.4		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2. Hours
Course Title	HD / Geriatric Care			
COURSE OBJECTIVE :-				
Understand the basic concepts of aging and gerontology. To study the biological, psychological, social and economic aspects of aging. Gaining an understanding of various theories of aging. To know the health and welfare related needs of the elderly. To develop sensitivity and sense of service towards the elderly.				
COURSE OUTCOMES :-				
Will be able to explain the basic concepts of aging and elderly care. Will be able to analyse the various changes that occur in old age. Will be able to explain the main principles of aging. Will be able to identify the problems and needs of the elderly. Will be able to provide information about elderly welfare schemes and services. Will be able to conduct practical work related to the elderly (Case Study, Survey). Will be able to suggest solutions for healthy and active aging.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Aging			15
1.1	The concept of aging- Successful Ageing, , Active Ageing, Healthy Ageing and Symptoms of old age			
1.2	Emergence and Scope of Gerontology and Elderly Care.			
1.3	Historical Perspective of Elderly - The situation of aging in ancient Indian society, The situation of aging in modern Indian society			
1.4	Demographic Trends in India - Elderly			
UNIT - 2	Theoretical perspectives and different theories of Aging			15
2.1	Theoretical Perspectives			
2.2	Different Perceptions of Elderly			
2.3	different theories of Aging			
UNIT - 3	Aging Process and Lifestyle Management			15
3.1	Changes/problems of old age - Physical changes, Changes in cognitive development, Changes in mental health, Social problem, Occupational Problem, Common health/ medical problems			
3.2	Causes and remedies for aging problems			

3.3	Social Aspects Role of the elderly in the family / Changing family roles Family dynamics- Status of the elderly in joint and divided families, Intergenerational relations Marital and personal life - Changes in husband-wife relationships, Widowhood and coping with it, Single life and its challenges, Emotional adjustment	
3.4	Lifestyle management Physical Health Management, Nutritional Management, Mental Health Management, Social Life Management, Financial Management	
UNIT - 4	Elderly Welfare Services and Policies	15
4.1	Elderly Welfare Programs	
4.2	Policies	
4.3	Laws	
4.4	Social Security for Elderly	
PRACTICALS – 15 HRS		
1	Case study of an elderly person	
2	Old Age Home Visit	
3	Elderly Health Survey	
4	Study of the relationship between family and the elderly	
5	A Study of Old Age Welfare Schemes	
6	Organizing awareness programs for the elderly (any one) Lectures, Poster Exhibitions, Health Checkup Camps, Yoga and Meditation Sessions etc..	
REFERENCE		
Aiken ,L.R.(1978).The psychology of later life,Philadephia:WB Sauders Company.		
Blau, Zana Smith(1983)Old age in Changing Society,New YorkNew View Prints		
Chowdhery Paul D.(1992)Aging and the aged.New Delhi:Inter india Pub.		
Cook Alicia Skinner(1983)Contemporary Perspectives on Adult Development and Aging. New York:Macmillon		
Ghosh, B.(1988).Contemporary Social Problems in India,Bombay:Himalaya Publishing.		
Kennedy Carroll(1988).Human Development. NewYork : Macmillon.		
Kimmel Dougals (1974).Adulthood and Aging. New York:Wiley.		
Pinkston,P.H.. and N.K. Linsk(1984). Care of the Elderly:A family approach.New York:Pergamon press.		
Sharma,M.L.&T.M. Dak(1987).Aging in India:Challenge for the Society. Delhi:Janta Publishing.		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.5		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2. Hours
Course Title	ED EX / Gender media and society			
COURSE OBJECTIVE: -				
1.Deconstruct the social, cultural, and historical structures that shape gender roles, identities, and inequalities. 2. Analyse the relationship between gender dynamics, human development indicators, and socio-economic participation. 3. Evaluate the critical role of mainstream and digital media in both perpetuating and challenging gender stereotypes. 4. Examine legal frameworks, human rights instruments, and advocacy strategies designed to promote gender mainstreaming and women's empowerment.				
COURSE OUTCOMES: -				
1: Conceptual Clarity & Theoretical Application (Understand & Apply) Differentiate between the biological concepts of sex and the social constructs of gender, and apply major feminist theories to critique past and present patriarchal structures. 2: Development Data Analysis (Analyse & Evaluate) Critically evaluate global and national development indicators to measure gender differentials in health, education, economic participation, and leadership. 3: Media Literacy & Deconstruction (Analyse) Deconstruct mainstream media narratives, images, and advertisements to identify how they perpetuate gender stereotypes, shape reality, and influence public perception. 4: Legal & Ethical Literacy (Apply & Evaluate) Appraise constitutional provisions, human rights frameworks, and access-to-information laws protecting women, while applying strict gender-ethical guidelines to media and ICT practices. 5: Research & Advocacy Application (Create & Demonstrate) Design and execute gender-based research projects, audit media content for representation, and draft professional field reports analysing the impact of women-led development organizations (e.g., SEWA).				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Social construction of Gender			15
1.1	Concept of gender, Differences between sex and gender, Patriarchal social order and status of women			
1.2	Socio Cultural practices influencing women’s status development Shifts in Status of women – historical and contemporary perspectives			
1.3	Feminist theories and perspectives			
1.4	Role of Media in construction of gender			
UNIT - 2	Gender and Development			15
2.1	Concept of Gender and Development – Indicators of human and gender Development			
2.2	Approaches to women’s participation in development			
2.3	Status, issues and challenges in context to violence against women,			
2.4	Gender differentials: Women and health, women and education, women’s work and economic participation, women and leadership 51 - Legal provision for women’s rights			

UNIT – 3	Gender and Media	15
3.1	Social construction of gender reality by contemporary media - Media and perpetuation of gender stereotypes: Rhetoric of the image, narrative	
3.2	Mainstream media and gender - Representation of women in media in political, cultural and social landscape	
3.3	Researching and analysing media from a gender perspective: In broadcast print, new media	
3.4	Gender and ICTs	
UNIT - 4	Gender, Law and Advocacy	15
4.1	Human rights and right to development	
4.2	Women, Human Rights and Women’s right to access information	
4.3	Framework for gender responsive media and gender mainstreaming	
4.4	Gender and media ethics	
	PRACTICALS - 15 HRS	15
1	Analysis of gender differentials using development indicator	
2	Gender based analysis of media with special reference to portrayal of women.	
3	Case studies for programmes and campaign for women’s development.	
4	To Know and write a report on any one Organization: ‘Run by Women and Work for Women’. e.g. SEWA, -self-employed woman association / or any One	
5	List the yojana and its benefits of Government of India for the Girls /women	
6	List the yojana and its benefits of NON-Government of India for the Girls /women	
REFERENCE		
1.Bhasin, Kamla (2000). Understanding Gender. New Delhi. Kaali for Women.		
2. Goel, A, Kaur, A and Sultana, A (2006). Violence against women: Issues and Perspectives. New Delhi, Deep& Deep Publishers		
3.Sohoni, K Neeraja, (1994), Status of Girls in Development Strategies, New Delhi, Har Anand Publications.		

SEMESTER – 7 GENERAL HOME SCIENCE									
Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
		or							
	Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
		or							
	MDSC – 1	Food Safety And Quality Control	6	4(3+1)=5	75	50	50	100	2 HRS
	MDRC- 1	Research Methodology	6	(2+0)=2	60	25	25	50	1 HRS

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	MDSC - 1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Food Safety And Quality Control			
COURSE OBJECTIVE :-				
Upon successful completion of this course, the student will be able to:				
1. Understand and explain the fundamental concepts of Quality Assurance and Food Safety Assurance and their significance in the food industry.				
2. Identify and apply the components of a Quality Assurance Programme, including quality planning, documentation, process control, HACCP, hygiene practices, and corrective actions.				
3. Develop competence in product evaluation through appropriate sampling techniques, interpretation of international and national food standards, and differentiation between mandatory and voluntary standards.				
4. Analyse raw and processed foods for nutritional quality and adulteration using standard nutrient analysis and adulterant testing methods.				
5. Recognize the role of food quality control in consumer protection, including food safety regulations, labelling, and safeguarding consumer rights.				
COURSE OUTCOMES :-				
This Course will enable students to:				
1: Know the importance of quality assurance in food industry.				
2: Know the various tests and standards for quality assessment and food safety.				
3: Know the various test used to detect food adulterants				
4: Be familiar with the fundamentals that should be considered for successful quality control programme.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to quality assurance and food safety assurance. Current concepts of quality control.			15
UNIT -2	Quality assurance programme : - Quality Plan, - Documentation Of Records, - Process Control And HACCP, - Hygiene And Housekeeping, - Corrective Action, - Quality And Programme And Total Quality Process.			15
UNIT - 3	Product Evaluation : - Sampling for product evaluation and line control. - Specification and Food standards, International, National - Mandatory, Voluntary. - Sample preparations			15

	• Reporting results and reliability of analysis.	
UNIT – 4	Test for specific raw food ingredients and processed Food including additives: a. Nutrient analysis b. Tests of adulterants c. consumer Protection	15
PRACTICALS – 15 HRS		
Assessment of purity and quality using appropriate standard test for the following : • Water including mineral water • Milk and milk products • Fats and oil including butter, ghee and hydrogenated fat • Ice creams and sherbets • Cereals and cereal product • Pulses and legumes • Spices ad condiments and salt, pickles, sauces and chutneys. • Tea and Coffee • Confectionery • Specific food ingredients such as vinegar. • Fruit juices, concentrates and beverages. 2. Detection /Estimation of Contaminants		
REFERENCE		
1. Early, R. (1995): Guide to Quality Management Systems for the Food Industry, Blackie, Academic and Professional, London. 2. Gould, W.A. and Gould, R.W. (1988): Total Assurance for the Food Industries, CTI Publication Inc. Baltimore. 3. Pomeranz, Y. ad McLoan, C.E. (1996): Food Analysis: Theory and Practice, CBS Publishers and Distributor, New Delhi. 4. Askar, A. ad Treptow, H. (1993): Quality Assurance in Tropical Fruit Processing, Springer – Verlag, Berlin. 77 5. World Health Organisation (1998): Guidelines for Drinking Water Quality, 2nd edition, Vol. 1, 2 and 3 Geneva. 6. Marth, E.H. (1978): Standard Methods for the Examination of Dairy Products 14th ed. Or edition. Interdisciplinary Books and Periodicals, Washington, D.C. 7. Ranganna, S. (1986): handbook of Analysis and Quality Control for fruit and Vegetables Products, 20th edition, Tata McGraw Hill Publishing Co. Ltd. new Delhi. 8. Hagstad, H.V. and Hubber, W.T. (1986): Food Quality Control, Foods for Animal Origin, Iowa state University Press, A		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 General HS	Internal Marks – SEE	25
Programme	UG		External Marks –CCE	25
Semester	7		Practical Internal	50 (if applicable)
Category of Course	MDRC - 1		Practical External	50 (if applicable)
Course Credit	3		Prac. External Exam Duration	(if applicable)
Teaching Hours	30		Total	50
Course Code			Exam Duration	1 Hours
Course Title	Research Methodology			
COURSE OBJECTIVE :-				
- Understand The Fundamental Principles Of Methodology Concerning Research - Prepare Research Tools Applicable To Developmental Issues - Develop Skills In Documentation				
COURSE OUTCOMES :-				
By the end of this course, students will be able to:				
1. Understand the Fundamentals of Research - Explain the meaning, need, and purpose of research in Home Science. - Distinguish between different types and approaches of research.				
2. Develop Research Skills - Select and define a research problem relevant to Home Science disciplines. - Formulate clear research questions and objectives.				
3. Apply Research Design Principles - Identify appropriate research designs (qualitative, quantitative, mixed methods) for Home Science studies. - Justify the choice of design based on research needs.				
4. Collect and Analyse Data Effectively - Apply suitable sampling techniques and data collection tools (questionnaires, interviews, observations). - Organise and analyse data using basic statistical and qualitative methods.				
5. Interpret and Report Findings - Draw valid conclusions and link results to research objectives. - Prepare research reports, abstracts, and presentations with academi				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Research			
	Meaning And Concept Of Research - Characteristics Of Research - Importance Of Educational Research - Types Of Research - Research Method (A) Historical Research Method (B) Descriptive Research Method			7.5
UNIT - 2	Steps of Research Process 2.1 Introduction 2.2 Identification or Selection of Problem 2.3 Review of Related Literature 2.4 Objectives of the Study 2.5 Identification of Variables 2.6 Hypothesis 2.7 Method of Research			7.5

	2.8 Population and Sampling 2.9 Selection or Construction of Tools 2.10 Data Collection 2.11 Analysis of Data and Statistical Techniques 2.12 Interpretation of Results 2.13 Research Report Writing	
UNIT - 3	The Research Hypothesis And Sampling 3.1 Meaning and Importance of Hypothesis 3.2 Characteristics of Good Hypothesis 3.3 Types of Hypothesis 3.4 Limitation of Hypothesis 3.5 Meaning of Sampling 3.6 Importance of Sampling 3.7 Sampling Techniques	7.5
UNIT – 4	Tools and Techniques of Research 4.1 Concept and Types of Tool 4.2 Questionnaire 4.3 Interview 4.4 Rating Scale 4.5 Attitude Scale 4.6 Check List	7.5
Note	Preparation of Research Project as internal evaluation	
REFERENCE		
• A.N.Sadhu,(1980). Research Methodology In Social Science, Bombay: Himalayas Publishing House • Dr. G.B.Singh, (2011). Research Methodology I, Jaipur: Paradis Publishers. • M.N.Borse, (2004). Research Methodology, Jaipur: Shree Niwas Publications. • Vandana Vohra, (2013), Research Methodology, Jaipur: Pratiksha Publication Dr. R.S.Patel (2014), Methodology Of Education Research; 2ne Edition, Jay Publication Ahmedabad.		

SEMESTER – 8

GENERAL HOME SCIENCE



BHAKT KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH
SCHEME FOR CONTACT HOURS AND EXAMINATION SETUP - FOR SEM. 8
EFFECTIVE FROM – JUNE -2026 – STRUCTURE PROGRAMME

Summary of the Syllabus – General Home Science

Sem. No.	Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
Sem-8 General Home Science	1	Major-20	Fashion Retailing	6	4 (3+1) = 5	75	50	50	100	2HRS
	2	Major-21	Guidance and counseling	6	4 (3+1) = 5	75	50	50	100	2HRS
	3	Major-22	Extension management	6	4 (3+1) = 5	75	50	50	100	2HRS
	4	Minor-08	FN- 8.1 Geriatric Nutrition	6	4 (3+1) = 5	75	50	50	100	2HRS
			FRM- 8.2 Ergonomics in home and work Environment							
			CT- 8.3 Fashion accessories							
			HD -8.4 Gender and development							
			EDEX- 8.5 Program design and evaluation							
	5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
			Or							
		Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
			Or							
		MDSC - 2	Food Biotechnology	6	4 (3+1) = 5	75	50	50	100	2HRS
		MDRC - 2	Computer Applications in Research	6	2 (0+2)	60	25	25	50	1 HRS
	Total				22					

B.Sc. (HOME-SCIENCE) (HONOURS) As Per NEP – 2020 PROGRAMME - SEMESTER- 7 & 8
(General Home Science & Food and Nutrition)

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-20		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Fashion Retailing			
COURSE OBJECTIVE :-				
1. To understand the concepts and functions of fashion retailing. 2. To study the various types and formats of fashion retail stores. 3. To develop knowledge of merchandising and product assortment in fashion retailing. 4. To understand consumer behavior and customer service in the retail environment. 5. To gain awareness of retail management, promotion, and sales strategies in the fashion industry.				
COURSE OUTCOMES :-				
• Understand the structure, key players, and dynamics of the fashion retail industry. • Apply core retail skills such as buying, pricing, and inventory management. • Analyze consumer behavior and fashion trends for better decision-making. • Develop visual merchandising skills to improve store appeal and sales. Evaluate retail performance using data, digital tools, and marketing strategies				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Fashion Retailing			15
1.1	Definition and Importance of Fashion Retailing			
1.2	Difference between retailing and wholesaling			
1.3	Structure of the fashion industry (Manufacturers → Wholesalers → Retailers → Customers)			
1.4	Types of retail stores and Current Trends in Fashion Retailing			
UNIT - 2	Fashion Marketing & Consumer Behavior			15
2.1	Meaning of Fashion Marketing and Marketing Mix			
2.2	Consumer Buying Behavior and Fashion Trends			
2.3	Branding and Brand Image in Fashion			
2.4	Target Market and Market Segmentation			
UNIT - 3	Store Management & Merchandising			15
3.1	Store Layout, Design and Visual Merchandising			
3.2	Inventory and Stock Management			
3.3	Customer Service and Sales Techniques			
3.4	Staff Management and Retail Operations			
UNIT - 4	E-Retailing & Modern Trends			15
4.1	E-commerce, Online Shopping and Omnichannel Retailing			
4.2	Social Media Marketing and Customer Experience			
4.3	Digital Payment Systems in Retailing			
4.4	Fast Fashion and Sustainability			

PRACTICALS - 15 HRS	
1	Study of Store Layout and Visual Merchandising in Fashion Retail • Draw the store layout showing key areas like entrance, trial room, and billing counter. • Design a window display and arrange products using mannequins. Use proper colour combinations, lighting, and product placement
2	Role Play on Customer Service in Fashion Retailing • One student acts as a customer and another as a salesperson. • Identify and understand the customer's needs. • Suggest suitable products based on the customer's requirements. • Use polite and professional language during communication.
3	Product Display and Branding Techniques in Retail Stores • Arrange different types of clothing neatly. • Maintain proper colour combinations for visual appeal. • Attach brand names and tags to the products. • Keep the display clean, organized, and attractive.
4	Preparation of Sales Bill and Cash Memo in Retailing • Write the product name, quantity, and price. • Calculate the total amount. • Add GST to the total. • Prepare the final bill neatly and accurately.
Suggested Reading & Reference Online Sources	
1.Diamond, J. & Diamond, E. (n.d.). Fashion retailing.	
2.Pradhan, S. (n.d.). Retail management.	
3.Singh, C. (n.d.). Fashion marketing & merchandising.	
4.Stone, E. (n.d.). Fashion merchandising.	
5.Vedamani, G. G. (n.d.). Retailing management.	
6.Ramaswamy, V. S., & Namakumari, S. (n.d.). Marketing management (Indian context).	

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-21		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Guidance and Counseling			
COURSE OBJECTIVE :-				
To understand the basic concepts of Guidance and Counseling. To gain knowledge about Counseling Process and Skills. To understand different types of Guidance (Educational, Vocational, Personal, Social). To understand the need for Counseling for Family, Community and Special Groups. To develop Counseling Skills through practical work. To learn methods like Interview, Case Study and Survey.				
COURSE OUTCOMES :-				
Will be able to clearly explain the concepts of Guidance and Counseling. Will be able to use the Counseling Process and the Skills of a Counselor. Will be able to differentiate between Educational, Vocational, Personal and Social Guidance. Will be able to identify the Counseling needs of Family, Community and Special Groups. Will be able to carry out experimental methods like Case Study, Survey and Interview. Will be able to do Career Guidance and Self-Assessment Activities. Will be able to gain real experience through Community Visit and Field Work. Will be able to develop basic professional skills in the field of Counseling.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Guidance and Counseling			15
1.1	Concept of Guidance- Meaning, Definition and Purposes, Need and Importance of Guidance, Principles of Guidance			
1.2	Concept of counseling - Meanings and definitions, Objectives of Counseling, Types of Counseling			
1.3	Difference between Guidance and Counseling			
1.4	Areas of Guidance - Educational Guidance, Vocational Guidance, Personal Guidance, Social Guidance			
UNIT - 2	Counseling Process and Skills			15
2.1	Counseling Process			
2.2	Qualities of a Counsellor			
2.3	Counseling Skills			
2.4	Interview Techniques			
UNIT - 3	Family and Community Counseling			15
3.1	Family Counseling			
3.2	Marriage Counseling			
3.3	Parent Counseling			
	3.4 Community Counseling			

UNIT – 4	Counseling for specific groups	15
4.1	Child Counseling	
4.2	Adolescent Counseling	
4.3	Women Counseling	
4.4	Geriatric Counseling	
	PRACTICALS – 15 HRS	
1	Case study (any one) Conduct a case study of a child, adolescent, woman or elderly person. • Collect personal, family, educational and social information. • Prepare a report on the problem and solution.	
2	Survey - Conduct a survey on topics like "Problems of Teenagers", "Career Choices", "Needs of the Elderly". To present the findings.	
3	Self-Assessment Activity - Evaluate your strengths, limitations, interests and abilities. Prepare a Self-Reflection Report.	
4	Career Guidance Activity - Collecting information on various career options. Preparation of Career Information File.	
5	Community Visit - Visit an NGO, Counselling Centre, Child Care Home or Old Age Home. To study the services there.	
6	Family Counseling Case Analysis - Analysis of a hypothetical or real case of family problem. Provide suggestions for counseling.	
Suggested Reading & Reference Online Sources		
Burnard, P.(1999). Counseling skills training. New Viva books.		
Manthei, R. (1997). Counselling: the skills of finding solutions to problems. London: Routledge.		
Nicolson, D.& Ayers, H.(1995). Individual Counselling: Therapy and practice. London: David Fulton.		
Medicine sans frontiers (MSF) - Handbook for a monthly course on trauma related problems. Trainer's manual, oct 1997 - Mental health training manual - Shocking events and stressful situation- their emotional consequences. Amstedram, april 1993		
save the children - helping children in difficult circumstances. (A teacher's Manual) London, 1992		
Schauer , Margarete - Posttraumatic stress (PTSD) and extreme stress (DES). First aid kit for the mental health team providing psycho-social service for the severely tramatized kosovoalbanians in the refugee camps. MSF mental health- Macedonia 1999		
World health organization - Mental health of refuges, geneva, 1996		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-22		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Extension Management			
COURSE OBJECTIVE :-				
This course is tailored for Home Science students to bridge the gap between scientific research (nutrition, textiles, and child development) and the rural or semi-urban families who need that information. It focuses on managing the delivery of home-based technologies and life skills. Based on the syllabus provided, here are the structured Aims and Learning Outcomes for the Extension Management (Home Science) course. These are designed to highlight the intersection of managerial efficiency and community welfare.				
COURSE OUTCOMES :-				
The primary goal of this course is to transform Home Science students into competent Extension Managers who can translate lab-based research into life-improving practices for the community. The specific aims are: • To Bridge the Gap: To equip students with the skills to transfer scientific knowledge in nutrition, textiles, and child development to rural and semi-urban families. • To Master Management Frameworks: To teach the application of professional management principles (like POSDCORB) specifically within the context of social welfare and home-based technologies. • To Cultivate Leadership: To develop the ability to identify, train, and collaborate with local community leaders to ensure sustainable development. • To Enhance Project Proficiency: To provide hands-on experience in planning, budgeting, executing, and evaluating community-based intervention programs. To Foster Professional Accountability: To instill the importance of systematic monitoring, reporting, and ethical resource mobilization in extension work.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Extension Management & Home Science Perspective • Concept of Extension Management: Objectives, scope, and importance of management in the field of Home Science extension. • The Management Process: Application of POSDCORB (Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting) in community outreach. • Philosophy of Extension: The "Helping people to help themselves" approach and the role of a Home Science Extension worker as a change agent. • Administrative Levels: Understanding the organizational setup of Home Science extension at National, State, and			15

	District levels (e.g., KVKs, ICDS, Women & Child Development departments)	
UNIT - 2	Program Planning & Resource Management • Program Planning Cycle: Identification of needs, situational analysis, setting goals, and formulating a plan of work for family welfare. • Resource Mobilization: Identifying and utilizing local resources (human, material, and financial) for community development. • Time and Stress Management: Managing field schedules, overcoming burnout, and optimizing productivity in remote areas. • Decision Making: Types of decisions and steps in the decision-making process within rural organizations.	15
UNIT - 3	Leadership & Human Relations in Extension • Leadership Development: Identifying and training local women leaders (Gram Kaki/Sakhis) to act as conduits for change. • Communication Management: Managing feedback loops, overcoming barriers in rural communication, and interpersonal relationship skills. • Motivation: Encouraging community participation and motivating rural families to adopt modern home science technologies (e.g., smokeless chulhas, solar cookers, or balanced diets). Team Dynamics: Working within multidisciplinary teams (nutritionists, agronomists, and social workers).	15
UNIT - 4	Monitoring, Evaluation, and Reporting • Monitoring Techniques: Tools for tracking the progress of Home Science projects (e.g., nutrition intervention programs). • Evaluation Methods: Formal and informal evaluation; assessing the impact of programs on family income and quality of life. • Report Writing: Techniques of documenting field activities, success stories, and maintaining records for accountability. Project Proposal Writing: Basic steps in drafting a management proposal for a small-scale community project (e.g., a local tailoring unit or a food processing center).	15

PRACTICALS – 15 HRS
1. Organizational Visit: Visit a local NGO or Government department working for women's welfare (like ICDS) and document their management structure. 2. Needs Assessment: Conduct a door-to-door survey in a nearby community to identify "felt needs" related to health, sanitation, or home management. 3. Action Plan Development: Create a comprehensive "Plan of Work" for a 3-day workshop on a Home Science topic (e.g., Breastfeeding awareness or low-cost nutritious snacks). 4. Leadership Identification: Use sociometric techniques to identify potential leaders in a village group or self-help group (SHG). 5. Mock Extension Activity: Organize and manage a "Method Demonstration" for a small group, focusing on the logistical and managerial aspects (venue, materials, invitations, and execution). 6. Budgeting Exercise: Prepare a mock budget for a community-based income-generating project (e.g., a mushroom cultivation unit run by women).
Suggested Reading & Reference Online Sources
• Dahama, O.P. & Bhatnagar, O.P. (2018). <i>Education and Communication for Development</i>. • Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi. • A standard book covering principles of extension education, communication, and rural development. • Ray, G.L. (2015). <i>Extension Communication and Management</i>. • Kalyani Publishers, New Delhi. • Explains communication methods, extension approaches, and management principles. • Ray, G.L. (2011). <i>Extension Education for Development</i>. • Kalyani Publishers, Ludhiana. • Covers philosophy, objectives, methods, and evaluation of extension programmes. • Supe, S.V. (2012). <i>An Introduction to Extension Education</i>. • Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi. • One of the most widely used textbooks for Extension Education. • Leagans, J.P. (1961). <i>Extension Education in Community Development</i>. • Vikas Publishing House. • A classic reference on community development and extension work. • Reddy, A.A. (2017). <i>Extension Education</i>. • Sree Lakshmi Press, Bapatla. • Useful for understanding extension principles, methods, and programme planning. • Mishra, D.C. (2013). <i>Fundamentals of Extension Education</i>. • Chandra Prakashan, Allahabad. • Covers basic concepts, teaching methods, and extension systems. • Singh, A.K. & De, H.K. (2018). <i>Extension Education</i>. • Agrotech Publishing Academy, Udaipur. • Includes recent concepts in extension management and communication. • Sandhu, A.S. (2016). <i>Textbook on Agricultural Communication Process and Methods</i>. • Oxford & IBH Publishing Co. Pvt. Ltd. • Helpful for studying communication strategies in extension activities.

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	FN / Geriatric Nutrition			
COURSE OBJECTIVE :-				
1. To develop an understanding of the ageing process and age-related physiological and nutritional changes.				
2. To familiarize students with theories of ageing and socio-psychological issues affecting the elderly, especially elderly women.				
3.To enable assessment of nutritional status				
4.Nutritional in requirements and planning of appropriate diets for older adults.				
5. To impart knowledge on nutritional management and prevention of chronic degenerative diseases in the elderly.				
6. To create awareness about government policies and NGO programmes related to elderly welfare and nutrition.				
COURSE OUTCOMES :-				
The course is designed to:				
- Familiarize the students with the multifaceted aspects of ageing. - Make the students competent for nutritional and health care of the elderly.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	The ageing process			15
1.1	Physiological, biochemical and body composition changes.			
1.2	Theories of ageing.			
1.3	Socio-psychological aspects of ageing – special problems of elderly women.			
UNIT - 2	Nutritional requirements of the elderly and dietary management to meet nutritional needs			15
UNIT - 3	Chronic degenerative diseases and nutritional problems of the elderly – their etiopathogenesis, management, prevention and control.			15
UNIT - 4	Policies and programmes of the government and NGO sector pertaining to the elderly.			15

	PRACTICALS	15 HRS
1. Nutritional Assessment of Elderly		
2. Planning Balanced Diets for Elderly		
3. Dietary Modification for Common Geriatric Disorders		
4. Case Study on Socio-Psychological Problems of Elderly		
5. Study of Government and NGO Programmes for Elderly Welfare		
Suggested Reading & Reference Online Sources		
1. Kumar, V. (1996): Aging- Indian Perspective and Global Scenario. Proceedings of International Symposium of Gerontology and Seventh Conference of the Association of Gerontology (India). 2. Bagchi, K. & Puri, S. (Ed.) (1999): Diet and Aging-Exploring Some Facets. Soc. For Gerontological Research, New Delhi and Help Age India, New Delhi		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.2		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	FRM / Ergonomics in Home and Work Environment			
COURSE OBJECTIVE :-				
- To introduce basic concepts of Ergonomics - To develop awareness about safe and efficient home and workplace practices - To understand the relationship between human body, work, and environment - To apply simple ergonomic principles for improving health, comfort, and productivity				
COURSE OUTCOMES :-				
After completing the course, students will be able to:				
- Explain basic concepts and principles of ergonomics - Identify correct and incorrect postures in daily activities - Understand basic Anthropometry and body mechanics - Apply ergonomic principles in home and work environments - Suggest simple improvements for safety, comfort, and efficiency				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Ergonomics			15
	- Meaning, definition, and scope of ergonomics - Importance in home and workplace - Objectives and principles of ergonomics - Types: Physical, Cognitive, and Organizational ergonomics - Role of ergonomics in improving quality of life			
UNIT - 2	Human Body and Work			15
2.1	Anthropometry - Meaning and importance of Anthropometry - Common body measurements (height, reach, sitting height) - Application in design of furniture and workspace (basic idea only)			
2.2	Body Mechanics - Meaning and principles of body mechanics - Correct techniques of sitting, standing, lifting, bending - Posture: correct and incorrect postures - Importance in preventing injuries and fatigue - Fatigue and stress			

	• Introduction to Musculoskeletal Disorders (MSDs) and prevention	
UNIT - 3	Ergonomics in Work Environment • Basic principles of workplace ergonomics • Design of work area (chair, table, lighting, ventilation) • Computer and mobile ergonomics • Simple safety measures in offices and small workplaces • Introduction to healthy work habits	15
UNIT - 4	Ergonomics in Home Environment • Ergonomics in kitchen (work triangle, height of platforms) • Body mechanics to <i>safe</i> Household activities: kitchen work, lifting, cooking, cleaning, lifting, childcare • Furniture arrangement for safety and comfort • Energy conservation and time-saving techniques	15
PRACTICALS - 15 HRS		
1. Posture Analysis • Observe and record sitting/standing posture of individuals 2. Workplace/Home Assessment • Study ergonomic conditions of kitchen, study table, or office • Study of discomfort, fatigue or work habits in daily activities 3. Anthropometric Measurements (Basic) • Basic anthropometric measurements (height, arm reach, sitting height) • Comparison with furniture (table, chair, kitchen platform) 4. Simple Ergonomic Improvements • Suggest modifications in home/work setup		
Suggested Reading & Reference Online Sources		
1. Anne D. Kroemer, Karl H.E. Kroemer (2016), Office Ergonomics: Ease and Efficiency at Work, Second Edition, CRC Press, Taylor & Francis Group, London, New York. 2. Jan Dul, Bernard Weerdmeester (2008), Ergonomics for Beginners: A Quick Reference Guide, Third Edition, CRC Press, Taylor & Francis Group, London, New York 3. Dr. Susan Jameson (2024), Home Office Handbook, Ergonomic Wellness 4. Dr. V. Vijaya Lakshmi, Dr. Deepika J. and Gayathri Devi M. (2022), Akiniki Publication, New Delhi 5. Osborne David (1980) Ergonomics at work John Wiley and Sons, New York, London 6. Singh, S (Edt), (2007), Ergonomics Interventions for Health and Productivity, Himanshu Publications, Udaipur, New Delhi 7. Aditi Vats, Chhaya Shukla, Sandhya Rani, (2023), Ergonomics and Appropriate Technologies: Practical Manual. New India Publishing Agency, New Delhi 8. Lakhwinder Pal Singh (2016), Work Study and Ergonomics, Cambridge University Press, Ansari Road, Daryaganj, New Delhi, India		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.3		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	CT / Fashion Accessories			
COURSE OBJECTIVE :-				
• To provide knowledge about the types, importance, and functions of fashion accessories. • To develop an understanding of the materials, design, and selection of fashion accessories. • To enhance skills in coordinating and styling accessories with different garments and occasions. • To create awareness about current trends, merchandising, and marketing of fashion accessories in the fashion industry				
COURSE OUTCOMES :-				
• Understand the role and significance of fashion accessories in the apparel industry and identify different types and categories of accessories. • Analyze styles, materials, and production methods of various fashion accessories such as handbags, footwear, jewellery, and other items. • Apply design principles and creative processes including inspiration, research, and trend forecasting to develop accessory designs. • Develop practical skills in illustration, construction, and restyling of fashion accessories using various techniques. • Create and present a complete accessory design collection based on a theme, demonstrating creativity, coordination, and presentation skills.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Role and Significance of Fashion Accessories			15
1.1	Importance, Definition and Scope of Fashion Accessories			
1.2	History and Evolution of Accessory Design			
1.3	Role of Accessory Designers and Contemporary Brands			
1.4	Relationship between Accessories and Fashion Styling			
UNIT - 2	Categories, Styles and Production of Fashion Access			15
2.1	Classification and Overview of Fashion Accessories			
2.2	Handbags and Footwear: Types, Materials and Manufacturing			
2.3	Hats and Jewellery: Styles, Materials and Design			
2.4	Belts, Gloves, Scarves and Coordination of Accessories with Outfits			
UNIT - 3	Concept Development in Fashion Accessories			15
3.1	Creative Design Development and Trend Forecasting			
3.2	Idea Generation, Sketching and Design Development			
3.3	Developing an Accessory Range/Collection			
3.4	Presentation Techniques and Portfolio Building			

UNIT – 4	Practical Applications in Accessory Design	15
4.1	Illustration, Colouring and Rendering Techniques for Fashion Accessories	
4.2	Designing, Construction and Restyling of Accessories	
4.3	Final Project: Designing an Accessory Collection	
4.4	Project Report Preparation and Presentation Skills	
PRACTICALS - 15 HRS		
1	• Using Illustration, colouring and rendering of fashion accessories • handbags • footwear • jewellery	
2	Designing and construction of a tote bag	
3	Restyling project: modification of plain accessories using creative techniques	
4	Final project: development of an accessory collection based on inspiration, presentation and report.	
Suggested Reading & Reference Online Sources		
1. Frings, Gini Stephens (2007). Fashion: From Concept to Consumer (9th ed.). Prentice Hall.		
2. Genova, Aneta (2011). Accessory Design. Fairchild Publications.		
3. Schaffer, Jane, and Sue Saunders (2012). Fashion Design Course: Accessories. Barron’s Educational Series.		
4. Lau, John (2012). Basics Fashion Design 09: Designing Accessories. AVA Publishing		
5. Gowri, N. Fashion Designing. New Delhi: New Age International Publishers.		
6. Singh, Usha. Textbook of Fashion Designing. New Delhi: APH Publishing Corporation.		
7 .Pundir, Vandana. Fashion Designing and Apparel Production. New Delhi: Kalyani Publishers.		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.4		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	HD / Gender And Development			
COURSE OBJECTIVE :-				
To provide basic understanding of Gender and Sex To explain gender roles, identity and socialization To develop understanding of Gender and Development (WID, WAD, GAD) To explain the relationship between SDGs and gender equality To explain women empowerment and its dimensions To create awareness about women entrepreneurship To provide information about gender related laws, policies and schemes				
COURSE OUTCOMES :-				
Explain the difference between Gender and Sex Analyze gender inequality and stereotypes Explain WID, WAD, GAD Explain GDI and GII Explain the dimensions of women empowerment Explain women entrepreneurship and SHGs Explain women's rights and government schemes Develop awareness about gender equality				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Basic concepts of gender			15
1.1	Gender and Sex: Meaning, Definition, Difference, Characteristics			
1.2	Social Construction of Gender, Gender Roles,			
1.3	Gender Identity, Gender Expression, Gender Stereotypes			
1.4	Gender Socialization			
UNIT - 2	Gender and Development			15
2.1	Meaning and Characteristics of Gender and Development			
2.2	Women in Development (WID), Women and Development (WAD), Gender and Development (GAD)			
2.3	Sustainable Development Goals (SDGs) અને Gender Equality			
2.4	Gender Development Index (GDI),Gender Inequality Index (GII)			

UNIT – 3	Women Empowerment	15
3.1	Meaning of Women Empowerment	
3.2	Dimensions of Women Empowerment- Social Empowerment, Economic Empowerment, Political Empowerment, Educational Empowerment, Psychological Empowerment, Legal Empowerment etc...	
3.3	Women Entrepreneurship	
3.4	Barriers to Women Empowerment	
UNIT - 4	Gender and Law , Policy and Government schemes	15
4.1	Right to equality in the Indian Constitution	
4.2	Women's rights	
4.3	Current national and international gender policies	
4.4	Government schemes for women development	
	PRACTICALS	15 HRS
1	Survey on Gender Equality	
2	Collecting information or visiting organizations working for women's development	
3	Legal Awareness Survey- Study on how much women know about their rights	
4	Study of Government Schemes - Study on how much women benefit from government schemes	
5	Awareness Program / Workshop- Awareness program on gender equality or women rights (poster making, slogan writing, group discussion etc)	
6	Case studies of successful women leaders	
Suggested Reading & Reference Online Sources		
• United Nations Women (2023). <i>Gender Equality and Women's Empowerment</i> .		
• United Nations Development Programme (2024). <i>Human Development Report: Gender Development Index (GDI) and Gender Inequality Index (GII)</i> .		
• United Nations (2015). <i>Transforming Our World: The 2030 Agenda for Sustainable Development (SDGs)</i> .		
• Ministry of Women and Child Development. <i>Women Empowerment and Government Schemes in India</i> .		
• Gender and Development. Sage Publications. A foundational text on WID, WAD, and GAD approaches.		
• Kamla Bhasin (2000). <i>Understanding Gender</i> . New Delhi: Women Unlimited. A widely used introductory book on gender concepts and social construction of gender.		
• National Commission for Women. <i>Women's Rights and Legal Awareness Resources</i> .		
• World Bank (2024). <i>Gender Data Portal and Women Entrepreneurship Reports</i> .		
• The Second Sex. A classic work discussing gender roles, identity, and women's position in society.		
• National Institute of Public Cooperation and Child Development. <i>Training and Research Materials on Women Development and Gender Studies</i> .		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.5		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	ED EX Program Design And Evaluation			
COURSE OBJECTIVE: -				
1. Foundational Knowledge: Equip students with a comprehensive understanding of the concepts, phases, and approaches involved in development programme planning and management.				
2. Framework Comprehension: Familiarize students with the conceptual frameworks, tools, techniques, and designs used specifically for Monitoring and Evaluation (M&E).				
3. Contextual Application: Introduce contemporary trends, challenges, and strategies in the M&E of communication for development programmes, emphasizing ethical standards.				
4. Practical Skill Development: Provide hands-on experience in designing M&E frameworks, developing data collection tools, and applying participatory techniques to real-world development scenarios.				
COURSE OUTCOMES: -				
Upon successful completion of this course, you will be able to:				
1. Synthesize Planning and Evaluation: Seamlessly integrate the principles of programme planning with rigorous monitoring and evaluation frameworks to ensure development projects are both well-structured and highly accountable.				
2. Design Results-Based Frameworks: Construct logic models, indicators, and M&E frameworks that effectively track project inputs, outputs, outcomes, and long-term development impacts.				
3. Apply Participatory Methodologies: Shift from top-down management to collaborative approaches by actively engaging stakeholders and communities using participatory monitoring and evaluation (PM&E) techniques.				
4. Evaluate Communication-Driven Initiatives: Address the unique nuances of Communication for Development (C4D) programmes, applying specialized tools to measure behaviour change, community mobilization, and media impact.				
5. Execute Data-Driven Problem Solving: Design practical data collection tools, analyse real-world case studies, and translate complex M&E data into actionable strategies to overcome project bottlenecks.				
6. Uphold Professional and Ethical Standards: Conduct all planning and evaluation activities with a strict adherence to ethical guidelines, prioritizing participant safety, data confidentiality, and cultural sensitivity.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Concept, approaches and phases			15
1.1	Factors influencing programme management			
1.2	Stakeholder participation in programme management			
1.3	Features of Management of Development programmes			
1.4	Conceptualizing Monitoring & Evaluation (M & E) of Programmes			
UNIT - 2	Concept, approaches and components			15
2.1	Programme goals, activities and indicators			
2.2	M&E frameworks and designs • M&E tools and techniques			
2.3	Participatory monitoring and evaluation			
2.4	Monitoring and Evaluation (M & E) of communication for development Programmes			

UNIT – 3	Trends in M & E of communication for development programmes	15
3.1	Challenges, issues and strategies	
3.2	Approaches, methodologies and techniques	
3.3	Ethical issues in M&E	
3.4	Meaning and Programmes of Non Formal/Adult/ Life Long and Continuing Education	
UNIT - 4	National and international programmes	15
4.1	National and international programmes	
4.2	Local, State , National and international agencies- policy and programmes	
4.3	Monitoring and evaluation of NFE /Adult/ Life Long programmes	
4.4	Monitoring and evaluation of Continuing Education programme	
PRACTICALS		15 HRS
1	Develop skills in developing M & E frameworks	
2	Learn the use of participatory techniques in monitoring and evaluation	
3	Design tools for monitoring and evaluation	
4	Case studies of monitoring and evaluation of development programmes	
5	Visits to different NGO's involved in Non-Formal/Adult/Life Long Education	
6	Prepare a project report on need, importance, and management process of any one program	
7	Evaluate strategies used by development agencies for implementation of development programmes.	
Suggested Reading & Reference Online Sources		
1.Mikkelsen, Britha, (2002), Methods for Development Work and Research. New Delhi: Sage Publications		
2. Dale R, (2004) Evaluating Development Programmes and Projects. New Delhi: Sage Publications		
3. Kumar & Hansra, (1997) Extension Education for Human Resource Development. New Delhi: Concept Publishers.		
4 Chandra A., Shah A. 1987, Non-Formal Education for All, Sterling Publishers, New Delhi.		

SEMESTER – 8 GENERAL HOME SCIENCE									
Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
		or							
	Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
		or							
	MDSC - 2	Food Biotechnology	6	4 (3+2)=5	75	50	50	100	2
	MDRC - 2	Computer Applications in Research	6	2(0+2) =4	60	25	25	50	1

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	MDSC - 2		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Food Biotechnology			
COURSE OBJECTIVE :-				
➤ to study the scope of food microbiology and food safety to obtain the knowledge about important genera of microorganisms associated with food and their characteristics ➤ to gain the knowledge and applications of various techniques for preserving food (ancient to modern) ➤ to understand the role of different microorganisms in food spoilage, food fermentation and foodborne diseases ➤ to comprehend the microbiological quality control and food-borne illnesses investigation procedures for ensuring food safety and hygiene and ➤ to understand current national and international food safety rules and regulations				
COURSE OUTCOMES :-				
➤ The student will have knowledge on the role of various microorganisms associated with different foods. ➤ The student will have knowledge on the presence of pathogenic and spoilage microorganisms associated with different foods. ➤ The student will have specific knowledge on microorganisms in different raw materials and the health risk of food borne infections and intoxications. ➤ The student will understand how microorganisms grow, and can be used in a positive manner and also controlled in foods. ➤ The student will understand how to use qualitative and quantitative analysis of microorganisms based on theory as well as practical work. ➤ The student will have knowledge on physical, chemical and microbiological methods to control both quality and health risks in foods.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	• Starter cultures and their biochemical activities; production of alcoholic beverages; production of Single cell protein and Baker’s yeast; Mushroom cultivation • Food and dairy products: Cheese, bread and yogurt • Fermented vegetables – Saurkraut; Fermented Meat – Sausages			15
UNIT - 2	• Novel microorganisms eg. LAB (Probiotics), Cyanobacteria, methylotrophs enzyme biotransformation’s • • Role of Plant tissue culture for improvement of food additives; color and flavour • Genetic modifications of microorganisms; detection and rapid diagnosis • Genetically modified foods and crop			15
UNIT - 3	• Food borne infections and intoxications; with examples of infective and toxic types – Clostridium, Salmonella, Staphylococcus			15

	• Mycotoxins in food with reference to <i>Aspergillus</i> species • Food preservation: canning, dehydration, ultrafiltration, sterilization, irradiation • Chemical and naturally occurring antimicrobials; Biosensors in food industry	
UNIT - 4	• Quality assurance: Microbiological quality standards of food • Intellectual property rights and animal welfare • Government regulatory practices and policies. FDA, EPA, HACCP, ISI • Risk analysis; consumer and industry perceptions	15
PRACTICALS – 15 HRS		
• Yogurt Preparation and Study of LAB • Yeast Fermentation and CO₂ Production • Bread Making using Baker's Yeast • Preparation of Sauerkraut • Observation of Mold Growth on Bread • Food Preservation by Dehydration • Microbiological Quality Assessment of Milk (MBRT) • Study of Natural Antimicrobials in Food • Microscopic Observation of Probiotic LAB • Study of pH Changes During Fruit Juice Fermentation		
REFERENCE		
1. Encyclopedia of Food Microbiology ,2nd Edition 2014, Carl A. Batt 2. Modern Food Microbiology By Jay, James M., Loessner, Martin J., Golden, David A. 3. Food Safety Culture Creating a Behavior-Based Food Safety Management System By Yiannas, Frank 4. Handbook of Foodborne Diseases By Dongyou Liu		

B.Sc. Home Science Semester – 8 (General Home Science)				
Course Level	6	Semester 8 General HS	Internal Marks – SEE	25
Programme	UG		External Marks –CCE	25
Semester	8		Practical Internal	50 (if applicable)
Category of Course	MDRC - 2		Practical External	50 (if applicable)
Course Credit	2		Prac. External Exam Duration	(if applicable)
Teaching Hours	60		Total	50
Course Code			Exam Duration	2 Hours
Course Title	Computer Applications in Research (ONLY PRACTICAL)			
COURSE OBJECTIVE :-				
* To introduce basic computer applications used in research * To develop skills in research documentation and data handling * To familiarize students with simple statistical and presentation tools * To promote ethical and effective use of digital research resources				
COURSE OUTCOMES :-				
After completion of the course, students will be able to: * Apply basic computer tools for research documentation * Organize and analyze simple research data digitally * Use statistical software for basic data analysis * Prepare ethical, well-referenced research reports and presentations				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Basics of Computers and Research Applications * Introduction to computers: hardware, software, operating systems * Types of software used in research * Role of computers in Home Science research * Digital research workflow * Data security, ethics, and academic integrity			15
UNIT - 2	Research Documentation and Data Management * Research documentation using Microsoft Word * Formatting research proposals, assignments, and reports * Preparation of questionnaires and schedules * Data entry and management using Microsoft Excel * Use of basic formulas and tables			15
UNIT - 3	Statistical and Data Analysis Tools * Introduction to computer-based statistical analysis * Descriptive statistics: mean, median, mode, percentage * Data analysis using SPSS (introductory level) * Graphical presentation of data * Interpretation of statistical output			15
UNIT - 4	Internet Resources, Referencing, and Presentation * Internet and digital libraries for research * Searching research articles and e-resources * Reference management using Mendeley * Plagiarism awareness and citation ethics * Research presentation using Microsoft PowerPoint			15

	PRACTICALS	
1. Formatting a short research report 2. Data entry and calculation using Excel 3. Basic statistical analysis using SPSS 4. Preparation of graphs and charts 5. Creating a short research presentation		
REFERENCE		
* Kothari, C.R. – Research Methodology * Gupta, S.P. – Statistical Methods * SPSS Beginner Manual * APA Publication Guidelines		

SEMESTER – 7

FOOD AND NUTRITION



BHAKT KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH SCHEME FOR CONTACT HOURS AND EXAMINATION SETUP - FOR SEM. 7 EFFECTIVE FROM – JUNE -2026 – STRUCTURE PROGRAMME										
Summary of the Syllabus – Food and Nutrition										
Sem. No.	Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
Sem-7 Food and Nutrition	1	Major-17	Maternal Nutrition	6	4 (3+1) = 5	75	50	50	100	2 HRS
	2	Major-18	Nutrition In Health And Fitness	6	4 (3+1) = 5	75	50	50	100	2 HRS
	3	Major-19	Advance Physiology	6	4 (3+1) = 5	75	50	50	100	2 HRS
	4	Minor-07	7.1 Food Service Management (GEN.)	6	4 (3+1) = 5	75	50	50	100	2 HRS
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		*	*	*	*	*	*	*	*	*
		*	*	*	*	*	*	*	*	*
	5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
			or							
		Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
			or							
		MDSC - 1	Food Safety And Quality Control	6	4 (3+1) = 5	75	50	50	100	2 HRS
		MDRC - 1	Research Methodology	6	2	30	25	25	50	1 HRS
	Total				22					

BHAKT KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH SCHEME FOR CONTACT HOURS AND EXAMINATION SETUP - FOR SEM. 8 EFFECTIVE FROM – JUNE -2026 – STRUCTURE PROGRAMME										
Summary of the Syllabus – food and Nutrition										
Sem. No.	Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
Sem-8 food and nutrition	1	Major-20	Geriatric Nutrition	6	4 (3+1)=5	75	50	50	100	2 HRS
	2	Major-21	Food Biotechnology	6	4 (3+1)=5	75	50	50	100	2 HRS
	3	Major-22	Food Toxicology	6	4 (3+1)=5	75	50	50	100	2 HRS
	4	Minor-08	8.1 Extension Management (GEN.)	6	4 (3+1)=5	75	50	50	100	2 HRS
		*	*	*	*	*	*	*	*	*
		*	*	*	*	*	*	*	*	*
		*	*	*	*	*	*	*	*	*
		*	*	*	*	*	*	*	*	*
	5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
			or							
		Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
			or							
		MDSC - 2	FUNCTIONAL FOODS AND NUTRACEUTICALS	6	4 (3+1)=5	75	50	50	100	2 HRS
		MDRC – 2	Computer Application Research	6	2(0+2)=4	60	25	25	50	2 HRS
	Total				22					

B.Sc. Home Science Semester – 7 (Food And Nutrition)				
Course Level	6	Semester 7 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-17		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Maternal Nutrition			
COURSE OBJECTIVE :-				
1. Provide comprehensive knowledge of maternal physiology, reproductive health, and nutritional needs during different stages of pregnancy. 2. Develop understanding of nutritional requirements and dietary planning during pregnancy and lactation. 3. Create awareness about maternal malnutrition, anemia, gestational diabetes, and other pregnancy-related disorders. 4. Familiarize students with maternal health programs, policies, and guidelines for improving maternal and child health.				
COURSE OUTCOMES :-				
1. Explain the physiological and nutritional changes occurring during pregnancy and lactation. 2. Identify nutritional requirements of women at various stages of reproduction including preconception, pregnancy, and lactation. 3. Plan and recommend balanced diets suitable for pregnant and lactating women based on socioeconomic and cultural factors. 4. Apply knowledge of national and international maternal health programs in real-life community and clinical settings.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	INTRODUCTION TO PREGNANCY Meaning and importance Physiological and biochemical changes Stages of pregnancy Milestones of foetal development Factors affecting fetal development Factors affecting foetal development Complications in foetal development Adolescence pregnancy Process of birth			15
UNIT - 2	NUTRITION DURING PREGNANCY Importance of Nutrition before pregnancy Nutritional requirement and its importance in pregnancy			15

	- Balanced diet in pregnancy - Dietary management in pregnancy - Required test and importance of regular check-up during pregnancy	
UNIT - 3	NUTRITION DURING POST PREGNANCY AND LACTATION - Importance of electrician - Importance of colostrum - Nutritional requirement of lactating women - Composition of mother's milk - Management of breastfeeding - Complications in breastfeeding - Breastfeeding in special conditions	15
UNIT - 4	COMPLICATIONS IN PREGNANCY AND GOVERNMENT PROGRAMS AND GOVERNMENT PROGRAMS RELATED TO IT A - nutritional problems- Anaemia, Pre eclampsia, Gestational diabetes, HIV B - Programs : - ICDS - POSHAN ABHIYAN - PRADHANMANTRI MATRU VANDANA YOJANA - PRADHANMANTRI SURAKSHIT MATRUTVA ABHIYAN - MISSION INDRADHANUSH - CHIRANJEEVI YOJANA - JANANI SURAKSHA YOJANA - JANANI SHISHU SURAKSHA YOJANA	15
PRACtICALS - 15 HRS		
- Prepare one day meal planning for pregnant women. - Prepare list of nutrition rich dishes for pregnant women. - Prepare one day meal planning for lactating women. - Conduct survey and collect information regarding nutritional and health status of pregnant women in your area and prepare its report. - Collect information on government schemes and programs related to pregnant women.		

Suggested Reading & Reference Online Sources

1. International Food Policy Research Institute (1997). Care and Nutrition: Concepts and Measurement. International Food Research Institute Washington DC., USA.
2. International Child Health: A Digest of Current Information.
3. Barker, D.J.P. (1998). Mothers, Babies and Health in Later Life. Edinburgh, Churchill Livingstone
4. Ward, R.H.T; Smith, S.K. Donnai, D. (Eds.) (1994) Early Fetal Growth and Development. London, RCOG Press.
5. Sachidev, IIPS and Choudhary, P. (1995), Nutrition in Children Developing Country Concerns. Cambridge Press, New Delhi.
6. King, F.S. (1992). Helping Mothers to Breastfeed Association for Consumers Action on Safety and Health, Mumbai.
7. Wallace, H.M. and Giri, K. (1990). Health Care of Women and Children in Developing Countries. Third Party Publishing Co. Oakland.
8. Tanner, J.M. (1988) Foetus into Man: Physical Growth from Conception to Maturity. Weaton and Co. Ltd., Great Britain.
9. Luke, B. Johnson, T.R.B.; Petrie, R.H. (1993). Clinical Maternal Fetal Nutrition. Little Brown and Co. Boston
10. ACC / SCN Reports.
11. WHO (1999) Nutrition for Health and Development: Progress and Prospects on the Eve of the 21th Century. WHO / NHD /99.9. Geneva.
12. Alderman, H; Behrman, J.; Lavy; Menon, R. (1997) Child Nutrition, Child Health and School Enrollment. Policy Research Working Paper 1700. Washington DC. World Bank
13. Rajpura.,M.R. (2012).Maternal and Child Nutrition. Jaipur:Arravali Prakashan

B.Sc. Home Science Semester – 7 (Food And Nutrition)				
Course Level	6	Semester 7 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-18		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Nutrition in health and fitness			
COURSE OBJECTIVE :-				
• This course will prepare the students to: • Understand the components of health and fitness and the role of nutrition in these. • Make nutritional, dietary and physical activity recommendations to achieve fitness and well-being. • Develop ability to evaluate fitness and well-being.				
COURSE OUTCOMES :-				
After successful completion of this course, the students will be able to:				
• Explain the concepts of health, physical fitness, exercise and nutrition and their inter-relationship in maintaining overall well-being. • Describe the role of energy systems and nutrients in supporting physical activity, endurance and performance. • Apply principles of nutrition to plan balanced diets for health, fitness, sports and weight management. • Assess nutritional status, body composition and physical fitness using appropriate methods. • Evaluate dietary practices, physical activity patterns and fitness levels to promote healthy lifestyles. • Analyze the role, efficacy and safety of dietary supplements and ergogenic aids in sports and fitness.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Nutrition, Health, exercise and fitness:			15
1.1	Nutrition, exercise, physical fitness and health and their inter-relationship. Types of exercise and its health benefits.			
UNIT - 2	Review of different energy systems for endurance and power activity			15
2.1	Energy input and output. Calculation of energy expenditure by different methods. Fuels and nutrients to support physical activity. Mobilization of fat stores during exercise			
UNIT - 3	.Nutrition in Sports:			15
3.1	Nutritional aspects of macro and micro nutrients in sports. Sports specific requirement. Pre-game, during and post-game meals.			

UNIT – 4	Nutritional and exercise regimes for management of obesity	15
4.1	Critical review of various dietary regimes for weight and fat reduction	
4.2	Dietary supplements and Ergogenic aids: Definitions, types and use of different ergogenic aids like nutritional, physiological, pharmacological etc and commercial supplements, Sports drinks, sports bars etc. Regulations regarding dietary supplements and ergogenic	
PRACTICALS – 15 HRS		
1	Assessment of Nutritional Status * Measurement of height, weight * Calculation of BMI * Interpretation of BMI for health and fitness * Classification according to WHO.	
2	Body Composition Analysis * Measurement of waist and hip circumference * Calculation of Waist–Hip Ratio (WHR) * Assessment of obesity-related health risks	
3	Dietary Assessment of an Individual * 24-hour dietary recall * Calculation of daily energy and nutrient intake * Comparison with RDA (ICMR)	
4	Planning a Fitness-Oriented Diet * Preparation of a one-day balanced diet plan for: * Sedentary adult / athlete / obese individual * Emphasis on pre-exercise and post-exercise meals	
5	Study of Dietary Supplements & Ergogenic Aids * Identification of common sports supplements * Label reading (nutrients, claims, warnings) * Discussion on safety, efficacy, and regulations	
Suggested Reading & Reference Online Sources		
1. Mahan, L.K. & Ecott-Stump. S. (2000): Krause's Food, Nutrition and Diet Therapy, 10th Edition, W.B. Saunders Ltd.		
2.Sizer, F. & Whitney, E. (2000): Nutrition - Concepts & Controversies, 8th Edition, Wadsworth. Thomson Learning.		
3. Whitney, E. N. & Rolfes, S.R. (1999): Understanding Nutrition, 8th Edition, West / Wadsworth, An International Thomson Publishing Co.,		
4. Ira Wolinsky (Ed.) (1998): Nutrition in Exercise and Sports, 3rd Edition, CRC Press.		
5. Parikova, J. nutrition, Physical activity and health in early life, Ed. Wolinsky, I., CRC Press.		
6. Shils, M.E., olson, J.A., Shike, N. and Rossa, A.C. (Ed.) (1999): Modern Nutrition in Health & Disease, 9th Edition, Williams & Wilkins.		
7. McArdle, W. Katche, F. and Katch, V. (1996). Exercise Physiology. Energy, Nutrition and Human performance 4th edition, Williams and Wilkins, Philadelphia.		
Journals		
1. Medicine and Science in Sports and Exercise.		
2. International Journal of Sports Nutrition		

B.Sc. Home Science Semester – 7 (Food And Nutrition)				
Course Level	6	Semester 7 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Major-19		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Advance Physiology			
COURSE OBJECTIVE :-				
1. Advance their understanding of scope of the relevant issues and topics Of human physiology.				
2. Enable the students to understand the integrated function of all Systems and the grounding of nutritional science in physiology.				
3. Understand alterations of structure and function in various organs and systems in disease conditions				
COURSE OUTCOMES :-				
• After successful completion of the course, the learner will be able to: • Explain the concept of homeostasis and the role of body systems in maintaining internal balance. • Describe mechanisms of body temperature regulation and physiological responses to heat and cold. • Analyze the composition and functions of blood, cardiovascular regulation, and factors influencing blood pressure. • Explain reproductive physiology including gametogenesis, pregnancy, fetal development, parturition, and lactation. • Describe the structure and function of neurons and the mechanism of nerve impulse transmission. • Identify and interpret abnormal constituents of urine in relation to physiological health.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Homeostasis • Concept of Homeostasis • Role of Body system in maintaining Homeostasis			15
UNIT - 2	Body temperature, Temperature Regulation • Normal Body Temperature • Heat Production& Heat loss • Regulation of Body Temperature			15
UNIT - 3	Blood • Composition of blood • Plasma, plasma proteins and its functions • Blood cells – Types and functions • Coagulation of blood • Blood group & Rh factor • Structure of heart, junctional tissue & its regulation • Blood pressure & factors affecting blood pressure			15

UNIT – 4.1	Reproductive System • Types and Structure of Chromosome, Karyotype • Spermatogenesis and oogenesis • Pregnancy- development of fertilized ovum up to placental stages • Different stages of development of fetus. • Parturition –different stages of labour • Structure of breast- lactation & secretion of milk	15
UNIT – 4.2	Nervous System • Types of neurons • transmission of nerve impulse in nerve fibers & synapse	
	PRACTICALS	15 HRS
1 Demonstration of barr body 2 Blood group and Rh –factor 3 Estimation of Haemoglobin 4 Total count of WBC and RBC 5 Differential count of WBC 6 Measurement of blood pressure (After Exercise & during rest) 7 Abnormalities of urine- sugar, protein, bile salt, ketone bodies & blood 8 Measurement of body temperature and pulse rate (After Exercise & During rest) 9 Study of permanent slides different organs of System – Digestive, Respiratory, Circulatory, Reproductive, Endocrine and Nervous.		
Suggested Reading & Reference Online Sources		
1 Human physiology – C.C.Chatterjee 2 Human Physiology – Agrawal 3 Text book of Medical Physiology – Guyton 4 Essentials of Medical Physiology- By- K Sembulingam ; Prema Sembulingam Jaypee Brother Medical Publishers Ltd 5 Essentials of Medical Physiology- Guyton sanders, Oxford University, London 6 Human Physiology-By C.B. Fox		

B.Sc. Home Science Semester – 7 (Food And Nutrition)				
Course Level	6	Semester 7 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	Minor – 7.1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	GEN. / Food Service Management			
COURSE OBJECTIVE :-				
- To understand the principles and scope of food service management. - To acquire skills in menu planning, quantity food production, and food service operations. - To develop competencies in managing resources, personnel, and finances in food service establishments. - To ensure food safety, hygiene, and quality standards in food service systems. To foster entrepreneurship and professional leadership in the food service industry.				
COURSE OUTCOMES :-				
Upon successful completion of the course, students will be able to:				
- Explain the concepts, scope, organization, and management principles of various food service establishments. - Plan nutritionally balanced and cost-effective menus and apply principles of quantity food production and recipe standardization. - Demonstrate competence in procurement, storage, inventory management, and cost control practices in food service operations. - Apply principles of facility planning, equipment management, human resource management, and customer service in food service settings. - Implement food safety, sanitation, quality assurance, and sustainability practices in commercial and institutional food service systems. - Develop entrepreneurial and managerial skills for establishing, operating, and evaluating food service enterprises.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Food Service Management			15
1.1	History and Development of Food Service System			
1.2	Objectives and functions of Food Service organization			
1.3	Importance of Food Service System			
1.4	- Types of food service establishments: - Commercial food services - Institutional food services - Transport catering - Outdoor catering - Fast-food and specialty restaurants			

UNIT – 2	Menu Planning and Food Production Management	15
2.1	Meaning of menu Planning Principles of menu planning	
2.2	Types of menus: • À la carte • Table d'hôte • Cyclic menu • Static menu	
2.3	Factors Affecting Menu Planning	
2.4	Quantity food production	
UNIT - 3	Food Management – Records and Controls	15
3.1	Food Management – Records and Controls	
3.2	Types of Records • Purchase records • Store records (inventory) • Production records • Sales records	
3.3	Cost Control in food production • Food cost control • Labour cost control • Waste control • Budget monitoring	
3.4	Importance of Records and Control	
UNIT - 4	Delivery and Service – Styles	15
4.1	Meaning of Food Service system and Styles	
4.2	Types of Service Styles • Table service • Buffet service • Self-service • Counter service	
4.3	Characteristics of Good Service	
4.4	Importance of Service Styles	
PRACTICALS - 15 HRS		
1	• Menu Planning Preparation • Any one event: • Social event/functions • School meal program • Hospital diet service • Industrial canteen • Restaurant service	
2	Food Service Record Maintenance Preparing: • Daily purchase record	

	• Inventory (store) record • Sales record • Waste record
3	Cost Control Exercise • Calculating cost per dish • Raw material price list • Steps to maintain minimal Waste • To plan production according to Budget
4	Service Styles Demonstration • To demonstrate Table service and buffet service • Process of Order taking and serving • Practice of Customer handling • Follow of Hygiene and serving etiquette
REFERENCE	
1. West, Wood & Harger – <i>Food Service in Institutions</i> .	
2. Sethi Mohini – <i>Institutional Food Management</i> .	
3. June Payne-Palacio & Monica Theis – <i>Introduction to Foodservice</i> .	
4. Marian C. Spears – <i>Foodservice Organizations: A Managerial and Systems Approach</i> .	
5. FSSAI Manuals on Food Safety and Hygiene.	

SEMESTER – 7 FOOD AND NUTRITION									
Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
		or							
	Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
		or							
	MDSC - 1	Food Safety And Quality Control	6	4 (3+1) = 5	75	50	50	100	2 HRS
	MDRC- 1	Research Methodology	6	2	30	25	25	50	1 HRS

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 FN	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	7		Practical Internal	50 (if applicable)
Category of Course	MDSC - 1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Food Safety And Quality Control			
COURSE OBJECTIVE :-				
Upon successful completion of this course, the student will be able to:				
1. Understand and explain the fundamental concepts of Quality Assurance and Food Safety Assurance and their significance in the food industry.				
2. Identify and apply the components of a Quality Assurance Programme, including quality planning, documentation, process control, HACCP, hygiene practices, and corrective actions.				
3. Develop competence in product evaluation through appropriate sampling techniques, interpretation of international and national food standards, and differentiation between mandatory and voluntary standards.				
4. Analyse raw and processed foods for nutritional quality and adulteration using standard nutrient analysis and adulterant testing methods.				
5. Recognize the role of food quality control in consumer protection, including food safety regulations, labelling, and safeguarding consumer rights.				
COURSE OUTCOMES :-				
This Course will enable students to:				
1: Know the importance of quality assurance in food industry.				
2: Know the various tests and standards for quality assessment and food safety.				
3: Know the various test used to detect food adulterants				
4: Be familiar with the fundamentals that should be considered for successful quality control programme.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to quality assurance and food safety assurance. Current concepts of quality control.			15
UNIT - 2	Quality assurance programme : - Quality Plan, - Documentation Of Records, - Process Control And HACCP, - Hygiene And Housekeeping, - Corrective Action, - Quality And Programme And Total Quality Process.			15
UNIT - 3	Product Evaluation : - Sampling for product evaluation and line control. - Specification and Food standards, International, National - Mandatory, Voluntary. - Sample preparations			15

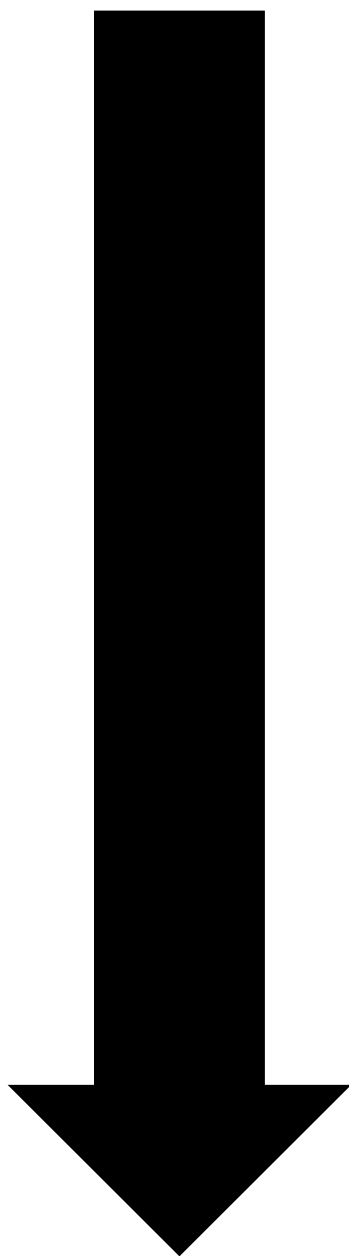
	• Reporting results and reliability of analysis.	
UNIT – 4	Test for specific raw food ingredients and processed Food including additives: a. Nutrient analysis b. Tests of adulterants c. consumer Protection	15
PRACTICALS - 15 HRS		
Assessment of purity and quality using appropriate standard test for the following : • Water including mineral water • Milk and milk products • Fats and oil including butter, ghee and hydrogenated fat • Ice creams and sherbets • Cereals and cereal product • Pulses and legumes • Spices and condiments and salt, pickles, sauces and chutneys. • Tea and Coffee • Confectionery • Specific food ingredients such as vinegar. • Fruit juices, concentrates and beverages. 2. Detection /Estimation of Contaminants		
REFERENCE		
1. Early, R. (1995): Guide to Quality Management Systems for the Food Industry, Blackie, Academic and Professional, London. 2. Gould, W.A. and Gould, R.W. (1988): Total Assurance for the Food Industries, CTI Publication Inc. Baltimore. 3. Pomeranz, Y. and MeLoan, C.E. (1996): Food Analysis: Theory and Practice, CBS Publishers and Distributor, New Delhi. 4. Askar, A. and Treptow, H. (1993): Quality Assurance in Tropical Fruit Processing, Springer – Verlag, Berlin. 5. World Health Organisation (1998): Guidelines for Drinking Water Quality, 2nd edition, Vol. 1, 2 and 3 Geneva. 6. Marth, E.H. (1978): Standard Methods for the Examination of Dairy Products 14th ed. Or edition. Interdisciplinary Books and Periodicals, Washington, D.C. 7. Ranganna, S. (1986): handbook of Analysis and Quality Control for fruit and Vegetables Products, 20th edition, Tata McGraw Hill Publishing Co. Ltd. new Delhi. 8. Hagstad, H.V. and Hubber, W.T. (1986): Food Quality Control, Foods for Animal Origin, Iowa state University Press, A		

B.Sc. Home Science Semester – 7 (General Home Science)				
Course Level	6	Semester 7 FN	Internal Marks – SEE	25
Programme	UG		External Marks –CCE	25
Semester	7		Practical Internal	50 (if applicable)
Category of Course	MDRC - 1		Practical External	50 (if applicable)
Course Credit	2		Prac. External Exam Duration	(if applicable)
Teaching Hours	30		Total	25
Course Code			Exam Duration	1 Hours
Course Title	Research Methodology			
COURSE OBJECTIVE :-				
- Understand The Fundamental Principles Of Methodology Concerning Research - Prepare Research Tools Applicable To Developmental Issues - Develop Skills In Documentation				
COURSE OUTCOMES :-				
By the end of this course, students will be able to:				
1. Understand the Fundamentals of Research - Explain the meaning, need, and purpose of research in Home Science. - Distinguish between different types and approaches of research. 2. Develop Research Skills - Select and define a research problem relevant to Home Science disciplines. - Formulate clear research questions and objectives. 3. Apply Research Design Principles - Identify appropriate research designs (qualitative, quantitative, mixed methods) for Home Science studies. - Justify the choice of design based on research needs. 4. Collect and Analyse Data Effectively - Apply suitable sampling techniques and data collection tools (questionnaires, interviews, observations). - Organise and analyse data using basic statistical and qualitative methods. 5. Interpret and Report Findings - Draw valid conclusions and link results to research objectives. - Prepare research reports, abstracts, and presentations with academi				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Meaning And Concept Of Research - Characteristics Of Research - Importance Of Educational Research - Types Of Research - Research Method (A) Historical Research Method (B) Descriptive Research Method			
UNIT - 2	Steps of Research Process 2.1 Introduction 2.2 Identification or Selection of Problem 2.3 Review of Related Literature 2.4 Objectives of the Study 2.5 Identification of Variables 2.6 Hypothesis 2.7 Method of Research			

	2.8 Population and Sampling 2.9 Selection or Construction of Tools 2.10 Data Collection 2.11 Analysis of Data and Statistical Techniques 2.12 Interpretation of Results 2.13 Research Report Writing	
UNIT - 3	The Research Hypothesis And Sampling 3.1 Meaning and Importance of Hypothesis 3.2 Characteristics of Good Hypothesis 3.3 Types of Hypothesis 3.4 Limitation of Hypothesis 3.5 Meaning of Sampling 3.6 Importance of Sampling 3.7 Sampling Techniques	
UNIT - 4	Tools and Techniques of Research 4.1 Concept and Types of Tool 4.2 Questionnaire 4.3 Interview 4.4 Rating Scale 4.5 Attitude Scale 4.6 Check List	
Note	Preparation of Research Project as internal evaluation	
REFERENCE		
• A.N.Sadhu,(1980). Research Methodology In Social Science, Bombay: Himalayas Publishing House • Dr. G.B.Singh, (2011). Research Methodology I, Jaipur: Paradis Publishers. • M.N.Borse, (2004). Research Methodology, Jaipur: Shree Niwas Publications. • Vandana Vohra, (2013), Research Methodology, Jaipur: Pratiksha Publication Dr. R.S.Patel (2014), Methodology Of Education Research; 2ne Edition, Jay Publication Ahmedabad.		

SEMESTER – 8

FOOD AND NUTRITION



BHAKT KAVI NARSINH MEHTA UNIVERSITY – JUNAGADH SCHEME FOR CONTACT HOURS AND EXAMINATION SETUP - FOR SEM. 8 EFFECTIVE FROM – JUNE -2026 – STRUCTURE PROGRAMME										
Summary of the Syllabus – food and nutrition										
Sem. No.	Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
Sem-8 food and nutrition	1	Major-20	Geriatric Nutrition	6	4(3+1)=5	75	50	50	100	2 HRS
	2	Major-21	Food Biotechnology	6	4(3+1)=5	75	50	50	100	2 HRS
	3	Major-22	Food Toxicology	6	4(3+1)=5	75	50	50	100	2 HRS
	4	Minor-08	8.1 Extension Management	6	4(3+1)=5	75	50	50	100	2 HRS
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	*	*	*	*	*	*	*	*	*	*
	5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
			or							
		Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
			or							
		MDSC - 2	Functional Foods And Nutraceuticals	6	4(3+1)=5	75	50	50	100	2 HRS
		MDRC - 2	Computer Applications in Research	6	2(0+2)=4	60	25	25	50	2 HRS
	Total				22					

B.Sc. Home Science Semester – 8 (Food And Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-20		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Geriatric Nutrition			
COURSE OBJECTIVE :-				
1. To develop an understanding of the ageing process and age-related physiological and nutritional changes.				
2. To familiarize students with theories of ageing and socio-psychological issues affecting the elderly, especially elderly women.				
3.To enable assessment of nutritional status				
4.Nutritional in requirements and planning of appropriate diets for older adults.				
5. To impart knowledge on nutritional management and prevention of chronic degenerative diseases in the elderly.				
6. To create awareness about government policies and NGO programmes related to elderly welfare and nutrition.				
COURSE OUTCOMES :-				
The course is designed to:				
- Familiarize the students with the multifaceted aspects of ageing. - Make the students competent for nutritional and health care of the elderly.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	The ageing process			15
1.1	physiological, biochemical and body composition changes.			
1.2	Theories of ageing.			
1.3	Socio-psychological aspects of ageing – special problems of elderly women.			
UNIT - 2	Nutritional requirements of the elderly and dietary management to meet nutritional needs			15
UNIT - 3	Chronic degenerative diseases and nutritional problems of the elderly – their etiopathogenesis, management, prevention and control.			15
UNIT - 4	Policies and programmes of the government and NGO sector pertaining to the elderly.			15

PRACTICALS – 15 HRS	
1.	Nutritional Assessment of Elderly
2.	Planning Balanced Diets for Elderly
3.	Dietary Modification for Common Geriatric Disorders
4.	Case Study on Socio-Psychological Problems of Elderly
5.	Study of Government and NGO Programmes for Elderly Welfare
Suggested Reading & Reference Online Sources	
1.	Kumar, V. (1996): Aging- Indian Perspective and Global Scenario. Proceedings of International Symposium of Gerontology and Seventh Conference of the Association of Gerontology (India).
2.	Bagchi, K. & Puri, S. (Ed.) (1999): Diet and Aging-Exploring Some Facets. Soc. For Gerontological Research, New Delhi and Help Age India, New Delhi

B.Sc. Home Science Semester – 8 (Food And Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-21		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Food Biotechnology			
COURSE OBJECTIVE :-				
➤ to study the scope of food microbiology and food safety to obtain the knowledge about important genera of microorganisms associated with food and their characteristics ➤ to gain the knowledge and applications of various techniques for preserving food (ancient to modern) ➤ to understand the role of different microorganisms in food spoilage, food fermentation and foodborne diseases ➤ to comprehend the microbiological quality control and food-borne illnesses investigation procedures for ensuring food safety and hygiene and ➤ to understand current national and international food safety rules and regulations				
COURSE OUTCOMES :-				
➤ The student will have knowledge on the role of various microorganisms associated with different foods. ➤ The student will have knowledge on the presence of pathogenic and spoilage microorganisms associated with different foods. ➤ The student will have specific knowledge on microorganisms in different raw materials and the health risk of food borne infections and intoxications. ➤ The student will understand how microorganisms grow, and can be used in a positive manner and also controlled in foods. ➤ The student will understand how to use qualitative and quantitative analysis of microorganisms based on theory as well as practical work. health risks in foods.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	• Starter cultures and their biochemical activities; production of alcoholic beverages; production of Single cell protein and Baker’s yeast; Mushroom cultivation • Food and dairy products: Cheese, bread and yogurt • Fermented vegetables – Saurkraut; Fermented Meat – Sausages			15
UNIT - 2	• Novel microorganisms eg. LAB (Probiotics), Cyanobacteria, methylotrophs enzyme biotransformation’s • • Role of Plant tissue culture for improvement of food additives; color and flavour • Genetic modifications of microorganisms; detection and rapid diagnosis • Genetically modified foods and crop			15
UNIT - 3	• Food borne infections and intoxications; with examples of infective and toxic types – Clostridium, Salmonella, Staphylococcus • Mycotoxins in food with reference to Aspergillus species • Food preservation: canning, dehydration, ultrafiltration, sterilization, irradiation • Chemical and naturally occurring antimicrobials; Biosensors in			15

	food industry	
UNIT – 4	• Quality assurance: Microbiological quality standards of food • Intellectual property rights and animal welfare • Government regulatory practices and policies. FDA, EPA, HACCP, ISI • Risk analysis; consumer and industry perceptions	15
PRACTICALS - 15 HRS		
• Yogurt Preparation and Study of LAB • Yeast Fermentation and CO₂ Production • Bread Making using Baker's Yeast • Preparation of Sauerkraut • Observation of Mold Growth on Bread • Food Preservation by Dehydration • Microbiological Quality Assessment of Milk (MBRT) • Study of Natural Antimicrobials in Food • Microscopic Observation of Probiotic LAB • Study of pH Changes During Fruit Juice Fermentation		
REFERENCE		
1. Encyclopedia of Food Microbiology ,2nd Edition 2014, Carl A. Batt 2. Modern Food Microbiology By Jay, James M., Loessner, Martin J., Golden, David A. 3. Food Safety Culture Creating a Behavior-Based Food Safety Management System By Yiannas, Frank 4. Handbook of Foodborne Diseases By Dongyou Liu		

B.Sc. Home Science Semester – 8 (Food And Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Major-22		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Food Toxicology			
COURSE OBJECTIVE :-				
1. Hazard Identification				
Identify Toxicants: Detect and classify harmful substances in food, whether naturally occurring (e.g., plant and microbial toxins), synthetic				
2. Risk Assessment				
Dose-Response Relationships: Understand Paracelsus's fundamental principle that "the dose makes the poison," evaluating how the concentration and duration of exposure influence toxicity. Toxic kinetics & Toxic dynamics: Map out how toxic substances are absorbed, distributed, metabolized, and excreted (ADME) by the human body, and study the cellular/molecular mechanisms of the damage.				
3. Mitigation & Regulation				
Develop Policies: Provide the scientific foundation for regulatory bodies like the Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA) to formulate food safety standards.				
COURSE OUTCOMES :-				
This course is designed for students to:				
1: Familiarize with hazards and toxicity associated with food and their implications for health.				
2: Know the various kinds of hazards.				
3: Be familiar with various tests				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Food Safety and Toxicology: - Hazards Microbiological, Nutritional, - Environmental, - natural Toxicants, - Pesticide residues and Food Additives. - Biotechnology and food safety - HACCP			15
UNIT - 2	Microbial Problems in Food Safety including Mycotoxins and viruses			15
UNIT - 3	Intentional Direct Additives: Preservatives, Nitrate and N-nitroso Compounds.			15
UNIT - 4	Environmental pollution sources: Air, water Hazards involved, Water treatment and waste management.			15
	PRACTICALS			15
- Detection of common food adulterants and food additives. - Microbiological quality assessment of drinking water. - Isolation and microscopic observation of molds from spoiled bread/fruits. - Study of the effect of chemical preservatives on food shelf life.				

- Preparation of a simple HACCP plan for a selected food product.
- Determination of basic water quality parameters (pH, residual chlorine, turbidity).

Suggested Reading & Reference Online Sources

1. OECD Documents (1996): Food Safety Evaluation. Organisation for Economic cooperation and Development Paris.
2. World Health Organisation (1990): Strategies for Assessing the Safety of Foods Produced by Biotechnology. Report of a Joint FAO/ WHO Consultation – Geneva.
3. Walker and Quattruooi, E. (Eds.) (1980): Nutritional and Toxicological Aspects of Food Processing Tayloss and Francis, New York. 64
4. Lava, K. : Muller, E. L.: Toxicological Aspects of foods; Elsevier Applied Science, London.
5. Lee, L.W. (Ed.) (1995): Human Tissue Monitoring and Specimen Banking : Opportunities for Exposure Assessment, Risk Assessment and Epidemiologic Research Proceedings of a Symposium Research Triangle Park, NC, March 30 to April 1, 1993. Environ. Health Perspect. 103 (Suppl. 3).

B.Sc. Home Science Semester – 8 (Food And Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks	50
Programme	UG		External Marks	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	Minor – 8.1		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	GEN. / Extension Management			
COURSE OBJECTIVE :-				
- This course is tailored for Home Science students to bridge the gap between scientific research (nutrition, textiles, and child development) and the rural or semi-urban families who need that information. It focuses on managing the delivery of home-based technologies and life skills. - Based on the syllabus provided, here are the structured Aims and Learning Outcomes for the Extension Management (Home Science) course. These are designed to highlight the intersection of managerial efficiency and community welfare.				
COURSE OUTCOMES :-				
The primary goal of this course is to transform Home Science students into competent Extension Managers who can translate lab-based research into life-improving practices for the community. The specific aims are:				
To Bridge the Gap: To equip students with the skills to transfer scientific knowledge in nutrition, textiles, and child development to rural and semi-urban families. To Master Management Frameworks: To teach the application of professional management principles (like POSDCORB) specifically within the context of social welfare and home-based technologies. To Cultivate Leadership: To develop the ability to identify, train, and collaborate with local community leaders to ensure sustainable development. To Enhance Project Proficiency: To provide hands-on experience in planning, budgeting, executing, and evaluating community-based intervention programs. To Foster Professional Accountability: To instill the importance of systematic monitoring, reporting, and ethical resource mobilization in extension work.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Extension Management & Home Science Perspective Concept of Extension Management: Objectives, scope, and importance of management in the field of Home Science extension. The Management Process: Application of POSDCORB (Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting) in community outreach. Philosophy of Extension: The "Helping people to help themselves" approach and the role of a Home Science Extension worker as a change agent. Administrative Levels: Understanding the organizational setup of Home Science extension at National, State, and			15

	District levels (e.g., KVKs, ICDS, Women & Child Development departments)	
UNIT - 2	Program Planning & Resource Management • Program Planning Cycle: Identification of needs, situational analysis, setting goals, and formulating a plan of work for family welfare. • Resource Mobilization: Identifying and utilizing local resources (human, material, and financial) for community development. • Time and Stress Management: Managing field schedules, overcoming burnout, and optimizing productivity in remote areas. • Decision Making: Types of decisions and steps in the decision-making process within rural organizations.	15
UNIT - 3	Leadership & Human Relations in Extension • Leadership Development: Identifying and training local women leaders (Gram Kaki/Sakhis) to act as conduits for change. • Communication Management: Managing feedback loops, overcoming barriers in rural communication, and interpersonal relationship skills. • Motivation: Encouraging community participation and motivating rural families to adopt modern home science technologies (e.g., smokeless chulhas, solar cookers, or balanced diets). Team Dynamics: Working within multidisciplinary teams (nutritionists, agronomists, and social workers).	15
UNIT - 4	Monitoring, Evaluation, and Reporting • Monitoring Techniques: Tools for tracking the progress of Home Science projects (e.g., nutrition intervention programs). • Evaluation Methods: Formal and informal evaluation; assessing the impact of programs on family income and quality of life. • Report Writing: Techniques of documenting field activities, success stories, and maintaining records for accountability. • Project Proposal Writing: Basic steps in drafting a management proposal for a small-scale community project (e.g., a local tailoring unit or a food processing center).	15
PRACTICALS – 15 HRS		
1. Organizational Visit: Visit a local NGO or Government department working for women's welfare (like ICDS) and document their management structure. 2. Needs Assessment: Conduct a door-to-door survey in a nearby community to identify "felt needs" related to health, sanitation, or home management. 3. Action Plan Development: Create a comprehensive "Plan of Work" for a 3-day workshop on a Home Science topic (e.g., Breastfeeding awareness or low-cost nutritious snacks). 4. Leadership Identification: Use sociometric techniques to identify potential leaders in a village group or self-help group (SHG). 5. Mock Extension Activity: Organize and manage a "Method Demonstration" for a small group, focusing on the logistical and managerial aspects (venue, materials, invitations, and execution). 6. Budgeting Exercise: Prepare a mock budget for a community-based income-generating project (e.g., a mushroom cultivation unit run by women).		

Suggested Reading & Reference Online Sources

- **Dahama, O.P. & Bhatnagar, O.P. (2018). *Education and Communication for Development*.**
 - Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
 - A standard book covering principles of extension education, communication, and rural development.
- **Ray, G.L. (2015). *Extension Communication and Management*.**
 - Kalyani Publishers, New Delhi.
 - Explains communication methods, extension approaches, and management principles.
- **Ray, G.L. (2011). *Extension Education for Development*.**
 - Kalyani Publishers, Ludhiana.
 - Covers philosophy, objectives, methods, and evaluation of extension programmes.
- **Supe, S.V. (2012). *An Introduction to Extension Education*.**
 - Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
 - One of the most widely used textbooks for Extension Education.
- **Leagans, J.P. (1961). *Extension Education in Community Development*.**
 - Vikas Publishing House.
 - A classic reference on community development and extension work.
- **Reddy, A.A. (2017). *Extension Education*.**
 - Sree Lakshmi Press, Bapatla.
 - Useful for understanding extension principles, methods, and programme planning.
- **Mishra, D.C. (2013). *Fundamentals of Extension Education*.**
 - Chandra Prakashan, Allahabad.
 - Covers basic concepts, teaching methods, and extension systems.
- **Singh, A.K. & De, H.K. (2018). *Extension Education*.**
 - Agrotech Publishing Academy, Udaipur.
 - Includes recent concepts in extension management and communication.
- **Sandhu, A.S. (2016). *Textbook on Agricultural Communication Process and Methods*.**
 - Oxford & IBH Publishing Co. Pvt. Ltd.
 - Helpful for studying communication strategies in extension activities.

SEMESTER – 8 FOOD AND NUTRITION									
Sr. No.	Category of Course	Course Title	Course Level	Credit	Teaching Hrs.	SEE Marks	CCE Marks	Total Marks	Exam Duration
5	Research Project (RP) (for UG Honours with	(RESEARCH WITH HONOURS)	6	6					
		or							
	Research Degree) / On the Job Training (OJT) (for Honours Degree)	(WITH HONOURS)	6	6					
		or							
	MDSC - 2	FUNCTIONAL FOODS AND NUTRACEUTICALS	6	4(3+1)=5	75	50	50	100	2 HRS
	MDRC - 2	COMPUTER APPLICATION IN RESEARCH	6	2(0+2)=4	60	25	25	50	2 HRS

B.Sc. Home Science Semester – 8 (food and Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	MDSC - 2		Practical External	50 (if applicable)
Course Credit	4		Prac. External Exam Duration	(if applicable)
Teaching Hours	75		Total	100
Course Code			Exam Duration	2 Hours
Course Title	FUNCTIONAL FOODS AND NUTRACEUTICALS			
COURSE OBJECTIVE :-				
After completion of this course, students will be able to:				
1. Understand the basic concepts, scope, and importance of functional foods and nutraceuticals in health promotion and disease prevention. 2. Gain knowledge about various bioactive components, phytochemicals, probiotics, and prebiotics present in foods. 3. Understand the role of functional foods and nutraceuticals in preventing lifestyle disorders such as obesity, diabetes, cardiovascular diseases, and cancer.				
COURSE OUTCOMES :-				
• Explain the concepts, scope, and importance of functional foods and nutraceuticals in human health. • Identify various bioactive compounds, phytochemicals, probiotics, and prebiotics along with their food sources. • Describe the role of functional foods and nutraceuticals in prevention and management of lifestyle-related diseases.				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Introduction to Functional Foods and Nutraceuticals 1. Definition and Concepts ○ Functional foods, nutraceuticals, dietary supplements, and pharmaceuticals ○ Historical development and evolution 2. Classification of Functional Foods ○ Conventional foods ○ Modified foods ○ Medical foods ○ Foods for special dietary use 3. Importance and Scope ○ Role in health promotion ○ Disease prevention ○ Consumer awareness and market trends 4. Global and Indian Scenario ○ Current market status ○ Emerging trends and future prospects			15

UNIT - 2	Bioactive Components and Sources 1. Major Bioactive Components ○ Vitamins ○ Minerals ○ Amino acids ○ Peptides and proteins 2. Phytochemicals ○ Polyphenols ○ Flavonoids ○ Carotenoids ○ Phytosterols 3. Prebiotics and Probiotics ○ Definition and types ○ Sources and health benefits 4. Natural Sources and Stability ○ Fruits and vegetables ○ Cereals and pulses ○ Herbs and spices ○ Factors affecting stability and bioavailability	15
UNIT - 3	Health Benefits and Mechanism of Action 1. Role in Disease Prevention ○ Cardiovascular diseases ○ Diabetes ○ Obesity ○ Cancer 2. Physiological Effects ○ Antioxidant activity ○ Anti-inflammatory activity ○ Immunomodulatory effects 3. Gut Health and Microbiota ○ Role of probiotics ○ Digestive health ○ Microbiome modulation 4. Nutrigenomics ○ Introduction ○ Personalized nutrition ○ Future applications	15

UNIT - 4	Development, Evaluation and Regulation Product Development - Selection of ingredients - Formulation techniques - Processing methods Evaluation of Functional Foods - In vitro methods - In vivo methods - Bioavailability studies Quality and Safety - Quality control - Shelf-life - Safety assessment - Labeling Regulatory Aspects - Food Safety and Standards Authority of India guidelines - Codex standards - International regulations	15
PRACTICALS – 15 HRS		
1	Preparation of a functional food product (probiotic curd / fortified beverage)	
2	Preparation and evaluation of probiotic food	
3	Preparation of Functional Beverage Herbal drink / lemon-honey drink / amla juice	
4	Sensory evaluation of functional food product using hedonic scale	
5	Preparation of High-Fiber Food Product Prepare high-fiber recipes using oats, bran, flaxseed, or millets	
6	Identification of Functional Foods Available in Market - Collection of samples like oats, fortified milk, probiotic drinks - Classification and labeling study	

REFERENCE

- **Functional Foods: Concept to Product**
 - Edited by Gibson and Williams
 - Covers fundamentals and product development
- **Handbook of Nutraceuticals and Functional Foods**
 - Comprehensive book on nutraceuticals and health benefits
- **Nutraceutical and Functional Food Regulations in the United States and Around the World**
 - Useful for regulatory aspects
- **Functional Foods and Nutraceuticals**
 - Good for bioactive compounds and applications
- **Nutraceuticals: Efficacy, Safety and Toxicity**
 - Includes safety and toxicity details
- **Advanced Nutrition and Human Metabolism**
 - Helpful for understanding health mechanisms
- [FSSAI Official Website](#)
 - For Indian guidelines, food safety standards, and regulations
- [ICMR-NIN Official Website](#)
 - Indian nutrition recommendations and research resources

B.Sc. Home Science Semester – 8(food and Nutrition)				
Course Level	6	Semester 8 FN	Internal Marks – SEE	50
Programme	UG		External Marks –CCE	50
Semester	8		Practical Internal	50 (if applicable)
Category of Course	MDRC - 2		Practical External	50 (if applicable)
Course Credit	2		Prac. External Exam Duration	(if applicable)
Teaching Hours	60		Total	100
Course Code			Exam Duration	2 Hours
Course Title	Computer Application In Research			
COURSE OBJECTIVE :-				
* To introduce basic computer applications used in research * To develop skills in research documentation and data handling * To familiarize students with simple statistical and presentation tools * To promote ethical and effective use of digital research resources				
COURSE OUTCOMES :-				
After completion of the course, students will be able to:				
* Apply basic computer tools for research documentation * Organize and analyze simple research data digitally * Use statistical software for basic data analysis * Prepare ethical, well-referenced research reports and presentations				
UNIT	COURSE CONTENT			TEACHING HOUR
UNIT - 1	Basics of Computers and Research Applications * Introduction to computers: hardware, software, operating systems * Types of software used in research * Role of computers in Home Science research * Digital research workflow * Data security, ethics, and academic integrity			15
UNIT - 2	Research Documentation and Data Management * Research documentation using Microsoft Word * Formatting research proposals, assignments, and reports * Preparation of questionnaires and schedules * Data entry and management using Microsoft Excel * Use of basic formulas and tables			15
UNIT - 3	Statistical and Data Analysis Tools * Introduction to computer-based statistical analysis * Descriptive statistics: mean, median, mode, percentage * Data analysis using SPSS (introductory level) * Graphical presentation of data * Interpretation of statistical output			15

UNIT – 4	Internet Resources, Referencing, and Presentation * Internet and digital libraries for research * Searching research articles and e-resources * Reference management using Mendeley * Plagiarism awareness and citation ethics * Research presentation using Microsoft PowerPoint	15
PRACICALS		
1. Formatting a short research report 2. Data entry and calculation using Excel 3. Basic statistical analysis using SPSS 4. Preparation of graphs and charts 5. Creating a short research presentation		
REFERENCE		
* Kothari, C.R. – Research Methodology * Gupta, S.P. – Statistical Methods * SPSS Beginner Manual * APA Publication Guidelines		

Internal Evaluation Scheme for Major-17, 18, 19 , 20 , 21 , 22 & Minor-07 & 08 and Extra Major 1&2		
No.	Particulars	Marks
1	(Mandatory) Mid Semester Exam/ Practical Exam (if applicable)	25
2	Attendance	5
3	Open book exam/test	5
4	Open note exam/test	5
5	Self-test/ Online test	5
6	Essay/Article writing	5
7	Quizzes/Objective test	5
8	Class assignment	5
9	Home assignment	5
10	Reports Writing	5
11	Research/Dissertation	5
12	Case Studies	5
13	Viva/Oral exam	5
14	Group Discussion	5
15	Role Play	5
16	Paper presentation/Seminar	5
17	Language Lab work	5
18	Interview	5
19	Craft work	5
20	Co-curricular work	5
21	Field Assignment	5
22	Poster Presentation	5
23	Class Test	5
24	Project Work	5
	Total	50
Note: Options No. 1 is compulsory. Attempt any five Options from Question Nos. 2 to 24. Each question carries 5 marks. A student must secure at least 18 marks to pass the Internal Examination.		

External Assessment by University for Major - 17, 18, 19, 20, 21, 22, & Minor - 07 & 08 and Extra Major 1&2		
Que. No.	Particulars	Marks
Q.1		10
	OR	
Q.1		10
Q.2		10
	OR	
Q.2		10
Q.3		10
	OR	
Q.3		10
Q.4		10
	OR	
Q.4		10
Q.5	SHORT NOTES (ANY TWO)	10
1		
2		
3		
4		
	Total	50
Q.1		10
	OR	
Q.1		10
Q.2		10
	OR	
Q.2		10
Q.3	SHORT NOTES (ANY one)	5
	1.	
	2.	
	Total	25

Research Project (RP) (for UG Honours with Research Degree) / On the Job Training (OJT) (for Honours Degree)
Credit- 06
OR
MDSC - 01 & MDRC - 01
Credit- 04 + 02