

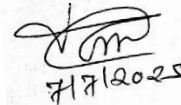


પરિપત્ર:

ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટીની હોમ સાયન્સ વિદ્યાશાખાનાં અભ્યાસક્રમ ચલાવતી તમામ સંલગ્ન કોલેજોનાં આચાર્યશ્રીઓને સવિનય જણાવવાનું કે હોમ સાયન્સ વિદ્યાશાખા હેઠળનો NEP-૨૦૨૦ અંતર્ગત હોમ સાયન્સ (સાયન્સ) વિષય સેમેસ્ટર-૫નો અભ્યાસક્રમ આ સાથે સામેલ છે.

માનનીય કુલપતિશ્રીની મંજૂરી અનુસાર સદર અભ્યાસક્રમ શૈક્ષણિક વર્ષ જુન, ૨૦૨૫ થી અમલવારી કરવાની રહે છે. હોમ સાયન્સ વિદ્યાશાખાનાં અભ્યાસક્રમ ચલાવતી તમામ સંલગ્ન કોલેજો ધ્વારા તેની અમલવારી કરવા જણાવવામાં આવે છે.




જાતા ૨૦૨૫
ખાસ ફરજ પરના અધિકારી
(એકેડેમિક)

ક્રમાંક/બીકેએનએમયુ/ એકેડેમિક/૩૩૬/૨૦૨૫

ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી,

સરકારી પોલીટેકનિક કેમ્પસ,

ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી રોડ,

ખડીયા, જૂનાગઢ-૩૬૨૨૬૩

તા.૦૭/૦૭/૨૦૨૫

પ્રતિ,

- ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી સંલગ્ન હોમ સાયન્સ વિદ્યાશાખાનાં અભ્યાસક્રમો ચલાવતી તમામ કોલેજોના આચાર્યશ્રીઓ તરફ....

નકલ સાદર રવાના:-

- માન.કુલપતિશ્રી/ કુલસચિવશ્રીનાં અંગત સચિવશ્રી.
- પરીક્ષા નિયામકશ્રી, ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી, જૂનાગઢ

નકલ રવાના જાણ તથા યોગ્ય કાર્યવાહી અર્થે:

- સીસ્ટમ મેનેજરશ્રી, આઈ.ટી.સેલ વિભાગ (વેબસાઇટ ઉપર પ્રસિદ્ધ થવા અર્થે.)



BHAKTA KAVI NARSINH MEHTA UNIVERSITY
JUNAGADH



BOARD OF STUDIES
FACULTY OF HOME SCIENCE
SYLLABUS FOR
HOME SCIENCE (SCIENCE) (HONOURS)
PROGRAMME (SEMESTER- V)
EFFECTIVE FROM JUNE, 2025

BHAKTA KAVI NARASINH MEHTA UNIVERSITY JUNAGADH – AS PER NEP- 2020

SYLLABUS

GENERAL HOME SCIENCE – SEM – 5

SEM	PAPER.NO	CATEGORY OFCOURSE	TITLE		CODE	LEVEL	CREDIT	TEACHING HOUR	SEEMARKS	CCEMARKS	TOTAL MARKS	EXAM DURATION
SEM.-5	1	MAJOR -11	COMMUNITY HEALTH AND NUTRITION		HSGEN5MAJ11	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	2	MAJOR-12	ENTREPRENEURSHIP DEVELOPMENT IN WOMEN		HSGEN5MAJ12	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	3	MAJOR - 13	CHILDHOOD DISABILITY AND SOCIAL ACTION		HSGEN5MAJ13	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	FN	FOOD MICROBIOLOGY	HSGEN5MIN41	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	FN	INTRODUCTION TO DIET THERAPY	HSGEN5MIN51	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	EDEX	CHANGING TRENDS IN EXTENSION	HSGEN5MIN42	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	EDEX	NON-FORMAL EDUCATION	HSGEN5MIN52	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	CT	PROCESSING AND APPAREL DESIGN	HSGEN5MIN43	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	CT	INDIAN TRADITIONAL TEXTILE	HSGEN5MIN53	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	FRM	FAMILY FINANCIAL MANAGEMENT	HSGEN5MIN44	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	FRM	CONSUMER IN THE MARKET	HSGEN5MIN54	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	HD	FAMILY AND CHILD WELFARE	HSGEN5MIN45	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	HD	METHODS AND MATERIAL FOR WORKING WITH CHILDREN	HSGEN5MIN55	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS

FOOD AND NUTRITION HOME SCIENCE – SEM – 5

SEM	SR.NO	CATEGORY OFCOURSE	TITLE			LEVEL	CREDIT	TEACHING HOUR	SEEMARKS	CCEMARKS	TOTAL MARKS	EXAM DURATION
SEM.-5	1	MAJOR -11	FOOD MICROBIOLOGY		HS0FN5MAJ11	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	2	MAJOR-12	DIETETICS – 1		HS0FN5MAJ12	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	3	MAJOR - 13	NUTRITIONAL ASSESSMENT AND SURVEILLANCE		HS0FN5MAJ13	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	4	MINOR – 4	GEN	BIO CHEMISTRY	HS0FN5MIN41	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS
	5	MINOR – 5	GEN	ENTREPRENEURSHIP DEVELOPMENT IN WOMEN	HS0FN5MIN51	5.5	4	3+1 (2) =5	50	50	100	2.0 HRS

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Course Level	5.5	Internal Marks	50
Programme	B.Sc Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Major-11	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MAJ11	Exam Duration	02:00
Course Title	COMMUNITY HEALTH AND NUTRITION		

Course Objectives:

- Understand the concept of communication in nutrition health.
- The student will know about NHC.
- Students gain knowledge about Government programs, NGOs for nutrition, health and communication

Course Outcomes:

- Community health and nutrition initiatives aim to improve the overall health and well-being of a population by addressing nutritional needs and promoting healthy eating habits, ultimately leading to reduced disease burden and increased longevity.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Demography and Vital statistics 1.1 Demographic profile 1.2 Vital statistics of developed and developing countries	3 + 1 (2) = 5
	2	Introduction to assessment of nutritional status 2.1 Direct Parameters 2.1 a) Anthropometry i. Concepts, methods, advantages and disadvantages and Interpretations. Weight, height, BMI, MUAC, Head & chest circumference, SFT, Waist / Hip ratio. Classifications – Gomez, water low, IAP etc ii. Various standards for reference for different age groups iii. Use of growth charts 2.2 b) Diet Surveys i. Family foodquestionnaire and record procedure ii. Weighed food inventory iii. Recipe method iv. Weigh as you eat v. Food composite analysis method vi. Food diaries	

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	and others vii. Adult consumption unit 2.3 Clinical assessment 2.4 Biochemical estimations, their estimations and critique 2.5 Indirect Parameters I. Socio-economic status II. Morbidity Rates, Mortality rates (IMR, NMR, MMR, CDR, CBR)	
3	Health care of the community 1. Concept of health care 2. Different levels of Healthcare 3. Healthcare services at different levels National Population Policy -2010	
4	Nutritional education programs / Planning implementation and evaluation 1. Needs of nutrition and health education programs 2. Essentials of nutrition – Educating planning 3. Planning and implementation of Nutrition education programs Evaluation nutrition education programs	
Practical	1 Diet Survey a. Assessing the frequency of consumption of various foods in the community. b. Survey of food habits of various communities viz between rural and urban of ethnic Groups of different socio-economic groups 2 Anthropometric measurements for children in poor and affluent or urban and Rural groups comparisons with the standards and interpretations a. Weight b. Height c. BMI d. waist/hip ratio e. MUAC 3. Understanding clinical signs and symptoms of various nutritional disorders a. Visit to the corporation schools b. Visit to the pediatric ward in the civil hospital 4. Visit to the various community based programmes focused on health and Nutrition and conduct interviews with a. Organizations and service providers b. Beneficiaries regarding participation and its impact	

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References:

1. Gibson(1992) Principles of nutritional assessment, New York, Oxford University Press
2. Gopalan C (1989) Combating undernutrition – Basic issues and practical approaches. New Delhi, Nutrition foundation of India
3. Gopaldas T., Sheshadri S. (1989) Nutrition Monitoring and Assessment, New □ Delhi Oxford University Press.
4. Jlliffée DB and Jelliffe EP (1980) Community Nutritional Assessment Oxford
5. University Press New Delhi
6. Food and Nutrition Board (1995) National Plan of Action on Nutrition,
7. Department of Women and Child Development, Ministry of HRD, Govt of India
8. IGNOU - DNE – 2 Block – 6
9. IGNOU DNE -3 Block – 6
10. IGNOU DNE -3 Block – 2
11. IGNOU DNE -2 Block – 6
12. IGNOU Public Health Nutrition

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Major-12	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MAJ12	Exam Duration	02:00
Course Title	ENTREPRENEURSHIP DEVELOPMENT IN WOMEN		

Course Objectives:

- To enables the students to:
- Develop entrepreneurship skill.
- Promote the economic empowerment of women.
- Understand the process and procedure of setting up small enterprise □ Develop managerial skill for entrepreneurship development.
- Help boost women's status through literacy, education, training and awareness creation.

Course Learning Outcomes:

- At the end of the course the student will be able to get knowledge and understanding of
- Understand the role of women entrepreneurship in different facets of society.
- Develop Soft Skills.
- Know the various livelihood supports for women Employment opportunities.
- Elucidate the role of various developmental schemes supporting women entrepreneurship.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	1.1. Entrepreneurship development among women 1.2. Problems and constraints of women entrepreneurship. 1.3. Suggestion to improve working efficiency of entrepreneurship. 1.4. Importance and need for self employment.	3 + 1 (2) = 5
	2	2.1 Quality of good entrepreneur. 2.2 Establishment of enterprise. 2.3 Legal aspect and procedure to establish enterprise.	

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	3	ENTREPRENEURSHIP PROGRAMS IN INDIA. (A) Entrepreneurship Development Institute of India (EDII) (B) National Institute for Entrepreneurship and Small Business Development (NIESBUD) (C) Small Industries Development Bank of India (SIDBI) Small Industry Development Organization (SIDO) (E) National Alliance of Young Entrepreneur (NAYE) (F) State Bank of India. (SBI) (G) National small industries corporation National Industry of small Industry Extension training (NISIET) (H) State Governments : Directorates of Industries and State Small Industries Corporations (SSIC) (I) Khadi and Village Industries Commission (KVIC) (J) State Financial Corporation (SFC) (K) Jilla Udyog Kendra (DIC) (L) Gujarat Agro Industries Corporation (GAIC) (M) Industrial Extension Board Gujarat Industrial and Technical Consultancy Organization Ltd. (GITCO)	
	4	4.1 Putting a project proposal 4.2 Application form 4.3 Viable project proposal 4.4 Processing of proposal 4.5 License and quota 4.6 Registration, Security, Guarantee, Returns.	
	Practical	a. Prepare a project proposal to start a new enterprise and feasible report. b. Collect information by visiting different entrepreneurship program in your town. c. Collect information from small scale industries from the surrounding sources. Which of the legal aspects and the procedure do entrepreneurs need while the starting an Enterprise.	

Reference:

1. Gundry Lisa K. & Kickul Jill R.,2007, Entrepreneurship Strategy: Changing Patterns in New Venture Creation, Growth, and Reinvention, SAGE Publications, Inc.
2. Taneja & Gupta, 2001, Entrepreneur Development- New Venture Creation, Galgotia Publishing Company.

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Major-13	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MAJ13	Exam Duration	02:00
Course Title	CHILDHOOD DISABILITY AND SOCIAL ACTION		

Course Objectives:

- To appreciate the special needs of children with different disabilities and disorders
- To gain insights into the causes of disability and disorders in children, and into their prevention.
- To be sensitized to the similarities and differences between disabled and non-disabled children.

Course Learning Outcomes:

- After Completion of the Course of the Childhood Disabilities, Recognition of Disabilities the Education Training, Welfare Schemes for Special Children and Law Relating to Special Children.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	INTRODUCTION TO CHILDHOOD DISABILITIES Define Meaning Of Disability Concept Of Different Disabilities (Classification Of Disabilities) Model Of Disabilities Demography Of Disabilities	3 + 1 (2) = 5
	2	PHYSICAL DISABILITIES MEANING - TYPES – IDENTIFICATION (CHARACTERISTICS) – CAUSES – EDUCATION PRACTICES The Blind (Eye/ Seing Impairment) The Deaf And Dump (Hearing Impairment) Speech Disability Crippled Disability	

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	3	MENTAL DISABILITIES Meaning Of Mental Disabilities Types Of Mental Disabilities Identification (Characteristics) Of Mental Disabilities Causes Of Mental Disabilities Education Practices Of Mental Disabilities	
	4	DISABLE CHILD WITH SOCIAL ACTION AND POLICE Disable Child And Attitude Of Family/Society Welfare Schemes For Special Children Law Relating To Special Children	
	Practical	1. Get Information For Day Celebrated And Its Symbol For Various Disabilities (Spacial Ability) 2. Ability) 3. Case Study Of A Child With Special Abilities: 4. Get Information About His/Her Development And The Attitude Of The Family 5. Give Suggetion To His/Her Family Members Base On Data Collection 6. Collect Information About Organization For The Special Ability Children At Various Level, And Visit The Local Level Organization For The Special Ability. 7. Get Information Of Government Schemes And Policies For Special Ability Children	

Reference:

1. Jalvi, Nandaurkar, Bantwal (2006) Introduction to Hearing Impairment, Delhi
2. James Loring and Garhan Bun (1978) Integration of Handicapped Children In Society, London
3. ચં પાલિસંહ (2006) માનસીકમંદતાકિન પ શસનર્દિ િ
4. ભટનાગરઆરપીબાલિવકાસઅંબાલમનોિવ ાન
5. શમાઅંિમ્(2009) ગૃહિવ ાનિવ કોશ10 અજુનપશિશંગહાઝસનર્દિ િ
6. બ્રિટીરંજન (૨૦૦૫) મંદબુિ : સમ યા,ઉકેલઅનેઉપચાર,ગજુ ર ંથર કાયાલયઅમદાવાદ
7. BAOU- ES-232- સમાજનાિવિશ વગ નુંિશ ણ-ક યાકેળવણી

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-4		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HSGEN5MIN41		Exam Duration	02:00
Course Title	FN/ FOOD MICROBIOLOGY			

Course Objectives:

- Gain deeper knowledge of role of micro- organisms in human and environment.
- Understand the importance of micro-organisms in food spoilage and to learn advanced Techniques used in food preservation.
- Understand the criteria for microbiological safety in various food operations to avoid public health hazards due to contaminated foods

Course Learning Outcomes:

- Learning food microbiology equips students with knowledge to understand the the roll of microorganism in food, including their impact safety, spoilage and preservation

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Introduction to food microbiology • Rapid methods for detection of microbes – • Chemical Methods, Nucleic Acid Test, And Immunological Methods	3 + 1 (2) = 5
	2	Food spoilage • Reasons for food spoilage food poisoning food borne infections	
	3	Fermented food • Oriented fermented food • Food produced by microorganisms • Single cell proteins	
	4	Bakery & Milk microbiology Bakery • Microbes used in bakery Useful and harmful microbes milk microbiology • Pasteurization of Milk microbes used in	

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		Dairy industries cheese and ripening of Cheese	
	Practical	Study of different instrument used in microbiological laboratory • Monochrome staining (wet mounting) • Test of Milk by Methyline blue reduction test (MBRT) • Gram staining of bacteria • Study of permanent slides of micro organism • Staining of microorganism from cured sample • Visit to a pathological laboratory	

Reference:

1. Food Microbiology – Frazier W.C.and Westhoff D.C.McGrawHill Inc.Ltd.
2. Modern Food Microbiology – Jay James M. Van Nostrand Reinhold Company Inc.
3. Peleczar and Reid – Microbiology McGraw-Hill Book Company New York

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-5	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MIN51	Exam Duration	02:00
Course Title	FN/ INTRODUCTION TO DIET THERAPY		

Course Objectives:

- To understand the roll of diet therapy
- To gain knowledge on the dietary modification for various dieses
- To acquire the ability to plan and prepare diets for various dieses

Course Learning Outcomes:

- Diet therapy, a broad term for using food and nutrition to prevent or treat diseases and promote overall health, aims to modify dietary habits to achieve specific health outcomes, such as weight management, disease remission, or improved nutritional status.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	INTRODUCTION A. Basic Concept Diet Therapy Therapeutic Diet B. Principles of Diet Therapy C. Dietetic Care of Hospital Patient D. Team Approach to Health Care And E. Assessment of Patient Need	3 + 1 (2) =5
	2	MODIFICATION OF NORMAL DIET A. Normal Diet B. Clear Liquid Diet C. Full Liquid Diet D. Soft Diet E. Bland Diet	
	3	MODES OF FEEDING A. Enteral Feeding B. Tube Feeding C. Parenteral Feeding	

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	4	ETIOLOGY DIAGNOSIS AND DIETARY MANAGEMENT OF PATIENT WITH A. Weight Management: Overweight, Underweight B. Gastrointestinal Disturbances: • Constipation • Diarrhea • Peptic Ulcer • Ulcerative Colitis C. Dietary Management In Febrile Condition And Infection	
	Practical	1. Planning and preparation of • Clear Liquid Diet • Full Liquid Diet • Soft Diet • Bland Diet 2. Planning and Preparation of Diet for Patient With 12 • Overweight • Underweight • Constipation • Diarrhea Peptic Ulcer Ulcerative Colitis Typhoid H. T.B.	

Reference:

1. Robinson C. H. - Normal and therapeutic Nutrition, The Oxford Uni. Press.
2. Williams S.R. - Nutrition and Diet Therapy, V.C. Mosby Co.
3. Anita F.P. -Clinical Nutrition and Dietetics, The Oxford Uni. Press.
4. Krause M.V. and Hinster M.- Food, Nutrition and Diet Therapy, W.B. Saunders
5. Vaid B. M. - Diet Therapy, Saurashtra University
6. Vaid B. M. - Therapeutic Nutrition, Saurashtra University
7. Vaid B. M - Dietetics, Saurashtra University

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-4	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MIN42	Exam Duration	02:00
Course Title	ED/ EX (CHANGING TRENDS IN EXTENSION)		

Course Objectives:

- To understand the changing concepts and meaning of Extension.
- To understand the trends in extension approaches and models used in Extension. 3. To identify the development support system for Extension Education 4. To understand the Extension Education process.

Course Learning Outcomes:

- Extension outcomes are evolving, moving beyond simple technology transfer to encompass broader development goals, including rural development, nutritional security, and climate change adaptation, often utilizing technology and market-led approaches

Sem	Unit No.	Syllabus	Teaching Hours
5	1	CONCEPTUAL ANALYSIS 1.1 Extension 1.1.1 Meaning 1.1.2 Changing concept 1.1.3 Components 1.2 Extension Education 1.2.1 Meaning 1.2.2 Process 1.2.3 Principles of learning Teaching	3 + 1 (2) = 5
	2	EXTENSION MODELS AND APPROACHES Model meaning 2.1.1. Technology - Innovation Transfer Model 2.1.2 Social Education Model 2.1.3 Indigenization Model 2.1.4 Social Action / Conscientization Model 2.1.5 Empowerment - Participation Model 2.1.6 Combination Models	

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	3	NATIONAL EXTENSION SYSTEMS 3.1 Extension Efforts 3.2 CAR Extension Systems 3.3. Agricultural Universities, KVK 3.4 Extension System of Ministry of Rural Development 3.4.1. Department of Science and Technology 3.4.2. Department of Industries 3.4.3. Department of Women and Child development 3.5 Development work by NGO's 3.6 Government - NGO collaboration	
	4	EXTENSION EDUCATION PROCESS 4.1 Environment for learning 4.1.1. Role of Extension worker and communicator, Administrator 4.1.2. Role of the people 4.2. Role of the people 4.2.1. Passive participants 4.2.2. Complacent participants 4.2.3. Active participants	
	Practical	1. To know about local organisation related in extension work like Vikas Jyot, BCC, Diamond Jubilee, Cottage Industries etc. 2. Visiting/ to collect the information on DRDA /TDO government extension projects. 3. Preparing list of local organisations working for Extension from the Social Welfare Directory 4. Viewing Expert talk from online source on: extension organisations/worker to know their Functioning	

Reference:

1. Ahluwalia, M.S. (2000): India's Economic Reforms and Development, Oxford University Press
2. Bhattacharya B., Urban Development in India, Shree publishing House Delhi.
3. Bose Ashish: India's Urbanisation, Institute of Economic growth, Delhi University.
4. Bhalsara J.F., Patterns of social life in Metropolitan areas.
5. Das Ram: Socio-economic Transformation of Millions through Rural development, 21st Century Publishers, Meerut.
6. Desai vasant (1988) Rural Development, Himalaya Pub. House, Bombay.
7. Dreze J. and Sen A.K. (1995): India economic Development and social Opportunity, Oxford University Press.
8. Gulati A.: Indian agriculture and open economy
9. Hussain N. Tribal India today, Harran Publishing house.

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10. Kindervalter S. (1979) Non formal education as an Empowering process, Centr international education 285, hill House South Amherst, Massachaselth o 1003, University of Massachaseths.
11. Krishna K.L.: Industrial Growth and Diversification
12. Levine K. (1985): the social context of Literacy, London R.K.P.
13. M.B. Nanavati and Anjana J.J.: Indian Rural policies
14. Pillai K.S. (1993) ABC of non formal education, Indian Adult education Asso New Delhi.

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-5		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HSGEN5MIN52		Exam Duration	02:00
Course Title	ED/ EX (NON FORMAL EDUCATION)			

Course Objectives:

- Be sensitive. To the educational needs of adult and children from low socio economic group in rural and urban area.
- Organized adult or non formal education program for different age group

Course Learning Outcomes:

- Non-formal education outcomes encompass a wide range of benefits, including personal development, increased self-esteem, enhanced employability, and the acquisition of practical skills and knowledge, often tailored to individual needs and societal contexts.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Concept n importance of adult / non formal education 1. Meaning and types of education 2. Need and importance of education 3. Concept of different type of education	3 + 1 (2) = 5
	2	Non formal education Important Purpose Content of non formal education Learning process in non formal education Non formal education for adult and children	
	3	Adult education Need and importance of adult education Agencies organization and scheme for adult education At State level and at National level	

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	4	Evaluation strategy Meaning definition and objectives of evaluation Types of evaluation Step in evaluation	
	Practical	1. Preparation of learning material for adult learner based on keyword :more words and sentences 2. Non formal education programme planning implementation for any one target group e.g. Illiterate women, Adolescent girl or Adult learner or non-starter children 3. Post literacy continuity education program planning on any subject which is need for people e.g. health awareness, nutrition awareness in specific condition like pregnancy or lactation old age children care for self employment etc. 4. Evaluation of about one practical and report it	

Reference:

1. Ahmad Nasim (1997): Benefits of Literacy and Learning mission vol. xxi (1-4)
2. Athreya Venkatesh B. (1996): Literacy and Empowerment, Sage Pub., New Delhi.
3. Biswas A and Agarwal S.P. (1986): Development of Education in India concept Pub. Company, New Delhi.
4. C.L. Kundu (1994): Adult Education in university system, Kulshreshtha, Nirmal Road, Agency, Delhi. Directorate of Adult Education, Govt. of India (1988): New Delhi, Literacy Digest, National Literacy mission.
5. Gandhi M.K. (1995): Basic Education, Navjeevan Pub., Ahmedabad.
6. Ministry of Human Resource Development, National Literacy Mission, Dept. of Education, New Delhi.
7. Myrdal Gunnar (1970): The challenge of world poverty, Penguin Books Ltd., Middlesex, England.
8. Pillai K.S. (1993): ABC of non formal Education, 17 B Indraprastha estate, New Delhi, Indian Adult Education Association.
9. Ramabrahmam I. (1998): Adult education - Policy and performance, New Delhi Gain Pub.
10. Revised National policy on Education (1992).
11. SeinivasanLyra (1977): Perspectives on non formal Adult learning, New York.
12. Srinivasanlyer (1977): Perspectives on Non formal Adult learning 251 Park Avenue South, New York, 100010, U.S.A., World Education Inc.
13. UGC guidelines for the programme of Literacy and continuing Education in Universities and
14. Colleges (1992)

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-4	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MIN43	Exam Duration	02:00
Course Title	CT (PROCESSING AND APPAREL DESIGN)		

Course Objectives:

- To able the students to equip them with techniques
- To improve the skill in garment making
- Acquaint with the various step involved in the apparel making
- To help develop skills in pattern making and construction

Course Learning Outcomes:

- In the context of apparel design, "processing" refers to the various stages involved in transforming raw materials into finished garments, while "outcomes" encompass the skills, knowledge, and abilities gained through this process.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Introduction to pattern making Importance of taking body measurements Importance of patterns and pattern information Methods of pattern making	3 + 1 (2) = 5
	2	Preparatory steps for garment construction Preparatory steps- preshrinking, straightening and truing Layouts for patterns- general guidelines, basic layouts- lengthwise, partial lengthwise, crosswise, double fold, open, combination fold planning, marking and cutting Layouts for fabrics- Unidirectional, bold and large prints, plaids, stripes and checks, various widths of fabrics	
	3	Seams and finishing of raw edges Types of seams- Plain and its finishing, flat, ridge, decorative Finishing of hemlines Crossway strips-importance and applications stitching, stay stitching, trimming a corner. Additional seam techniques: clipping, notching, grading, trimming, easing, under	

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	4	Study of garment components: Classification and application of sleeves, cuffs, collars, neck lines, plackets, pockets, yokes, trims and accessories	
	Practical	1. Development and identification of seams, plackets, fasteners, edge finishing (binding, facing), pleats and gathers 2. Development of bodice, various sleeves and collars for self 3. Adaptation of basic block skirt top/kurta 4. Construction of skirt top/kurta for self	

Reference:

1. Armstrong, H.J., 2009, Pattern Making for Fashion Design, Harper Collins Publishers Inc., New York.
2. Stamper, A.A., S. H. Sharp and L.B. Donnell, 1986, Evaluating Apparel Quality, Fairchild Publications, America
3. Liechty, E.G., Potterberg, D.N., Rasband, J.A., 2010, Fitting and Pattern Alteration: A Multimethod Approach, Fairchild Publications, New York.

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-5		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HSGEN5MIN53		Exam Duration	02:00
Course Title	CT (INDIAN TRADITIONAL TEXTILE)			

Course Objectives:

- To study textiles of historical significance which influenced other cultures & civilizations
- To gain knowledge of the significant developments in production of textiles in the India.

Course Learning Outcomes:

- This course is Traditional woven textiles of India are considered pieces of art. They are popular for the intricacy of the art.
- This course deals with their method of manufacture, materials used, designs, dyes and motifs used
- A brics are printed to give variety to the consumer. Simple printing technologies have been included, in the course given below, which require only reasonably low investment as an enterprise.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Study of Textile Crafts of India: with reference to history, production centers, techniques, designs, colours and products Woven Textiles-Benaras Brocades, Jamdanis and Baluchars of Bengal, Kani Shawls of Kashmir	3 + 1 (2) = 5
	2	Embroidered And Printed TextilesTextiles Embroidered Textiles: Kanthas of Bengal, Kasuti of Karnataka, Phulkari of Punjab, Chikankari of Uttar Pradesh, Kashida of Kashmir, Gujarat embroideries, Painted and Printed textiles-Kalamkaris of Andhra Pradesh, Dabu printing of Rajasthan, Ajarakh prints of Gujarat Dyed textiles- Bandhnis of Rajasthan and Gujarat, Ikats- Patola of Gujarat, Bandhas of Orissa, TeliaRumal	

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	3	Status of Traditional Textiles in Modern India Evolution and socio-economic significance of Khadi, Handloom and Handicraft sector Sustenance of traditional textile crafts Interventions by organizations	
	4	Conservation of Textiles Factors affecting deterioration of textiles Care and storage of textiles	
	Practical	1. Using various techniques on fabric. • Tie & dye • Batik • Block printing 2. Embroidery stitches of traditional embroideries 3. Portfolio Development-Traditional textile crafts Woven Painted/printed Embroideries 4. Visit to craft centers	

Reference:

1. Agarwal, O.P., 1977, Care and Presentation of Museum projects - II, NRL
2. Chattopadhyaya, K.D., 1995, Handicrafts of India, Wiley Eastern Limited, N Delhi
3. Das, Shukla, 1992, Fabric Art- Heritage of India, Abhinav Publications, N Delhi

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-4		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HSGEN5MIN44		Exam Duration	02:00
Course Title	FRM (FAMILY FINANCIAL MANAGEMENT)			

Course Objectives: To enables the students to:

- Understand the internal and external Factors affecting financial decision.
- Be able to use, to make wise use of Money.
- Develop an Appreciation of role of successful financial manager in satisfying family living.

Course Learning Outcomes:

- At the end of the course the student will be able to get knowledge and understanding of:
- How to plan, manage, and optimize their family's finances to achieve short-term and long-term goals, including budgeting, saving, investing, and insurance.
- Knowing Banking System and operations.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	FAMILY INCOME AND EXPENDITURE 1.1 Meaning and definition of family income. 1.2 Types of Income: Money income, Real income and Psychic income 1.3 Meaning and definition of family expenditure 1.4. Types of expenditure 1.5 Factors influencing variations in family expenditure	3 + 1 (2) = 5
	2	FINANCIAL MANAGEMENT 1.1 Definition of budget 1.2 Types of budget 1.3 Steps in preparing a budget 1.4 Record keeping 1.5 Characteristics of record keeping 1.6 Advantages of record keeping 1.7 Methods of record keeping	

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	3	SAVINGS AND INVESTMENTS 3.1. Meaning of Saving 3.2 Objective of Saving 3.3 Types of Savings: Bank, Insurance, Post Office, Provident Fund, Pension 3.4 Meaning of Investments 3.5 Objective of Investments 3.6 Types Of Investments: Investment in family and Jewellery, interest bearing investment, Shares and Debenture, Rent bearing investment, Property & Housing etc.	
	4	BANKING 4.1 Bank definition 4.2 Kinds of bank 4.3 Functions of bank 4.4 Types of account and other utility services	
	Practical	1. Find out our family annual money income and write 10 suggestions to increase real income. 2. Prepare the project of any two methods of record keeping for 15 days (any 2) (1) Card method (2) Diary method (3) Note-book method (4) File method (5) Envelop method 3. Know the bank procedure of opening the account, depositing money, withdrawing money, writing cheques and other utility services e.g. loan, fixed deposit, core banking, function of ATM, credit / debit card etc. 4. Know the types of pension schemes of Government.	

Reference:

1. Management for modern families: by Gross Crandall and Kohli
2. Management in family living: by Nickell P and Dorsey
3. Modern economics theory by Kewal Krishan Sachdev
4. Personal finance: by Lawrence Gitman

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-5	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MIN54	Exam Duration	02:00
Course Title	FRM (CONSUMER IN THE MARKET)		

Course Objectives: To enables the students to:

- Understand the role of consumer in the market.
- Become aware for marketing condition and rights responsibilities of Consumers.
- Recognize the problems in buying and know about the means of redressed.

Course Learning Outcomes: At the end of the course the student will be able to get knowledge and understanding of:

- To empower consumer with the knowledge and skills to make informed purchasing decisions, understand their rights, and protect themselves from unfair practices, ultimately contributing to a fair and efficient marketplace.
- Demonstrate and understanding of advertising strategies and budgets, various advertising media.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	IMPORTANCE OF CONSUMER EDUCATION 1.1 Consumer-meaning and definition 1.2 Rights and responsibilities of consumer - Rights-To safety, To choose, To be heard, To get information, To redress and To get healthy environment 1.3 Adulteration	3 + 1 (2) = 5
	2	MARKET 2.1 Definition 2.2 Types of Market 2.3 Function and Characteristics of Market	

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	3	ADVERTISEMENT 3.1 Meaning, Importance, Characteristics, Advantage and disadvantages 3.2 Psychology of advertisement 3.3 Types of advertisement: 1) Press medium - Radio, T.V. and Cinema 2) Direct publicity- Packaging and Display 3) Outdoor publicity	
	4	CONSUMER PROTECTIVE SERVICES 4.1 Development and aims of consumer organization in India 4.2 Consumer Education and Research Center- Ahmedabad (CERC) 4.3 Consumer Guidance Society-Bombay 4.4 Educational institutions 4.5 Indian standard institutions 4.6 Consumer Co-operatives 4.7 Government agencies, Municipalities	
	Practical	1. Adulteration 2. Visit to a Grahak Suraksha Samiti 3. To get information about-Brand, Trade mark, Agmark, Labelling, Packaging, I.S.I. 4. Effect and impact of advertising on consumer buying	

Reference:

1. Sarkar A. (1989); Problems of consumer in modern India, Discovering publishing House
2. Consumer Report, CERC, Thakurbhi Desai smark bhavan, Ahmedabad
3. Consumer Conformation, CERC, Thakurbhai Desai smark bhavan, Ahmedabad.
4. Agrawal V.K.(1989) Consumer protection in India with special reference to unfair trade Practices, New Delhi; Deep and Deep publishers.

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-4		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HSGEN5MIN45		Exam Duration	02:00
Course Title	HD (FAMILY AND CHILD WELFARE)			

Course Objectives:

- Student will gain knowledge about the Child Welfare
- Student will gain knowledge about the Child Welfare Services.
- Student will gain knowledge about the Organization of Family and Child Welfare.
- Student will gain knowledge about the Family Welfare

Course Learning Outcomes: After Completion of the Course of the Study Child Welfare and Organization of Child Welfare and Family Welfare.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	CHILD WELFARE Concept Of Child Welfare History Of Child Welfare In Bhart Objective Of Child Welfare The Need For Child Welfare Components Of Child Welfare Areas Of Child Welfare (Children's Problem)	3 + 1 (2) = 5
	2	CHILD WELFARE SERVICES Development Of Child Welfare In Bharat Welfare Schemes For Children	

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	3	ORGANIZATION OF FAMILY AND CHILD WELFARE V.H.A.I. (Voluntary Health Association In India) N.I.P.C.C.D. (National Institute Of Public Co-Operative & Child Development) W.H.O. (World Health Organization) U.N.I.C.E.F (United Nation's International Children's Emergency Fund) C.A.R.E. (Co-Operative For American Relief Every Where) Red Cross Society C.S.W.B. (Central Social Welfare Board) Maternal And Child Welfare Services	
	4	FAMILY WELFARE /FAMILY PLANNING Concept Of Family Welfare Need For Family Welfare /Family Planning In Bharat Activity Of Family Welfare Programme Contribution Of NGOs In Family Welfare Challenges Facing Family Welfare /Family Planning Barriers Factors Of Family Planning In Bharat Strategies To Promote Effective Family Planning	
	Practical	1. Visit To Local Level Child And Family Welfare/ Health Organization 2. Collect Information About Current Government Welfare Schemes 3. Create A Media: Subject Related Topic (Chart/ Poster/Pamphlet/Bookplate/Presentation/Video Etc) 4. Survey – Evolution Of Family Welfare Program	

Reference:

1. બૃંદાસિંહ ૨૬૬૨૧ માતૃકલાએવંશિશુક ાણ ામ કાશનજયપુર
2. બૃંદાસિંહ ૮૬૬૮૮૭૧ જન ા એવંપ રવારક ાણલ પંચશીલ કાશનજયપુર
3. બીપીશૈરી ૮૬૬૮૮૭૧ માતૃકલાએવંશિશુક ાણરિવમુ ણાલયઆગરા
4. ચૌધરી ૮૬૬૮૮૭૧ બાલક ાણકી પરેખાિંબહાર ંથઅકાદમીપટના
5. મહાજન ૮૨૬૬૮૮૭૧ સમાજશા કાિવ કોશરોશનઆફસેટિ ંટસિદ િ
6. મટનાગરઆરપીબાલિવકાસએવંબાલમનોિવ ાન
7. શમાએવંમિ ા ૮૨૬૬૮૮૭૧ ગૃહિવ ાનિવ કોશઅજુનપ િશંગહાઉસનર્દિ િ
8. દવજે. કે. (2016) આરો યઅનકે ડુટુંબક યાણ, અનડાબકુ ટીપોઅમદાવાદ
9. શાહઅનેદવે (2004-05) સામાિજકક યાણઅનેસામાિજકકાચદાઓ, અનડાબકુ ટીપોઅમદાવાદ

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-5	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HSGEN5MIN55	Exam Duration	02:00
Course Title	HD (METHODS AND MATERIAL FOR WORKING WITH CHILDREN)		

Course Objectives:

- To know the requirement of infant and toddler and develop skills to create play materials and designing learning experiences.
- To understand the significance of various creative activities and teachers' role in implementing them.
- To understand the Games and Toys Importance in Child Development

Course Learning Outcomes: After Completion of the Course of the Study Activities for sensory stimulation, Creativity and Art, Music and Rhythm and Games and Toys Importance in Child Development

Sem	Unit No.	Syllabus	Teaching Hours
5	1	ACTIVITIES FOR SENSORY STIMULATION • What Is Sensation? • Characteristics Of Sensation • Types Of Sensation • Different Sensory Capacities And Its Training (Seeing, Hearing, Touch, Tasting Smelling)	3 + 1 (2) = 5
	2	CREATIVITY AND ART (3 TO 6 YEAR) • Concept Of Creativity • Characteristics Of Creativity • Development Of Creativity • Creative Activities Of Childhood • Principles Of Creativity • Art Activities • Painting (Brush, Blow, Spray, Finger) • Printing • (Vegetable & Leaf, String, Block, Coins) □ Cutting And Pasting.	

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	Modeling	
3	MUSIC AND RHYTHM (3 TO 6 YEAR) - Importance Of Music In Child's Life - Teacher's Role In Providing Appropriate Experiences - Criteria For Selection Of Song - Creating Environment For Musical Growth - Types Of Rhymes - Rhythmic Movements Of Body And Musical Instruments	
4	GAME/PLAY AND TOYS FOR CHILDREN - Meaning Of Game/Play - Characteristics And Significance Of Game/Play - Principles Of The Game/Play - Types And Classification Of Game/Play - According To Different States/Age Of Games - Organization And Usefulness Of Games In Education - Toys For Children: According To Age Of Toys And Things To Keep In Mind While Choosing Children's Toys - Play And Work	
Practical	- Prepare Materials And Design Activities For Seeing, Hearing, Touching, Tasting, And Smelling - Prepare A Variety Of Brushes & Paint With Help Of Them (Brooms, Cotton, Wool, Strips Of Cloth, Feather) - Painting And Printing Painting : Brush, Blow, Spray, Finger Printing : Vegetable& Leaf, String, Block, Coins - Cutting And Pasting Cutting A Design Or Circular Ring Starting From One Comer Of The Page Till Center Of The Page. Pasting: Paper, Cloth, Sticks, Leaves, Mosaic, Paper Balls Glass Pieces Etc. (Collage)	

Reference:

- Up and About 20 Activities for primary school -AtmaVidya Education Foundation.
- Play activities for young children -Swaminathan
- Stimulation activities for young children - Murlitharan R. Asthana
- Early childhood education A trainers handbook- Kaul, V. Bhatnagar
- उदयवीरस ेना1991ए92 बालमनोविज्ञानसाहित्य काशनआगरा
- महे िम 2009 मनोविज्ञानिव कोश4 अजुनप िशंगनर्दिनी
- आरतीराजहंसबालविकासएवंमानवीयसंबंधिबहारिहंदी ंथअकादमीपटना
- बीपीशेरी1989 मातृकलाएवंिशिशुक ाणरिवमु णालयआगरा
- भाईयोगे जीत1986 बालमनोविज्ञानिवनोदपु कर्मिंदरआगरा
- जैनएवंमलैया1989 मातृलकाबालक ाणएवंविकासिवनोदपु कर्मिंदरआगरा
- समु ितबहने वैध (1992) बालविकासअनेिशिशु,नवभारतसाहित्यमंडिरअमदावाड
- ीतिदाशु ल,बालविकासअनेकौटुंकिडसलं ाण

FOOD & NUTRITION

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Effective from June 2025
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SEMESTER- V

Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Major-11	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HS0FN5MAJ11	Exam Duration	02:00
Course Title	FOOD MICROBIOLOGY		

Course Objectives:

- Gain deeper knowledge of role of micro- organisms in human and environment.
- Understand the importance of micro-organisms in food spoilage and to learn advanced Techniques used in food preservation.
- Understand the criteria for microbiological safety in various food operations to avoid public health hazards due to contaminated foods.

Course Learning Outcomes:

- Learning food microbiology equips students with knowledge to understand the the roll of microorganism in food , including their impact safety , spoilage and preservation

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Introduction to food microbiology • Rapid methods for detection of microbes – Chemical Methods, Nucleic Acid Test, And Immunological Methods	3 + 1 (2) = 5
	2	Food spoilage • Reasons for food spoilage food poisoning food borne infections	
	3	Fermented food • Oriented fermented food • Food produced by microorganisms • Single cell proteins	
	4	Bakery & Milk microbiology Bakery • Microbes used in bakery Useful and harmful microbes □ milk microbiology • Pasteurization of Milk microbes used in Dairy industries cheese and ripening of	

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		Cheese	
	Practical	1. Study of different instrument used in microbiological laboratory 2. Monochrome staining (wet mounting) 3. Test of Milk by Methyline blue reduction test (MBRT) 4. Gram staining of bacteria 5. Study of permanent slides of micro organism 6. Staining of microorganism from cured sample 7. Visit to a pathological laboratory	

Reference:

1. Food Microbiology – Frazier W.C.and Westhoff D.C.McGrawHill Inc.Ltd.
2. Modern Food Microbiology – Jay James M. Van Nostrand Reinhold Company Inc.
3. Peleczar and Reid – Microbiology McGraw-Hill Book Company New York

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Major-12		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HS0FN5MAJ12		Exam Duration	02:00
Course Title	DIETETICS – 1			

Course Objectives:

- To understand the role of diet therapy.
- Classify therapeutic diets and adaptation of normal diet
- Learn the different modes of feeding
- To gain knowledge on the dietary modifications for various diseases.
- To acquire the ability to plan and prepare diets for various diseases.
- Learn the assessment of patients' need, counseling, education of the patient and Follow-up

Course Learning Outcomes: Studying dietetics equipped students with knowledge's and skills to translate nutritional science in to practical dietary advice and promoting health and treating medical condition

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Dietetic Techniques and Patient Counseling • Historical Data Of Patients • Dietary Diagnosis And Tests For Nutritional Status Correlating Clinical And Dietary Information • Patient Education And Counseling • Follow Up Visits	3 + 1 (2) = 5
	2	Etiology Diagnosis and Dietary Management Of Patients With • Diabetes Mellitus • Liver Disease: 1. Viral Hepatitis 2. Cirrhosis Of Liver 3. Alcoholic Liver Disease 4. Cholecystitis , Cholelithiasis, Pancreatitis • Anaemia : 1. Nutritional Anaemia 2. Sickle Cell Anaemia	

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	3. Megaloblastic Anaemia 4. Pernicious Anaemia • Cancer	
3	• Risk Factors for Chronic Degenerative Disorder Diet for Healthy Living	
4	Therapeutic Foods And Its Importance A. Wheatgrass B. Spirulina C. Mushroom D. Flax Seeds E. Niger Seeds F. Drumstick Leaves G. Barley H. Chia Seed I. Amylase Rich Foods	
Practical	1. Prepare A List Of Food Rich In • Protein Sodium Fat Calcium Phosphorus Oxalic Acid In Each Food Exchange • Cholesterol, SFA, PUFA, MUFA. 2. Planning and Preparation of Diet For Patient With • Diabetes: 1) Normal Weight 2) Pregnancy • Liver Diseases: 1)Hepatitis 2) Cirrhosis Of Liver • Anaemia: 1) Nutritional Anaemia 2) Megaloblastic Anaemia • Cancer 1) Oral Feeding 2) Tube Feeding 3. Plan and Prepare Recipes From Therapeutic Food Products	

Reference:

1. Robinson C. H. – Normal and therapeutic Nutrition, The Oxford Uni. Press.
2. Williams S.R. – Nutrition and Diet Therapy, V.C. Mosby Co.
3. Anita F.P. –Clinical Nutrition and Dietetics, The Oxford Uni. Press.
4. Krause M.V. and Hinster M.- Food, Nutrition and Diet Therapy, W.B. Saunders
5. Vaid B. M. - Diet Therapy, Saurashtra University
6. Vaid B. M. - Therapeutic Nutrition, Saurashtra University
7. Vaid B. M – Dietetics, Saurashtra University

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Major-13	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HS0FN5MAJ13	Exam Duration	02:00
Course Title	NUTRITIONAL ASSESSMENT AND SURVEILLANCE		

Course Objectives:

- To sanitize student to the principals and methods of assessment of nutritional status
- To equip students to use an interpret various methods of assessing nutritional status
- To enable understanding purpose and type of nutritional surveillance

Course Learning Outcomes:

- Equips students with knowledge to identify nutritional risk develop targeted interventions and improve population health and wellbeing

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Status of under nutrition • How can under nutrition be measured • Types of under nutrition • Severe acute mal nutrition (SAM)	3 + 1 (2) = 5
	2	Demography and vital statistics • Demographic profile and demographic cycle • Vital statistics of develop and developing countries. • Population trends in India and other countries	
	3	Introduction to assessment of nutritional status Direct parameters • Concept, methods, advantages and disadvantages and interpretation • Weight, height, BMI, mid upper arm circumference (MUAC), head, arm and chest circumference, skin fold test, waist and hip ratio • Diet survey # family food questionnaire and record procedure	

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	# weighed food inventory # recipe method # weigh as you eat # food composite analysis method # food diaries # ACU - Clinical assessment Biochemical estimation, their estimation and interpretation of - Lipid, carbohydrate, protein, iron ,vitamin A, vitamin B complex vitamin C, calcium, iron	
4	Indirect parameters affecting nutritional status # Socio economic status: Income, literacy, unemployment #. Morbidity rates #. Mortality rates: IMR, NMR, MMR, CDR, CBR	
Practical	1.DIET SURVEY Assessing the frequency of consumption of various force in the community 2. Anthropometric measurement for children in poor and affluent or urban and rural groups comparison with standard and interpretations Weight Height BMI Waist/Hip ratio MUAC 3. Understanding clinical science and symptoms of various nutritional disorders 4. Visit to corporation schools or pediatric ward in civil hospital Planning low cost dishes using unconventional food for pregnant women, lactating women, weaning food, school going children and old age.	

Reference:

- Gibson(1992) Principles of nutritional assessment, New York, Oxford University Press
- Gopalan C (1989) Combating undernutrition – Basic issues and practical approaches. New Delhi, Nutrition foundation of India
- Gopaldas T., Sheshadri S. (1989) Nutrition Monitoring and Assessment, New Delhi Oxford University Press.
- Jliffie DB and Jelliffe EP (1980) Community Nutritional Assessment Oxford University Press New Delhi
- Food and Nutrition Board (1995) National Plan of Action on Nutrition,
- Department of Women and Child Development, Ministry of HRD, Govt of India
- IGNOU - DNE – 2 Block – 6
- IGNOU DNE -3 Block – 6
- IGNOU DNE -3 Block – 2
- IGNOU DNE -2 Block – 6
- IGNOU Public Health Nutrition

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Course Level	5.5	Internal Marks	50
Programme	B.Sc. Home Science	External Marks	50
Semester	5	Practical Internal	-
Category of Course	Minor-4	Practical External	-
Course Credit	4	Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5	Total	100
Course Code	HS0FN5MIN41	Exam Duration	02:00
Course Title	GENERAL (BIOCHEMISTRY)		

Course Objectives: This course will enable students to -

- Develop an understanding of the principles of biochemistry (as applicable to human nutrition)
- Obtain an insight into the chemistry of major nutrients and physiologically important compounds. Understand the biological processes and systems as applicable to human nutrition.
- Apply the knowledge acquired to human nutrition and dietetics

Course Learning Outcomes: Learning biochemistry equipped students with the knowledge to understand food composition , structure and metabolism

Sem	Unit No.	Syllabus	Teaching Hours
5	1	CARBOHYDRATE • Definition • Physical and chemical properties of carbohydrates • D & L form • Stereoisomerism – Optical activity • Ring structures - Carbohydrate metabolism • Reactions & energetic of A. Glycolysis_Aerobic and anaerobic B. Krebs Cycle	3 + 1 (2) = 5
	2	PROTEINS AND AMINO ACIDS • Classification and structure of amino acids • Physical and chemical properties of amino acids PROTEIN METABOLISM • Transamination • Deamination (Oxidative) • Decarboxylation • Urea cycle • Protein synthesis	

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3	LIPIDS Fatty Acids ● Classification of fatty acids ● Physical and chemical properties of amino acids ● Hydrogenation ● Halogenation ● Oxidation ● Biological oxidation Fats ● Physical and chemical properties of fats ● Hydrolysis ● Saponification ● Acetylation ● Rancidity ● Acid number ● Iodine number ● Acetyl value LIPID METABOLISM ● B - Oxidation of saturated fatty acid and it's energetic. ● Metabolism of ketone bodies and ketosis	
4	ENZYMES ● Importance and specificity. ● Chemical nature ● Classification and nomenclature ● Enzyme kinetics (factors affecting enzyme action) ● Coenzymes and isoenzymes. ● Inhibitors ● Clinical importance of enzymes	
Practical	1. Cole's method – Glucose, Lactose 2. Acid value 3. Iodine value 4. Glucose estimation by DNSA method 5. Protein estimation by Folin-Wu method 6. Preparation of casein from milk Preparation of standard solution	

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Reference:

1. Biochemistry - Powar and Chatwal 4th Edition (2000) Himalaya Publishing House Bombay.
2. Outlines of Biochemistry – E.C.Conn and P.K.Stumph (1995) John Willey & Sons Replika Press Ltd. Delhi.
3. Harpers Illustrated Biochemistry – R.K.Muray, D.K. Gramner, P.A.Mayes, and V.W.Rodwell (2003) McGraw-Hill Publication.
4. Instant Notes Biochemistry – B.D.Hames & N.M.Hooper 2nd Edition (2003) Viva Books Pvt. Ltd. New Delhi.
5. Biochemistry – Stryer Freeman W.H. & Co.
6. Text Book of Biochemistry – West & Todd Amerind Publishing Co.Pvt.Ltd.

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Course Level	5.5		Internal Marks	50
Programme	B.Sc. Home Science		External Marks	50
Semester	5		Practical Internal	-
Category of Course	Minor-5		Practical External	-
Course Credit	4		Prac. External Exam Duration	-
Teaching Hours	3 + 1 (2) = 5		Total	100
Course Code	HS0FN5MIN51		Exam Duration	02:00
Course Title	GENERAL (ENTREPRENEURSHIP DEVELOPMENT IN WOMEN)			

Course Objectives: To enables the students to:

- Develop entrepreneurship skill.
- Promote the economic empowerment of women.
- Understand the process and procedure of setting up small enterprise
- Develop managerial skill for entrepreneurship development.
- Help boost women's status through literacy, education, training and awareness creation.

Course Learning Outcomes: At the end of the course the student will be able to get knowledge and understanding of :

- Understand the role of women entrepreneurship in different facets of society.
- Develop Soft Skills.
- Know the various livelihood supports for women Employment opportunities.
- Elucidate the role of various developmental schemes supporting women entrepreneurship.

Sem	Unit No.	Syllabus	Teaching Hours
5	1	Entrepreneurship development among women • Problems and constraints of women entrepreneurship. • Suggestion to improve working efficiency of entrepreneurship. • Importance and need for self-employment.	3 + 1 (2) = 5
	2	Quality of good entrepreneur. • Establishment of enterprise. • Legal aspect and procedure to establish enterprise.	

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	3	ENTREPRENEURSHIP PROGRAMS IN INDIA. • Entrepreneurship Development Institute of India (EDII) • National Institute for Entrepreneurship and Small Business Development (NIESBUD) • Small Industries Development Bank of India (SIDBI) • Small Industry Development Organization (SIDO) • National Alliance of Young Entrepreneur (NAYE)	
	4	State Bank of India. (SBI) • National small industries corporation National Industry of small Industry Extension training (NISIET) • State Governments: Directorates of Industries and State Small Industries Corporations (SSIC) • Khadi and Village Industries Commission (KVIC) • State Financial Corporation (SFC) • Jilla Udyog Kendra (DIC) • Gujarat Agro Industries Corporation (GAIC) • Industrial Extension Board • Gujarat Industrial and Technical Consultancy Organization Ltd. (GITCO)	
	Practical	1. Putting a project proposal 2. Application form 3. Viable project proposal 4. Processing of proposal 5. License and quota 6. Registration, Security, Guarantee, Returns.	

Reference:

1. Gundry Lisa K. & Kickul Jill R., 2007, Entrepreneurship Strategy: Changing Patterns in New Venture Creation, Growth, and Reinvention, SAGE Publications, Inc.
2. Taneja & Gupta, 2001, Entrepreneur Development- New Venture Creation, Galgotia Publishing Company.

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INTERNAL EVALUATION SCHEME		
NO	Particulars	Marks
1	Practical Exam/ Mid Semester Exam (Mandatory)	25
2	Class Test	05
3	Open book exam/test	05
4	Open note exam/test	05
5	Self-test/ Online test	05
6	Essay/Article writing	05
7	Quizzes/Objective test	05
8	Class assignment	05
9	Home assignment	05
10	Reports Writing	05
11	Research/Dissertation	05
12	Case Studies	05
13	Viva/Oral exam	05
14	Group Discussion	05
15	Role Play	05
16	Paper presentation/Seminar	05
17	Language Lab work	05
18	Interview	05
19	Craft work	05
20	Co-curricular work	05
21	Field Assignment	05
22	Poster Presentation	05
23	Attendance	05
24	Project Work	05
	Total	50

Note: Sr.No.1 is mandatory. Select any five from Sr.No.2 to 24.

Each Contains five marks. Student should secure 18 Marks for passing in internal Exam.

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Paper Style

EXTERNAL ASSESSMENT BY UNIVERSITY		
Que. No.	Particulars	Marks
Que-1	Question 1	(10)
	OR	
	Question 1	
Que-2	Question 2	(10)
	OR	
	Question 2	
Que-3	Question 3	(10)
	OR	
	Question 3	
Que-4	Question 4	(10)
	OR	
	Question 4	
Que-5	Short Notes. (2/4)	(10)