

# BHAKTA KAVI NARSINH MEHTA UNIVERSITY JUNAGADH



## FACULTY OF HOME SCIENCE Syllabus

For

### **B.Sc. HOME SCIENCE (Three Year) Programme**

General Home Science/ Foods & Nutrition  
Choice Based Credit System (CBCS)

**Effective from June- 2016-2017**

Bhakta Kavi Narsinh Mehta University  
University Campus Junagadh  
Gujarat, India

Website: [www.bknmu.edu.in](http://www.bknmu.edu.in)

Bachelor of Home Science				
Semester	Course Code	Course Name	Credits	Total
Sem. 1	AE-01	Environmental Science - 1	2+0	Credits (30)
	CC-01	Communication and Extension	4+2	
	CC-02	Resource Management	4+2	
	CC-03	Clothing Construction	4+2	
	DS-01	Life Span Development - 1	4+2	
	SE-01	Human Physiology	2+0	
	SE-02	Fundamentals of foods & Nutrition	0+2	
Sem. 2	AE -02	Environment science - 2	2+0	Credits (30)
	CC – 4	Fundamentals of food & Nutrition	4+2	
	CC – 5	Life span development – 2	4+2	
	CC – 6	Fashion studies	4+2	
	DS – 2	Extension for development	4+2	
	SE – 3	Basic of computer and its applications	0+2	
Sem. 3	CC-07	Physical Science	4+2	Credits (28)
	CC-08	Early Childhood care and education	4+2	
	CC-09	Nutrition for the Family	4+2	
	DS-03	Fundamentals of textile	4+2	
	SE-05	Catering Management	2+0	
	SE-06	Information, Education and Communication Material for Development	0+2	
Sem. 4	CC -10	Microbiology	4+2	Credits (28)
	CC -11	Personal Finance and Consumer Studies	4+2	
	CC -12	Communication Systems and Social Change	4+2	
	DS-04	Food Preservation	4+2	
	SE -07	Childhood in India	2+0	
	SE -08	Textile Design	0+2	
Sem. 5 GENERAL HOME SCIENCE	CC-13	Applied physiology	4 + 2	Credi ts (28)
	CC-14	Children with disability	4 + 2	
	CC-15	Communication for development	4 + 2	
	DS-05	Entrepreneurship Development In Women	4 + 2	
	SE-08	Community nutrition and nutritional health communication – 1	2+0	
	SE-09	Process in apparel design	0+2	
Sem.6 GENERAL HOME SCIENCE	CC-16	Research and documentation	4 + 2	Credi ts (28)
	CC-17	Adolescent relation and well being	4 + 2	
	CC-18	Indian traditional textile	4 + 2	
	DS-06	Community nutrition and nutritional health communication – 2	4 + 2	
	SE-10	NGO management	2+0	
	SE-11	Basic of design application	0+2	
Sem. 5 FOOD & NUTRITION	CC-13	Bio Chemistry	4 + 2	Credi ts 28
	CC-14	Dietetics – 1	4 + 2	
	CC-15	Food science – 1	4 + 2	
	DS-05	Fundamental of Public health and communication – 1	4 + 2	
	SE-08	Food processing and safety	2+0	
	SE-09	Physiology	0+2	
Sem. 6 FOOD & NUTRITION	CC-16	Food Analysis	4 + 2	Credi ts
	CC-17	Dietetics – 2	4 + 2	
	CC-18	Food science – 2	4 + 2	
	DS-06	Fundamental of Public health and communication – 2	4 + 2	
	SE-08	Food Microbiology	2+0	
	SE-09	Food Behavior	0+2	

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE /DS – DISCIPLINE SPECIFIC COURSE /SE – SKILL ENHANCEMENT COURSE

(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical

## **Preamble**

*Home Science has contributed a great deal towards national development by training students to take-up leadership roles in extension and community outreach programs. The students are encouraged to develop a scientific temper. Familiarizing them with the use of newer technologies, methods in family and community linkages, and sustainable use of resources for human development are the hallmark of education in Home Science. As a discipline Home Science integrates the ingredients of sciences, social sciences and technology to facilitate the study of and enhance the quality of human life. It approaches in its curriculum that engages the student through teaching, research and extension. The education process in Home Science underscores the importance of the individual “dynamic relationship with his/her family, community and society as a whole, as well as with the resources in the environment. Higher education learning in Home Science subjects provides students the opportunity to sharpen their capacities with a sense of social responsibility.*

*In contemporary times, Home Scientists promote capacity building of individuals and communities for social and economic empowerment. They train community women and youth from various strata of society for entrepreneurs themselves. They do not remain job seekers but have also become job creators. They gain and provide employment in research organizations, food and textile industries, dietetic practice, education and child development domains, accreditation of green buildings, strategic planning and communication technologies. Keeping in view the growing aspirations of today’s youth and capacity of Home Science discipline to deliver, the 3-year choice based credit system has been drawn up.*

*Years of national and international experience in the field has contributed to the wisdom that all the five windows of opportunity that Home Science offers be opened, i.e. Food and Nutrition, Human Development, communication and Extension and Fabric and Apparel Sciences. In this course, the students will learn the fundamental principles and foundations of all five areas. They are expected to internalize the principle of a Home Scientist, that is, to give back to the community from which they draw, for sustainable development. This is a major contribution of Home Science in both developed and developing societies.*

*The University Grants Commission’s model 2001 curriculum of Home Science reflects a similar philosophy. The objectives of the present B.Sc. program Home Science course are:*

- To understand and appreciate the role of interdisciplinary sciences in the development and Well-being of individuals, families and communities.*
- To learn about the sciences and technologies that enhance quality the life of people*
- To acquire professional and entrepreneurial skills for economic empowerment of the student in particular, and community in general.*
- To develop professional skills in food, nutrition, textiles, housing, product making Communication technologies and human development.*
- To take science from the laboratory to the people.*

- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- F. Y. B.Sc. (Home Science)
- Semester – 1

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	01	Environment Science - 1	AE-01	01	2+0	***	15	35	50	1 ½ hours	****	
BHS	01	Communication and Extension	CC-01	02	4+2	20	30	50	100	02 hours	02 hours	
BHS	01	Resource Management	CC-02	03	4+2	20	30	50	100	02 hours	02 hours	
BHS	01	Clothing Construction	CC-03	04	4+2	20	30	50	100	02 hours	02 hours	
BHS	01	Life Span Development - 1	DS-01	05	4+2	20	30	50	100	02 hours	02 hours	
BHS	01	Human Physiology	SE-01	06	2+0	***	15	35	50	1 ½ hours	***	
BHS	01	Fundamentals of foods & nutrition	SE-02	07	0+2	35	15	***	50	****	3 hours	
					20+10	115	165	270	550			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical)

**F. Y. B.Sc. (HOME SCIENCE) SEMESTER – I  
ENVIRONMENTAL SCIENCE PAPER NO.01  
AE – 01 ( )  
(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**OBJECTIVES**

1. To be aware of the holistic ecological approaches to environment
2. To be aware of the environmental problems, hazards and risks
3. To understand the aspects of environmental pollution
4. To know our environmental resources and its conservation
5. To be aware of public duties for sustainable development of India
6. To be aware of the environmental policies, movements and ethics

**THEORY**

**UNIT – 1:- Our Environment**

- 1.1 Introduction
- 1.2 Definition of environment
- 1.3 Environmental factors
- 1.4 Structure of atmosphere
- 1.5 Importance of environmental education

**UNIT – 2:- Our Natural resources**

- 2.1 Introduction
- 2.2 Meaning of natural resources
- 2.3 Classification of natural resources
- 2.4 Natural resources and associated problems
  - 2.4.1 Forest resources
  - 2.4.2 Water resources
  - 2.4.3 Land resources
  - 2.4.4 Mineral resources
  - 2.4.5 Food resources
  - 2.4.6 Energy resources

### **UNIT – 3:- The Role of Public in Sustainable Development and Environment**

3.1 Introduction

3.2 Biodiversity and conservation

3.3 Control on pollution

3.4 Forest protection and plantation

3.5 Conservation of water

3.6 Conservation of land

3.7 Conservation of energy

### **UNIT – 4:- The Role of Information Technology and Public in Environmental Protection**

4.1 Introduction

4.2 Environment related changes and information technology

4.3 Affected role of information technology for public environmental awareness

4.4 The role of public in environment protection

4.5 The role of women in environment protection

### **RECOMMENDED READING**

1) Chetan Singh Mehta (2000), Environmental Protection and the Law,  
New Delhi: Ashish Publishing house.

2) M.H.Tyagi (2005), Global Environmental issues  
Jaipur: Raj Publishing House.

3) R.B.Singh, D.K.Thakur (2009), Environmental Management  
Jaipur: Indus valley publication.

**F.Y. B.Sc. (HOME SCIENCE) SEMESTER –I**  
**COMMUNICATION AND EXTENSION PAPER NO. 02**  
**CC-01 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

To enable students to

- 1) Acquire skills in development and using media in development communication.
- 2) Explore the use of different media for different situation.
- 3) To know about the effective communication.

**THEORY**

**Unit – 1:- Communication: Concepts**

**1.1** Historical background, concept and nature

**1.2** Functions of Communication

**1.3** Types of Communication – communication transactions; Formal and Informal communication: Verbal and Non-verbal Communications

**1.4** Scope of Communication – Education, training and learning industry, Motivation and Management. Corporate Communication, Management of Organizations, Advertising and Public relations

**1.5** Communication and mainstream media-newspaper, radio, television and Cinema, ICTs and web based communication

**1.6** Communication for social change

**Unit – 2:- Understanding Human Communication**

**2.1** Culture and communication- Signs, symbols and codes in communication

**2.2** Postulates/Principles of Communication

**2.3** Elements of Communication and their characteristics

**2.4** Models of Communication

**2.5** Barriers to Communication

### **Unit -3:- Extension: Concept**

**3.1** Extension: concept. Goals, philosophy and history

**3.2** Adult learning Components of Extension

**3.3** Principles of extension

**3.4** Relationship between communication and extension- role of extension in development

### **PRACTICAL**

1. Developing skills in planning and conducting small group communication.
2. Visit to govt.developmental program any one
3. Visit and observation of slum area or village area

### **RECOMMENDED READINGS**

- 1) Barker, L.(1990). “Communication”, New Jersey: Prentice Hall, Inc; 171.
- 2) Devito, J.(1998) Human Communication. New York: Harper & Row.
- 3) Patri and Patri (2002); Essentials of Communication. Greenspan





## **PRACTICAL**

- 1) Preparation of time plans for self and family
- 2) Make different types of articles covers (any Two) Eg. Mobile cover / Sari cover
- 3) Make different types of flower pot any one
- 4) Write your suggestion how to increase your family income

## **RECOMMENDED READINGS**

- 1) Koontz. H. and O'Donnel C., 2005. Management – A systems and contingency analysis of managerial functions. New York: McGraw-Hill Book Company
- 2) Kreitner. 2009, Management Theory and Applications. Cengage Learning: India
- 3) Rao V.S. and Narayana P.S. Principles and practices of Management, 2007, Konark Publishers Pvt. Ltd.

**F.Y. B.Sc. (HOME SCIENCE) SEMESTER – I**  
**CLOTHING CONSTRUCTION PAPER NO. 4**  
**CC – 06 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

1. This course will provide sound foundation for garment manufacturing techniques.
2. To develop skills in students related to body measurements using appropriate tools, sewing by non-automatic machine.
3. Application of appropriate constructional stitches, and preparation of fabric for clothing construction.

**THEORY**

**Unit:- 1:- Sewing Machine**

- 1.1 History of sewing machine
- 1.2 Types of sewing machine
- 1.3 Parts and functions of sewing machine
- 1.4 Operation of sewing machine
- 1.5 Care & maintenance of sewing machine

**Unit:- 2:- Tools of Sewing**

- 2.1 Measuring Tools - Function, use and care of the following tools:
- 2.2 Marking tools
- 2.3 Cutting tools
- 2.4 Sewing tools
- 2.5 Miscellaneous tools

**Unit:- 3:- Measurements**

- 3.1 Knowledge of various landmarks on the body, required for making garments.
- 3.2 Techniques of taking body measurements.
- 3.3 Types of Measurement

**Unit:- 4:- Basic Stitches**

- 4.1 Basic Hand stitches
- 4.2 Basic Machine Stitches

## **Unit: - 5:- Technique of Fullness**

5.1 Type Tucks

5.2 Type Pleats

5.3 Smocking

5.4 Ruffles

## **Unit: - 6:- Point of well tailoring stitches**

### **PRACTICAL**

1) Prepare a labelled outline diagram of sewing machine.

2) Make a Tools Chart with Sketch

3) Basic hand stitches

Project Work: Make Article Any One

1. Pleats

2. Smocking

### **RECOMMENDED READINGS -**

1) Macall's sewing in colour, Hamlyn

2) Singer sewing Book, Gladys Cunningham, Golden Pr

3) Complete guide to sewing, Reader digest

4) Clothing construction, Evelyn A. Mansfield, Houghton Mifflin 1953

5) The technology of clothing manufacture, Harold Carr and Barbara Latham John Wiley  
Wiley & sons. 1994

6) The Art of Sewing, Thomas (annajacob), UBS Publication distributor Ltd.

7) Isabel Sutherland Ed. Home dress making Pan Craft Book

**F.Y. B.Sc. (HOME SCIENCE) SEMESTER – I**  
**LIFE SPAN DEVELOPMENT – 1 PAPER NO. 05**  
**DS – 01 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) To become acquainted with development stages from birth to old age.
- 2) To develop awareness of importance aspects of development during the whole life span.
- 3) To understand the issues faced and adjustment required at each stage across the life span.

**THEORY:**

**Unit1: Understanding Human Development**

- 1.1 Definition
- 1.2 Scope and multidisciplinary nature of Human Development.
- 1.3 Contexts, stages and domains of Development (Different stage on life span)

**Unit2: Growth and Development**

- 2.1 Definitions
- 2.2 Principles of Growth and Development: norms and milestones
- 2.3 Developments Factors-heredity and Environment, Learning and Maturity

**Unit 3: Prenatal Development**

- 3.1 Conception, Pregnancy and Birth.
- 3.2 Stage of Prenatal Development
- 3.3 Influences on Pregnancy

**Unit 4: Infancy**

- 4.1 Definition
- 4.2 Developmental Task
- 4.3 Physical and Motor Development
- 4.4 Social and Language Development

## **Unit 5: Early Childhood Year**

5.1 Definition

5.2 Character and Development Tasks.

5.3 Physical and Motor Development

5.4 Social and Language Development

### **PRACTICAL -**

1) Methods of child study and their use:

Interview , Observations , Checklist

2) Prepare the album or the game in different development activity

3) Use of secondary sources to understand the depiction of children.

4) Collect information about the changes observed during pregnancy by face meeting with the pregnancy women.

### **RECOMMENDED READINGS**

1) Berk, L. E. (2007). Development through the lifespan. Delhi: Pearson Education.

2) Rice. F. P. (1998). Human Development: A lifespan approach. New Jersey: Prenticea. Hall.

3) Santrock, J. W. (2007). A topical approach to life-span development. New Delhi: Tataa. McGraw- Hill.

4) Singh, A. (Ed). 2015. Foundations of Human Development: A life span approach. New Delhi: Orient BlackSwan.

**F.Y. B.Sc. (HOME SCIENCE) SEMESTER – I**  
**HUMAN PHYSIOLOGY PAPER NO. 06**  
**SE – 01 ( )**  
**(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**OBJECTIVES**

This course will enable the students to-

- 1) Understand cell & its structure
- 2) Understand the anatomy of Human body
- 3) Understand the structure of different system of Human body.

**THEORY**

**Unit 1**

**1.1** Introduction to Human body: Organs, tissue and cell, cell structure, cellular organelles and their functions. In Brief

**1.2** Blood-Composition and functions.

**Unit 2 Cardiovascular system:**

**2.1** Structure of heart, circulations

**2.2** Blood pressure (Definition and factors affecting)

**Unit 3 Respiratory System**

**3.1** Respiratory System, Structure and Functions

**3.2** Structure of Lungs and its Function

**Unit 4 Digestive system:**

**4.1** Overview of the Gastrointestinal Tract, organization and functions.

**4.2** Structure and functions of:

**4.3** Stomach.

**4.4** Liver.

**4.5** Gallbladder.

**4.6** Pancreas

**Unit 5 Excretory System:**

**5.1** Structure and functions of kidney and enthrones.

## **Unit 6 Endocrine System:**

**6.1** Overview of endocrine system

**6.2** Structure of main endocrine glands and their functions.

6.3 Pituitary, Thyroid, and Pancreatic hormones.

## **Unit 7 Reproductive System:**

**7.1** Structure and Functions of Uterus and Ovaries.

**7.2** Physiology of Menstruation and Menopause

## **RECOMMENDED READINGS**

- 1) Ganong WF (2014). Review of Medical Physiology, 24<sup>th</sup> ed. McGraw Hill.
- 2) Ross and Wilson (2013). Anatomy and Physiology in health and illness. 11<sup>th</sup> ed. Medical Division of Longman Group Ltd.
- 3) Guyton. A.C. and Hall, J.E.(2000)Textbook of Medical Physiology. 10<sup>th</sup> ed. India: Harcourt Asia
- 4) Das. A. (2004) Medical Physiology-Vil. I and II 3<sup>rd</sup> Books and Allied (P) Ltd.
- 5) Tortora. G.J. and Grabowski, S.R. (2000)Principles of Anatomy and Physiology. 9<sup>th</sup> ed. JohnWiley and Sons. Inc.
- 6) Chaudhari S.K.(2000) Concise Medical Physiology. 3<sup>rd</sup> Edition, Central.
- 7) Mahapatra. A.B.S.(2003): Essentials of Medical Physiology. 3<sup>rd</sup> Edition, Current BooksInternational.



**F.Y.B.Sc. (HOME SCIENCE) SEMESTER –I**  
**FUNDAMENTALS OF FOODS & NUTRITION - PAPER NO. 07**  
**SE – 02 (**  
**(CREDITS: THEORY – 0, PRACTICAL – 2, TOTAL – 2)**

**OBJECTIVES -**

- 1) The course enables the students to understand the functions of food and the role of various Nutrients and the effect of deficiency and excess.
- 2) To learn about the composition and nutritional contribution and selection of different food stuff.
- 3) To be familiar with different methods of cooking, their advantages and disadvantages

**Unit 1 Basic concepts in food and nutrition**

- Basic terms used in study of food and nutrition
- Understanding relationship between food, nutrition and health
- Functions of food-Physiological, psychological and social

**Unit 2 Food Groups**

Selection, nutritional contribution and changes during cooking of the following food groups:

- Cereals
- Pulses
- Fruits and vegetables
- Milk & milk products

**Unit 3 Methods of Cooking and Preventing Nutrient Losses**

- Dry, moist, frying and microwave cooking
- Advantages, disadvantages and the effect of various methods of cooking on nutrients
- Minimizing nutrient losses
- Weights and measures calculation of nutritive values

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- Examination Coding System
- F.Y.B.Sc. (Home Science)
- Semester – 2

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	02	Environment science - 2	AE-02	01	2+0	***	15	35	50	1 ½ hours	****	
BHS	02	Fundamentals of food & Nutrition	CC-04	02	4+2	20	30	50	100	02 hours	02 hours	
BHS	02	Life span development – 2	CC-05	03	4+2	20	30	50	100	02 hours	02 hours	
BHS	02	Fashion studies	CC-06	04	4+2	20	30	50	100	02 hours	02 hours	
BHS	02	Extension for development	DS-02	05	4+2	20	30	50	100	02 hours	02 hours	
BHS	02	Basic of computer and its applications	SE-03	06	0+2	35	15	***	50	****	3 hours	
BHS	02	House keeping	SE-04	07	2+0	***	15	35	50	1 ½ hours	*****	
					20+10	115	165	270	550			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical

**F.Y.B.Sc. (HOME SCIENCE) SEMESTER –II  
ENVIRONMENTAL SCIENCE PAPER NO. 1**

**AE – 02 ( )**

**(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**OBJECTIVES**

1. To be aware of the holistic ecological approaches to environment
2. To be aware of the environmental problems, hazards and risks
3. To understand the aspects of environmental pollution
4. To know our environmental resources and its conservation
5. To be aware of public duties for sustainable development of India
6. To be aware of the environmental policies, movements and ethics

**THEORY**

**Unit – 1 Ecosystem – Earth, Man and Environment**

- 1.1 Introduction
- 1.2 Definition of ecosystem
- 1.3 Structure of ecosystem
- 1.4 Food chain in the ecosystem
- 1.5 Food-web
- 1.6 Types of ecosystem
- 1.7 Effects of man on ecosystem

**Unit – 2 Effect of Man on Environment**

- 2.1 Introduction
- 2.2 Land pollution
- 2.3 Air pollution
- 2.4 Water pollution
- 2.5 Noise pollution

**UNIT – 3 Environmental Problems Created after Development**

- 3.1 Introduction
- 3.2 Ozone depletion
- 3.3 Green house effect
- 3.4 Global warming

## **UNIT – 4 Protection of Environment in India**

4.1 Introduction

4.2 Environment related main movements in India

4.3 Environment related ethics

4.4 Environmental protection Acts.

### **RECOMMENDED READING**

1) Chetan Singh Mehta (2000), Environmental Protection and the Law, New Delhi: Ashish Publishing house.

2) M.H.Tyagi (2005), Global Environmental issues Jaipur: Raj Publishing House.

3) R.B.Singh, D.K.Thakur (2009), Environmental Management Jaipur: Indus valley publication.

4) Timmy Katyal, M. Satake (2006), Environmental Pollution, New Delhi: Anmol publications Pvt. Ltd.



## Unit 6:-

6.1 Water – Functions, sources, water balance and requirement

### PRACTICAL

1. Food preparation, understanding the principles involved, nutritional quality and portion size

(Any one from each group with calculation of required nutrients)

- Carbohydrates
- Protein
- Fat & energy
- Vit A / Carotene
- Vit B1 – Thiamin
- Vit B3 – Niacin
- Vit. C –
- Calcium
- Iron

### RECOMMENDED READINGS

- Khanna K, Gupta S, Seth R, Mahna R, Rekhi T (2004). *The Art and Science of Cooking: A Practical Manual*, Revised Edition. Elite Publishing House Pvt Ltd.
- Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). *Basic Food Preparation: A Complete Manual*, Fourth Edition. Orient Black Swan Ltd.
- Bamji MS, Krishnaswamy K, Brahmam GNV (2009). *Textbook of Human Nutrition*, edition. Oxford and IBH Publishing Co. Pvt. Ltd.
- Srilakshmi (2007). *Food Science*, 4th Edition. New Age International Ltd.
- Wardlaw and Insel MG, Insel PM (2004). *Perspectives in Nutrition*, Sixth Edition. Mosby.
- Chadha R and Mathur P (eds). *Nutrition: A Lifecycle Approach*. Orient Blackswan, Delhi 2015.
- Mudambi S (1981). *Fundamentals of Foods and Nutrition*. Wiley Eastern Ltd.
- NeelamBuddhdev, BhavanaVaid (2004). *Fundamentals of Foods and Nutrition*. PravinPrakashan.
- Human Nutrition - R. Rajlaxmi (1981). *Applied Nutrition*. Oxford and IBH Publishing Co.
- Thangam E. Philip *Modern Cookery – Vol. I and II*. Orient Longman Publication.
- M. Swaminathan (1979) *Food Science, Chemistry and Experimental Foods*. Ganesh and Co.
- F.P. Antia. (1982). *Clinical Dietetics and Nutrition*. Oxford University Press

**F.Y.B.Sc. (HOME SCIENCE) SEMESTER – II**  
**LIFE SPAN DEVELOPMENT – 2 PAPER NO. 3**  
**CC – 05 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

1. To become acquainted with development stages from birth to old age.
2. To develop awareness of importance aspects of development during the whole life span.
3. To understand the issues faced and adjustment required at each stage across the life span

**Unit 1: Middle Childhood Years**

- 1.1 Changes, Challenges and development task
- 1.2 Physical motor development
- 1.3 Cognitive, personality and language development
- 1.4 Socio-emotional and moral development

**Unit 2: Introduction to Adolescence**

- 2.1 Definition and theoretical perspective
- 2.2 Physical, physiological changes
- 2.3 Cognitive and language development
- 2.4 Socio-emotional and moral development

**Unit 3: Young Adulthood**

- 3.1 Transition from adolescences to adulthood
- 3.2 Development tasks of adult
- 3.3 Socio-emotional development, relationships, marriage and parenting
- 3.4 Cognition and creative: work, vacation and leisure

**Unit4: Middle and late Adulthood**

- 4.1 Development takes of middle and late adulthood
- 4.2 Physical and physiological changes and again
- 4.3 Diversity in roles and relation
- 4.4 Parenting growing children
- 4.5 Cultural perspective on again and death

## **PRACTICAL**

### **1 Methods of study and their use**

- Reviewing Interview and Observer
- Questionnaire
- Case Study
- Sociometry

### **2 Case profiles to study Middle Childhood/ adolescence / young adolescences / late Adulthood**

### **3 Depictions of adolescence and adulthood in media: Audio-visual, print and theatre**

### **4 Group Dission – Late Adulthood Problems**

## **RECOMMENDED READINGS:**

- Rice, F.P(1995), human development new jersey: prentice hall
- brek,L.E(1995),child development, London: allyn and bacon
- dutt S (1998).moral values in child development ,new Delhi :ammolsantock,J.W and yussen,S.R(1998).child development: an introduction
- Element of child development
- Fundamental of children development and child care- Sharma &lataGairda.





## **Unit:- 5 Factors Affecting the Fashion**

- 5.1 The factor of age and gender
- 5.2 The factor of geography
- 5.3 The factor of culture
- 5.4 The factor of economy and class
- 5.5 The factor of technology
- 5.6 The factor of Media & Communication
- 5.7 The factor of Transportation

## **Unit: - 6 Changes in Fashion Trend**

- 6.1 Fashion Change
- 6.2 Fashion Trend in 1940/1950 – Period Of Independent
- 6.3 Fashion Trend in 1960- Indo-Western Culture
- 6.4 Fashion Trend in 1970- Mix Match Knit Wear
- 6.5 Fashion Trend in 1980- Economical Boom
- 6.6 Fashion Trend in 1990 – Millennium Fashion
- 6.7 Fashion Trend in 2000 – Mash Up

## **Unit:- 7 Selection of Fabric**

- 7.1 Selection of clothes for self
- 7.2 Selection and Evaluation of ready-made garments

## **PRACTICAL**

1. To collections of famous designers photographs Garment from internet which is related to the field.
2. To make Fashion Accessories – (Any Two)
  - a. Jewellery
  - b. Hand Bag
  - c. Purses
  - d. Broach
  - e. Belt
3. sketching of elements and principles of design
4. Project work – Fashion Accessories / Fashion Style / Fashion Collection

## **RECOMMENDED READINGS**

1. Fashion Design Essentials:100 Principles of Fashion Design - Rockport | Jay Calderin
2. The culture of Fashion - Christopher Breward
3. Fashion and Modernity 0 Christopher Breward
4. Fashion logy: An Introduction to Fashion Studies - Yuniya Kawamura
5. Fashion and Its Social Agendas: Class, Gender, and Identity in Clothing - Diana Crane
6. Fashion Cultures: Theories, Explorations and Analysis - Stella Bruzzi
7. Ready to Wear Apparel Analysis. Prentice Hall, Brown, Patty, Rice J., 1998.
8. Individuality in Clothing & Personal, Marshall S G, Jackson H O, Stanley MS, Kefgen M &Specht T, 2009.
9. Appearance, 6th Edition, Pearson Education, USA.
10. The Complete Book of Fashion Design, Harper and Row Publications, Tate S.L., Edwards M.S., 1982, New York
11. Dr. veena s. samani(2012) :apparel making part- 1Saurashtra university – Rajkot

**F.Y.B.Sc. (HOME SCIENCE) SEMESTER –II**  
**EXTENSION FOR DEVELOPMENT PAPER NO. 5**  
**DSE – 02 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

To enable students to-

- 1) Understand the widening concept of extension.
- 2) To know about extension program planning.
- 3) To develop skills for program planning.

**THEORY**

**Unit 1 Community Development programme**

- 1.1 meaning
- 1.2 Objectives
- 1.3 Types
- 1.4 Programme planning at central and local level

**Unit 2 Methods and Approaches of Extension**

- 2.1 Stakeholders in development
- 2.2 People's participation and social mobilization in development
- 2.3 Extension systems- types, advantages and disadvantages
- 2.4 Diffusion of innovation and adoption
- 2.5 Extension methods and approaches- classification, characteristics and selection

**Unit 3 Development Programs**

- 3.1 Development issues and goals-national and international perspectives
- 3.2 National Development Programmes- goals, strategies, structure and achievements
- 3.3 Analysis of contemporary national development programmes-objectives, clients, salient features, outcomes and communication support.
- 3.4 Behavior Change Communication strategies in development programmes

**Unit 4 Extension Teaching Methods and Technique**

- 4.1 Selection
- 4.2 Classification

**4.3** Extension techniques ( farm/Home visit , Group Discussion , demonstration , exhibition ,workshop , training , seminar ,field visit ,Sight seeing )

### **PRACTICALS**

- 1) Analysis of development programmes
- 2) Evaluate strategies used by development agencies for implementation of development programmes
- 3) Use of any Teaching techniques (demonstration / Work shop)

### **RECOMMENDED READINGS**

- 1) Mikkelsen, Britha, (2002). Methods for Development Work and Research. New Delhi: Sage Publications
- 2) Date 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.

**F.Y.B.Sc. (HOME SCIENCE) SEMESTER –II**  
**BASIC OF COMPUTER & ITS APPLICATIONS PAPER NO. 06**  
**SE – 03 ( )**  
**(CREDITS: THEORY – 0, PRACTICAL – 2, TOTAL – 2)**

**OBJECTIVES**

To enable the students to -

1. Know the basics of computers;
2. To be able to use computers for education, information and research.

**Session 1:- Lab Guide**

**Working with Windows OS**

- 1.1 Working with Desktop
- 1.2 Creating Folder
- 1.3 Creating Text Files
- 1.4 Renaming and Deleting the File And Folder
- 1.5 Working with Recycle Bin
- 1.6 Shutting Down

**Session 2:- Lab Guide**

**MS-Word 2007**

- 2.1 How to Start MS-Office
- 2.2 Office Button – New, Open, Save, Save As, Print, Print Preview, Close
- 2.3 Home Menu – Clipboard, Font, Paragraph, Style, Editing
- 2.4 Insert Menu – Pages, Tables, Illustrations, Header & Footer
- 2.5 Page Layout – Themes, Page Setup, Page Background, Paragraph

**Session 3:- Lab Guide**

**MS-Power Point 2007**

- 3.1 How to Start Power Point
- 3.2 Office Button – New, Open, Save, Save As, Print, Send, Close
- 3.3 Home Menu – Clipboard, Font, Paragraph, Drawing, Editing
- 3.4 Insert Menu – Tables, Illustration, Header & Footer
- 3.5 Design Menu – Page Setup, Themes, Background,
- 3.6 Animations Menu – Preview, Animations, Transition

### 3.7 Slide Show Menu – Start Slide Show, Set Up

#### **Session 4:- Lab Guide**

##### **Internet**

4.1 Email – Create your E-Mail Account

4.2 Log into E-Mail Account

4.3 Read an E-Mail, Send an E-Mail

4.4 Sending Soft Copy as Attachments

4.5 Download Attachments.

4.2 Open Following Websites.

1. Your College Website

2. BKNMU Website

3. [http www.irctc.com.in](http://www.irctc.com.in)

4. [http www.yatra.com](http://www.yatra.com)

##### **Practical ;–**

1) Prepare an application for the post of a lecturer in College in MS- Word.

2) Prepare a resume in MS-Word.

3) Prepare your semester – 2 time table in MS-Word.

4) Enlist your semester – 1 and semester – 2 subjects in MS-Word.

5) Prepare a bar chart of your college H.Sc. semester – 6 results of last 5 years in MSWord.

6) Prepare a pie chart of your class semester – 1 result in MS-Word.

(Number of girls and got grade or class.)

7) Prepare a visiting card for hobby classes/tuition class/ beauty parlour in MS-Word.

8) Prepare an invitation card for inauguration of your shop in MS-Word.

9) Prepare a power point presentation to give information about home science.

10) Prepare a power point presentation for your hobby classes/ beauty parlour/ boutique.

##### **RECOMMENDED READINGS –**

1) Microsoft office 2007 2<sup>nd</sup> edition by computer world.

2) Bano computer expert 5<sup>th</sup> edition by computer world.

3) Beginner's guide 2001 by Aptech Limited

4) Computer application & I.-1 by C. Jamnadas & company.

**F.Y.B.Sc. (HOME SCIENCE) SEMESTER – II**  
**HOUSE KEEPING - PAPER NO. 07**  
**SE – 04 ( )**  
**(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**OBJECTIVES**

**To enable students**

1. To become aware of the different areas and functions of housekeeping department.
2. To be aware of the importance of proper sanitation and hygiene in room.
3. To develop skills in housekeeping activities.
4. Gain knowledge of accessories of hotel.

**THEORY:-**

**Unit;-1 Introduction to Hotels as a Serviced industry.**

- 1.1 Types of service offered in hotels.
- 1.2 Types of operation (Plans)

**Unit;-2 House Keeping**

- 2.1 Introduction and importance of hospitality.
- 2.2 Organization of housekeeping department.
- 2.3 Duties and responsibilities of housekeeping staff.
- 2.4 Co-ordination of housekeeping department with other departments.

**Unit; - 3 Cleaning Activity.**

**3.1 Cleaning agents.**

- 3.1.1 Types of cleaning agent:-
- 3.1.2 Liquid cleaning agent.
- 3.1.3 Powder cleaning agent.
- 3.1.4 Paste cleaning agent.
- 3.1.5 Selection and use for different surface
- 3.1.6 Cleaning Techniques



### **3.2 Cleaning mechanical equipments:**

3.2.1 Vacuum cleaner.

3.2.2 Shampoo machine.

### **3.3. Types of cleaning.**

#### **Unit ;-4 Linen and Uniform room:-**

**4.1** Types of linen and their selections.

4.1.1 Table linen.

4.1.2 Bed linen.

4.1.3 Bath linen.

**4.2** Stock determination, Control and distribution, Record keeping of linen.

**4.3** Types of uniform.

**4.4** Selection of uniform.

**4.5** Distribution and control.

#### **Unit;-5 Accessories:-**

**5.1** Types and their place in interior Decoration.

**5.2** Paintings, sculpture and posts, and other Accessories.

### **RECOMMENDED READINGS**

- **Asler, (1970): Management of Hospitality Operations, BobbsMerill, London.**
- **Andrew Sudhir (1985): Hotel Housekeeping- training manual. Tata McGraw-Hill Publishing Co. Ltd., New Delhi. Charavarti, B.K.: A technical guide to Hotel Operation, Metropolitan Book Co. Pvt. Ltd., and New Delhi.**
- **David, M.Allen: Accommodation and cleaning service, Vol. 1 & 2. Hutchinson Publishing Group 17-21 Conway street, London. Gladwell Derek: Practical Maintenance of equipment for hoteliers, Licenses and caterers,**
- **Hutchinson and Co. Pvt. Ltd. Hurst Rosemary: Accommodation Management for Hostel and residential establishment.**
- **Hurst Rosemary: Service and Maintenance for Hotel and Residential establishment. William**
- **Heinemann Ltd., 10Upper Grosvenor Street, London.**

- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- S.Y.B.Sc. (Home Science)
- Semester – 3

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	03	Physical Science	CC-07	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	03	Early Childhood Care and Education	CC-08	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	03	Nutrition for the Family	CC-09	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	03	Fundamentals of textile	DS-03	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	03	Catering Management	SE-05	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	03	Information, Education and Communication Material for Development	SE-06	06	0+2	35	15	-	50	-	3Hours	
					18+10	115	150	235	500			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical)



## **PRACTICALS**

1. Acid base titration
2. Preparation of Detergent Powder
3. Preparation of liquid soap
4. Simple thermometer
5. Doctor thermometer
6. Use of ICT Ohms law Demonstration only

## **RECOMMENDED READINGS**

- ArunBahl and B.S. Bahl : 2010, Advanced Organic Chemistry, S. Chand
- T. Jacob, 1979, Textbook of Applied Chemistry by McMillian India Ltd.
- Puri, Sharma and Pathania, 2008, Principles of Physical Chemistry by Vishal Publishing House.
- Ahluwalia, V.K. Dhingra, S., Gulati, A., 2005, College Practical Chemistry University Press India Pvt. Ltd.
- B.Sc. Practical Physics by Harnam Singh, S. Chand and Co, 2001.
- Lal. S. (1995). Fundamentals Physics, Pradeep Publications, Delhi.
- Peet, L.J., Pickett, M.S. & Arnold, M.G.(1979), Household Equipment, John Wiley and Sons, USA.
- Partab, H. (1987). Electrical Gadgets. DhanpatRai& Sons.
- Sharma, S.K. &Jerath, R. (2013). Dinesh New Millenium Physics. Vol. I and Vol. II.
- Khan, N. (2008). Physics. Oxford University Press.
- Ahluwalia, V.K. Dhingra, S., Gulati, A., 2005, College Practical Chemistry University Press India Pvt. Ltd.
- B.Sc. Practical Physics by Harnam Singh, S. Chand and Co, 2001.
- Lal. S. (1995). Fundamentals Physics, Pradeep Publications, Delhi.
- Peet, L.J., Pickett, M.S. & Arnold, M.G.(1979), Household Equipment, John Wiley and Sons, USA.
- Partab, H. (1987). Electrical Gadgets. DhanpatRai& Sons.
- Sharma, S.K. &Jerath, R. (2013). Dinesh New Millenium Physics. Vol. I and Vol. II.
- Khan, N. (2008). Physics. Oxford University Press

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER – III**  
**EARLY CHILDHOOD CARE AND EDUCATION PAPER No. 02**  
**CC -08 ( )**  
**(CREDITS: THEORY-4 + PRACTICAL-2 = TOTAL – 6)**

**OBJECTIVES**

- 1) To Understand the Concept and Significance of Early Childhood Care and Education.
- 2) To Develop Understanding of Child Care Education.
- 3) To Create Competent and Skilled Professionals to Work in the Areas of child Care and Education.

**THEORY**

**Unit:-1 Significance and objectives of Early Childhood Care and Education**

- 1.1 Concept of ECCE
- 1.2 Significance of Early Childhood years in individual's development
- 1.3 Present status of young children in India
- 1.4 Overview of pre and post independence period

**Unit: - 2 Education Methods of ECCE Setting**

- 2.1 Montessori Method
- 2.2 Kinder Garden Method (K.G.)
- 2.3 Balawadi Method

**Unit: - 3 Programme Planning of ECCE Setting**

- 3.1 Importance of Programme Planning
- 3.2 Process of Programme Planning
- 3.3 Sample of Daily, Weekly, and Annual Programme Planning

**Unit: - 4 Curriculum for ECCE**

- 4.1 Meaning of curriculum
- 4.2 Types of curriculum
- 4.3 Foundation of curriculum development
- 4.4 Sample of curriculum of ECCE

## **Unit: - 5 Person Management**

5.1 Importance of Person for ECCE Center

5.2 Person Qualities and Roles : Principle, Teachers and Others

**5.3** Parents – Teacher Co-operation

### **PRACTICAL**

1. Visit for Deferent Areas ECCE Centre and Prepare of Blue Prints for ECCE Centre

2. Programme Planning for ECCE Centre

3. Planning for Activities for All Round Development of the Child

4. Prepare of Education Game for Early Childhood children

5. Curriculum Planning and Space Design

### **RECOMMENDED READINGS:**

- Rice, F.P(1995), human development new jersey: prentice hall
- brek,L.E(1995),child development, London: allyn and bacon
- dutt S (1998).moral values in child development ,new Delhi :ammolsantock,J.W and yussen, S.R(1998).child development: an introduction
- Element of child development
- Fundamental of children development and child care- Sharma &lataGairda.

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –III**  
**NUTRITION FOR THE FAMILY PAPER NO.03**  
**CC – 09 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

**This course will enable the students to**

1. Diet and the importance of meal planning.
2. Gain Knowledge about dietary management in common ailments.
3. Know about RDA and healthy food choices.

**Unit 1 Basic concepts meal planning**

- 1.1 Food groups and concept of balanced diet
- 1.2 Food exchange list
- 1.3 Concept of Dietary Reference Intakes
- 1.4 Factors effecting meal planning and food related behavior.
- 1.5 Dietary guidelines for Indians and food pyramid.

**Unit 2 Nutrition during the adult years**

Physiological changes, RDA, nutritional guidelines, nutritional concerns and healthy food choices.

- 2.1 Adult
- 2.2 Pregnant woman
- 2.3 Lactating mother
- 2.4 Elderly

**Unit 3 Nutrition during childhood**

Growth and development, growth reference/ standards, RDA, nutritional guidelines, nutritional concerns and healthy food choices.

- 3.1 Infants
- 3.2 Preschool children
- 3.3 School children
- 3.4 Adolescents

## **PRACTICAL**

### **1. Introduction to meal planning**

- Use food exchange list

### **2. Planning and preparation of diets and dishes for**

- Young adult
- Pregnant and Lactating woman
- Preschool child
- School age child and adolescents
- Elderly

### **3. Planning complementary foods for Infants**

## **RECOMMENDED READINGS**

- 1) Seth V and Singh K (2006). *Diet Planning through the Life Cycle: Part 1 Natural Nutrition. A Practical Manual*. Elite Publishing House Pvt. Ltd., New Delhi.
- 2) Gopalan C. Rama Sastri BV, Balasubramanian SC (1989) *Nutritive Value of Indian Foods*, National Institute of Nutrition, ICMR, Hyderabad.
- 3) Khanna K. Gupta S. Seth R, Passi SJ, Mahna R, Puri S (2013). *Textbook of Nutrition and Dietetics*. Phoenix Publishing House Pvt. Ltd.
- 4) Wardlaw GM. Hampi JS. DiSilvestro RA (2004). *Perspectives in Nutrition*. 6<sup>th</sup> edition. McGraw Hill.
- 5) ICMR (2011) *Dietary Guidelines for Indians*. Published by National Institute of Nutrition. Hyderabad.
- 6) ICMR (2010) *Recommended Dietary Allowances for Indians*. Published by National Institute of Nutrition, Hyderabad.
- 7) Chadha R and Mathur P eds. *Nutrition: A Lifecycle Approach*. Orient Blackswan, New Delhi. 2015.



**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –III**  
**FUNDAMENTAL OF TEXTILE - PAPER NO.04**  
**DS – 03 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

1. To acquired the knowledge of different kinds of nature & manmade fibers, Yarns & Fabric construction
2. To develop the basic knowledge of Weaving, Knitting

**THEAORY**

**Unit:-1 Textile fibers and their properties**

- 1.1 Primary and secondary properties of textile fibers with reference to their Effect on fiber characteristics
- 1.2 Classification of fibers
- 1.3 Origin, production and properties of various fibers: Natural-cotton, wool, silk. Man-made- (nylon C 6 ) fibers

**Unit: - 2 Yarns**

- 2.1 Types of yarns: Simple, Complex, Textured
- 2.2 Properties of yarns: Yarn numbering systems and twist

**Unit: - 3 Fabric construction**

- 3.1 Weaving: Parts and functions of the loom
- 3.2 Weaves : Classification, construction, characteristics and use
- 3.3 Knitting: Classification, construction, characteristics and use
- 3.4 Non woven and felts-construction, properties and use

**Unit: - 4 Terminology used in textile**

## **PRACTICAL**

1. Collection & Identification of different fabric
2. Fiber Identification tests –Visual, burning, microscopic and chemical
3. Weaves- Identification and their design interpretation on graph
4. Visit – Any One
  - Weaving service center
  - Spinning mill/
  - Handloom sector
  - Ginning / Pressing Unit

## **RECOMMENDED READINGS:**

1. Textiles- Fiber to Fabric (6 thEdition), Corbman, P.B., (1985) Gregg Division/  
McGraw Hill Book Co., US.
2. Essentials of Textiles (6thEdition), Joseph, M.L., (1988) Holt, Rinehart and Winston  
Inc., Florida.
3. Textbook of Fabric Science: Fundamentals to Finishing, Sekhri S., (2013) PHI  
Learning, Delhi.
4. Understanding Textiles, Tortora, G. Phyllis, McMillan Co. USA.

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –III**  
**CATERING MANAGEMENT PAPER NO.5**  
**SE – 05 ( )**  
**(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**OBJECTIVES**

- 1) To know about tools of catering management.
- 2) To know about resources require for catering management.
- 3) To manage the available resources for catering management

**Unit 1: Introduction to Catering Management**

- 1.1 Principles & functions of catering Management
- 1.2 Tools of Catering Management for the following organizational
  1. Top Management
  2. Middle Management
  3. Line Management
  4. Operational Staff (worker)

**Unit 2: Management of Resources available to the Catering Manager**

- 2.1 Menu planning: Importance of menu, Factors affecting menu planning, Principles and types of menu planning.
- 2.2 Types of food service.
- 2.3 Food Purchase and Storage
- 2.4 Quantity Food production: Standardization of recipes, quantity food preparation techniques, recipe adjustments and portion control
- 2.5 Hygiene and Sanitation

**Unit 3: Resources**

- 3.1 Money
- 3.2 Manpower
- 3.3 Time
- 3.4 Facilities and equipment
- 3.5 Utilities

## **Unit 4: Planning Of a Food Service Unit**

### **Preliminary Planning**

Survey of types of units, identifying clientele, menu, operations and delivery

### **Planning the set up:**

- a) Identifying resources
- b) Developing Project plan
- c) Determining investments
- d) Project Proposal

### **RECOMMENDED READINGS**

- West B Bessie & Wood Levelle (1988) Food Service in Institutions 6th Edition  
Revised By Hargar FV, Shuggart SG, & Pagne Palacio June, Macmillian Publishing  
Company New York.
- Sethi Mohini (2005) Institution Food Management New Age International Publishers  
Knight J B & Kotschevar LH (2000) Quantity Food Production Planning &  
Management 3rd edition John Wiley & Sons
- Philip E Thangam (2008) Modern Cookery for teaching and Trade Part I & II Orient  
Longman Taneja S and Gupta SL (2001) Entrepreneurship development, Galgotia  
Publishing

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –III**  
**INFORMATION, EDUCATION AND COMMUNICATION MATERIAL**  
**FOR DEVELOPMENT - PAPER NO. 06**

**SE – 06 (                      )**

**(CREDITS: THEORY – 0, PRACTICAL – 2, TOTAL – 2)**

**OBJECTIVES**

**This course will enable the students to**

1. To know the role of IEC material for development
2. To develop skill for selection preparing IEC materials.

**PRACTICAL**

**1. Concept of IEC Material**

- 1.1 Meaning of IEC Material
- 1.2 Importance and scope of IEC material for development.
- 1.3 Different types of IEC materials for development.
- 1.4 Role of IEC material for development.

**2. Guidelines for Development of IEC Materials**

**2.1 Selection of IEC material**

- 2.1.1 Strength and Limitations of Various IEC materials
- 2.1.2 Criteria for selecting IEC material
- 2.1.3 IEC materials for combining for greater impact

**2.2 Developing a creative brief**

- 2.2.1 Importance of creative brief.
- 2.2.2 Elements of creative brief.

**2.3 Preparing prototype IEC material**

- 2.3.1 Guidelines for developing new IEC material
- 2.3.2 Qualities of effective IEC material

**2.4 Pretesting the prototype of IEC material**

- 2.4.1 Assessing the pretested results and revising IEC materials
- 2.4.2 Monitoring the use and impact of IEC materials.

**3. Various Types of IEC Materials for Development**

- 3.1 Graphics and audio visual charts, posters, flashcards, flexes, flip books, pamphlets, leaflets. Brochures, booklets, modules, manuals

### 3.2 Mass Media: IEC materials for radio, television, newspapers and magazines

#### 3.2.1 Radio scripts writing

#### 3.2.2 T.V. programme scripts writing News paper, magazine article writing

#### **Learning Activities**

1. Content analysis of various IEC material for development messages.
2. Designing layouts for various IEC materials
3. Writing scripts on selected development issues for radio, and T.V. programmes,
4. Viewing and recording various types of television and radio programmes.
5. Preparation of various graphic (IEC) materials
6. Identifying various IEC materials used by NGO's and GO's for development work.

#### **RECOMMENDED READINGS**

- Enderson (1972): Introduction to communication theories and practices. Cummings publishing house. California
- Bernice Hurst (1996): The handbook of communication skills, Kogan Page Limited, London.
- Chandra A. Shah A, Joshi U (1989): Fundamentals of teaching home science. Sterling publishers, New Delhi
- Wittich and Schulter (1967): Audio visual materials. Havper& Row publications. London  
Keval Kumar (2010): Mass communication in India, Jaico publishing house, Ahmedaba

- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- S.Y.B.Sc. (Home Science)
- Semester – 4

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	04	Microbiology	CC-10	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	04	Personal Finance and Consumer Studies	CC-11	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	04	Communication Systems and Social Change	CC-12	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	04	Food Preservation	DS-04	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	04	Childhood in India	SE-07	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	04	Textile Design	SE-08	06	0+2	35	15	-	50	-	3Hours	
					18+10	150	150	200	500			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –IV**  
**MICROBIOLOGY PAPER NO.01**  
**CC – 10 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

- **Objective**

1. The course will enable to the students to gain deep knowledge and role of microorganism and environment
2. Understand the importance of microorganism and its characteristic

1. **Unit – 1 - Introduction of microbiology**

- 1.1 what is microbiology
- 1.2 Brief history of microbiology
- 1.3 Virus
- 1.4 Bacteria
- 1.5 Importance of microbiology (Economical – industrial – medicinal)

2. **Unit – 2 – Sterilization**

- 2.1 Physical method
- 2.2 chemical method

3. **Unit – 3 – Microscopy and Staining**

- 3.1 Microscopy
- 3.2 Types of Microscopy
- 3.3 Staining
- 3.4 Types of staining ( wet mounting simple , special and differential staining )

4. **Unit – 4 – Immunity**

- 4.1 Immunity
- 4.2 Roll of immunity in our body

- **Practical**

1. Studies of Microscope
2. Studies of laboratory instrument ( autoclave , Incubator , hot air oven , centrifuge )
3. Wet mounting of yeast
4. Wet mounting of fungi
5. Staining of microorganism from cured sample
6. Visit to a pathological laboratory



**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –IV**  
**PERSONAL FINANCE AND CONSUMER STUDIES - PAPER NO.02**  
**CC – 11 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) To know about income and saving
- 2) To understand the role of consumer in the market.
- 3) Become aware for marketing condition and rights responsibilities of Consumers.
- 4) Recognize the problems in buying and know about the means of redressed.

**Unit; - 1 Income and Expenditure**

**1.1** Household Income-Types, Sources, Supplementation of family income, use of family Income, budgets, maintaining household accounts

**1.2** Factors influencing expenditure pattern

**1.3** Family savings and investments-need, principles, channels of investment

**1.4** Consumer credit-need, sources, credit cards,

**Unit 2; - Importance of consumer education**

**2.1** Consumer-Meaning and Definition

**2.2** Rights responsibilities of consumer

Rights-To safety, To choose, To be heard, To get information, To redress and  
To get healthy environment

**Unit 3; - Advertisement**

**3.1** Meaning, Importance, Characteristics, Advantage and disadvantages

**3.2** Psychology of advertisement

**3.3** Types of advertisement

- Press medium – Radio, T.V., and Cinema

- Direct publicity- Packaging and Display

- Outdoor publicity

## **Unit 4; - Consumer protective services**

**4.1** Development and aims of consumer organization in India

**4.2** Consumer education and research center- Ahmedabad

**4.3** Consumer guidance society-Bombay

**4.4** Educational institutions

**4.5** Indian standard institution

**4.6** Consumer co-operatives

**4.7** Government agencies, Municipalities.

### **PRACTICALS:**

- 1) Case study of banks and post offices to understand their services and products, Learning to fill different bank forms.
- 2) Visit to a Grahaksurakshasamiti
- 3) To get information about-Brand, Trade mark, Agmark, Labelling, Packaging, I.S.I.,
- 4) Effect and impact of advertising on consumer buying

### **RECOMMENDED READINGS**

- Khanna S.R., Hanspal S., Kapoor S. & Awasthi H.K., 2007, Consumer Affairs, Universitie Press Indian Pvt., Ltd.,
- Sawhney, H.K. & Mital, M., 2007, Family Finance & Consumer Studies, Elite Publishing House Pvt. Ltd.
- Seetharaman, P. and Sethi, M., 2001, Consumerism: Strength and Tactics, New Delhi: CBS Publishers.
- Sarkar A. (1989); Problems of consumer in modern India, Discovering publishing House
- Consumer Report, CERC, Thakurbhi Desai smarkbhavan, Ahmedabad
- Consumer Conformation, CERC, Thakurbhai Desai smarkbhavan, Ahmedabad.
- Agrwal V.K.(1989) Consumer protection in India with special reference to unfair trade practices, New Dehli; Deep and Deep publishers.

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –IV**  
**COMMUNICATION SYSTEMS AND SOCIAL CHANGE - PAPER NO.03**  
**CC – 12 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

**This course will enable the students to**

1. Understand the process of communication in development work.
2. Develop skills in the use of mass media.
3. To know usefulness about mass communication.

**Unit 1 Understanding Self**

- 1.1 Awareness of self in communication
- 1.2 Intrapersonal Communication
- 1.3 Self-concept and self esteem

**Unit 2 Interpersonal Communication**

- 2.1 Concept, types and functions of interpersonal communication
- 2.2 Dyadic, small and large group communication
- 2.3 Stages in human relationship development
- 2.4 Small group communication: types and functions

**Unit 3 Organization, Public and Mass Communication**

- 3.1 Organizational communication: concept, types, functions and networks
- 3.2 Public communication-concept and techniques
- 3.3 Mass Communication- concept, significance, functions and elements
- 3.4 Theories and models of mass communication
- 3.5 Intercultural communication- concept, stages and barriers
- 3.6 Relationship between culture and communication

**Unit 4 Mass Media**

- 4.1 Mass Media- characteristics and significance of print, electronic and web based media
- 4.2 Print Media: types, nature, characteristics, reach, access.
- 4.3 Radio: types, nature, characteristics, reach, access.
- 4.4 Television and cinema: types, nature, characteristics, reach, access.
- 4.5 ICTs: types, characteristics, reach and access.

## **PRACTICAL**

- Exercises for understanding communication .
- Studying group dynamics in organizations-formal and informal.
- Audience analysis- readership, listenership and viewership studies
- Content analysis of mass media

## **RECOMMENDED READINGS**

- Devito, J. (1998) Human Communication. New York: Harper & Row.
- Baran, S. (2014) Mass Communication Theory. Wadsworth Publishing
- Barker, Larry Lee. (1990) Communication, Eaglewood Cliffs, New Jersey: Prentice Hall.
- McQuail, D. (2000) Mass Communication Theories. London: Sage Publications
- Vivian. J. (1991) The Media of Mass Communication
- Stevenson. D. (2002) Understanding Media Studies: Social Theory and Mass Communication. Sage Publications

**S.Y.B.Sc. (HOME SCIENCE) SEMESTER- IV**  
**FOOD PRESERVATION - PAPER NO. 4**  
**DS-04 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**Objectives:-**

**The course will enable students:**

1. To gain knowledge regarding principles of food preservation.
2. To prepare students for home scale production of preservative products such as jam, jelly, tomato ketchup, etc.
3. To teach students different methods of food preservation.
4. To appraise students of the latest development in food preservation.

**Theory:**

**Unit-1: Introduction of Food Preservation**

- 1.1 Importance of Food Preservation
- 1.2 Principle of Food Preservation

**Unit-2: Methods of Food Preservation**

- 2.1 Bacteriostatic Methods: Dehydration, Fermentation, Freezing or Low Temperature, Salt, Sugar, oil, Vinegar, Chemicals, etc.
- 2.2 Bactericidal Methods: Use of higher temperature, Pasteurization, Canning, Boiling, Irradiation.

**Unit-3: Food Spoilage**

- 3.1 Food fit for consumption
- 3.2 Deterioration of food quality: Nonperishable, Semi perishable and Perishable foods.
- 3.3 Causes of food spoilage

**Unit-4: Preservation of Food Products, Preparation and Principles of Food Preservation**

- 4.1 Fruit juice and Squashes
- 4.2 Jam, Jelly and Marmalade.
- 4.3 Tomato Products (Chutney and ketchup)
- 4.4 Pickles

**Practicals:**

Preparation of the following food products in laboratory.

1. Syrup and Squash
2. Jam
3. Jelly
4. Marmalade
5. Pickles
6. Chutney
7. Tomato ketchup
8. Freezing
9. Drying of vegetables and fruits

**RECOMMENDED READINGS**

1. G. Subbalashmi - Shobha A. Udipi, Food Processing and Preservation, New Age International Publisher.
2. Girdharilal, G. S. Siddappa, G.L.Tandon, Preservation of Fruits and Vegetables,.
3. M. Swaminathan, Food Science, Chemistry and Experimental Foods,

**S. Y. B.Sc. (HOME SCIENCE) SEMESTER – IV**  
**CHILDHOOD IN INDIA – PAPER NO. 05**  
SE -07 ( )  
(CREDITS: THEORY-2 + PRACTICAL - 0 = TOTAL – 2)

**Objectives:**

The course will enable students:

1. To gain knowledge regarding status of children in India.
2. To know roll of family and school in child development
3. To teach students different problems of behavior of child ..

**UNIT; 1 Introduction to Childhood in India**

- 1.1 Children in india : AN Overview ( Status Of Indian Children)
- 1.2 Significance Of Childhood Years In Individual's Development

**UNIT: 2 Multiple Context Of Childhood In India**

- 2.1 Family And Child Development: Attitude Of Parents And Child
- 2.2 School And Child Development
- 2.3 Culture and Child Development

**UNIT: 3 Problem of Behavior**

- 3.1 Instinctive
- 3.2 Perceptual
- 3.3 Deviate
- 3.4 Day Dreaming
- 3.5 Others Behavior Problem
- 3.6 Solution Of Problem Behavior

**UNIT: 4 Understanding Child Right**

- 4.1 Meaning Of Child Right
- 4.2 Human Right Of Children's
- 4.3 Children Policies

## RECOMMENDED READINGS

- Behera, D. K. (Ed.) (2007) *Childhood in South Asia*: New Delhi. Pearson- Longman
- Krishnan, L. (1998). *Child rearing: An Indian perspective*. In, A. K. Srivastava (Ed.),
- *Child Development: An Indian perspective*. Pp. 25-55. New Delhi: National Council for Education Research and Training. Sharma, D. (2003). *Infancy and childhood in India*. In, D. Sharma (Ed.), *Childhood*,
- *Family and sociocultural changes in India (13-47)*. New Delhi: Oxfo



**S.Y.B.Sc. (HOME SCIENCE) SEMESTER –IV**  
**TEXTILE DESIGN - PAPER NO.6**  
**SE – 08 ( )**  
**(CREDITS: THEORY – 0, PRACTICAL – 2, TOTAL – 2)**

**OBJECTIVES**

- (1) Impart knowledge of different textile design
- (2) To develop skill in textile design
- (3) Improve the skill on garment marking
- (4) To develop the process of textile design

**PRACTICAL**

1. Surface Decoration - Embroidery, Ari work, Embellishments
2. Design through color application (**any five**)
  - 2.1 Tie and dye
  - 2.2 Batik Resist Print
  - 2.3 Block Print
  - 2.4 Stencil Print
  - 2.5 Vegetable & Leaves Print
  - 2.6 Figure / Thumb Print
  - 2.7 Nib Print
  - 2.8 Mirror Print
  - 2.9 Thread Print
3. Thread structure- macramé, braiding, lace making (crochet, tating)
4. Surface layering
  - 4.1 Quilting- Hand and Machine
5. Visit (any one)
  - 5.2 Tie and Dye Unit
  - 5.3 Printing Unit

**RECOMMENDED READINGS**

- 1) Soft Surface Juracek, A. Judy,2000, , Thames & Hudson Ltd.
- 2) Fabric Left Overs Milne D'Arcy Jean,2006, , Octopus Publishing Group Ltd.
- 3) Textile Surface Decoration-Silk &Velvet,Singer Margo,2007, A

- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- T.Y.B.Sc. (Home Science)
- Semester – 5 (Major - General Home Science)

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	05	Applied physiology	CC-13	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	05	Children with disability	CC-14	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	05	Communication for development	CC-15	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	05	Entrepreneurship Development In Women	DS-05	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	05	Community nutrition and nutritional health communication – 1	SE-08	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	05	Process in apparel design	SE-09	06	0+2	35	15	-	50	-	3Hours	
					18+10	150	150	200	500			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**APPLIED PHYSIOLOGY- PAPER NO.1**  
**CC-13**  
**(CREDITS: THEORY-4, PRACTICAL – 2, TOTAL-6)**

**Objectives**

- Understanding the human physiology and scope of relevant issues
- Understand of different body system and its functions
- Understand alteration of structure and function of various organs and system in disease condition

**Theory**

**Unit; - 1 Homeostasis**

1 Concept of Homeostasis

2 Role of body system in maintaining Homeostasis

**Unit; - 2 Digestion and absorption in the gastrointestinal tract**

2.1 Digestion of various foods

- Carbohydrates
- Protein
- lipids

2.2 Absorption in large intestine and small intestine

**Unit; - 3 Body temperature and temperature regulation**

- normal body temperature
- Heat production and heat loss
- Regulation of body temperature

**Unit; - 4 Blood**

4.1 composition of blood

4.2 Plasma, plasma protein and its functions

4.3 Blood pressure and factors affecting to blood pressure

4, 4 Structure of heart functional tissue and its regulation

## **Unit;- 5 Nervous system**

5.1 Types of neuron

5.2 Transmission of nerve impulse in nerve fiber and synapse

## **Unit;- 6 Modern methods of diagnosis**

- X-Ray radiography
- Sonography
- Computed tomography or CAT
- Magnetic resonance image MRI
- Positron emission tomography
- Digital subtraction angiography
- Endoscopy

### **Practical**

1 Estimation of hemoglobin

2 Total count of WBC and RBC

3 Differential count of WBC

4 Measurement and comparison of blood pressure ( After exercise and during rest )

5 Abnormalities of Urine

5 Measurement and comparison of body temperature and pulse rate (After exercise and during rest)

7 Report of lecture/visit to diagnostic center

## **REFERENCE BOOKS**

1. Human physiology – C.C.Chatterjee

2. Human Physiology – Agrawal

3. Text book of Medical Physiology – Guyton

4. Essentials of Medical physiology- K. Sembulingam, prema Sembulingam

-Essentials of Medical Physiology- By- K Sembulingam ; Prema Sembulingam

Jaypee Brother Medical Publishers ltd

- Essentials of Medical Physiology- Guyton sanders, Oxford University, London

-Human Physiology-By C.B. Fox

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**CHILDREN WITH DISABILITY - PAPER NO.02**  
**CC-14 ( )**  
**(CREDITS: THEORY-4, PRACTICAL-2 TOTAL-6)**

**OBJECTIVES**

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

**Unit 1 Introduction to Childhood Disabilities**

- 1.1 Defining disabilities
- 1.2 Models of disability
- 1.3 Classifying disabilities
- 1.4 Social construction of disability
- 1.5 Demography

**Unit 2 Common Childhood Disabilities**

Identification, Assessment and aetiology with reference to

- 2.1 Locomotors disability
- 2.2 Visual disability
- 2.3 Auditory and speech disability
- 2.4 Intellectual disability
- 2.5 Autism
- 2.6 Learning Disability

**Unit 3 Children with Disabilities and Society**

- 3.1 Families of children with disability
- 3.2 Prevention and management of different disabilities
- 3.3 Educational practices- Special education and inclusion
- 3.4 Policy and laws

## **PRACTICAL**

1. Visits to organisations working with children with disabilities
2. Observing children with disabilities in families and institutions
3. Planning developmentally appropriate material for children with disabilities
4. Exploring audio-visual sources with reference to children with disabilities and their families
5. Select psychometric tests ( Ravens Progressive matrices, Portage, Tests for detecting Learning Disabilities)

## **RECOMMENDED READINGS**

- 1) Chopra,G., (2012). *Early Detection of Disabilities and persons with disabilities in the community*. New Delhi: Engage publications
- 2) Chopra,G., (2012). *Stimulating Development of Young Children with Disabilities at Anganwadi and at Home: A Practical Guide*. New Delhi: Engage publications.
- 3) Sharma, N. (Ed)(2010). *The Socail Ecology of Disability-Technical Series -3*Lady Irwin College. Delhi:Academic Excellence
- 4) Mangal, S. K. (2007).*Exceptional children: An introduction to special education*. New Delhi: Prentice Hall of India
- 5) Jangira, N.K.(1997) “Special Educational Needs of Children and Young Adults: An Unfinished Agenda,” *Education and Children with Special Needs: From Segregation toInclusion*,Ed. Seamus Hegarty, Mithu Alur, Thousand Oaks: Sage Publications Inc.
- 6) Karna, G. N. (1999). *United Nations and rights of disabled persons: A study in Indian perspective*. New Delhi: A.P.H. Publishing Corporation.
- 7) Mani, R. (1988). *Physically handicapped in India*. Delhi: Ashish Publishing House.
- 8) Mastropieri, M. A., & Scruggs, T. E. (2004). *The inclusive classroom: Strategies for effective instruction*. NY: Pearson.

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**COMMUNICATION FOR DEVELOPMENT PAPER NO.03**  
**CC- 15 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

**This course will enable the students to**

- (1) Know about development communication
- (2) Understanding about innovations and trends in development communication
- (3) To learn about designing media for development communication

**Unit 1 Concept of Development Communication**

**1.1** Concept of development, characteristics of developing countries

**1.2** Measuring development- Indices of measuring development and classification of countries based on development indices

**1.3** Models of Development- Dominant Paradigm, Basic Needs Model, New Paradigm of development.

**1.4** Development Communication- concept and genesis, characteristics, differences between communication and Development Communication

**1.5** Philosophy role and approaches to Development Communication

**Unit 2 Understanding Paradigms of Development**

**2.1** Press theories: Normative: Authoritarian, Libertarian, Social, Responsibility, Democratic Participant theory: Sociological: Uses & Gratification. Agenda setting; Two-Step Flow; Psychological: Bullet Theory

**2.2** Success stories in Development Communication

**2.3** Innovations and trends in Development Communication

**Unit 3 Development Communication and Media**

**3.1** Traditional Media: types, characteristics, role in development communication

**3.2** Development reporting-roles and responsibilities of a development reporter, ethics  
In reporting, specialized skills required and issues in development reporting

**3.3** News reporting: definition of news, ingredients and qualities of news, news value,  
Types of news reports, structure of news reports

3.4 Radio news, features and commentaries. Radio and development communication.

3.5 Television: Programs and genres; role in development communication.

3.6 Cinema: role in development communication.

3.7 ICTs: scope in development communication.

## **PRACTICAL**

1) Analysis of development indicators – national and international perspectives

2) Critical analysis of selected development communication initiatives

3) Analysis of media for development communication.

4) Designing media for development communication.

## **RECOMMENDED READINGS**

- Narula. Uma (1994) Development Communication, New Delhi, Hariand Publication
- Servaes, Jan (2008). Communication for Development and Social Change. New Delhi. Sage Publication
- Paulo Mefalopulos. Development Communication Sourcebook- Broadening the boundaries of communication, The World Bank, 2008



**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**ENTREPRENEURSHIP DEVELOPMENT IN WOMEN - PAPER NO.04**  
**DS – 05 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL-6)**

**OBJECTIVES**

**To enables students to**

1. Develop entrepreneurship skill
2. Understand the process and procedure of setting up small enterprise
3. Develop managerial skill for entrepreneurship development.

**THEORY**

**Unit-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.

**Unit- 2**

- 2.1 Quality of good entrepreneur
- 2.2 Establishment of enterprise
- 2.3 Legal aspect and procedure to establish enterprise.

**Unit - 3**

- 3.1 Entrepreneurship programs in India.
  - (A) Entrepreneurship development institute of India (E.D.I.)
  - (B) National Institute for Entrepreneurship and small business development (NIESBI)
  - (C) National Institute development bank of India (SIDBI)
  - (D) Small Industry development organization.
  - (E) National alliance of young entrepreneur.(NAYE)
  - (F) State Bank of India.
  - (G) National small industries corporation National Industry of small Industry extension training (NISIET)
  - (H) Directorates of industries of the state government and state small industries corp.
  - (I) Khadi and village industries commission(KVIC)

- (J) State financial corporation(SFCS)
- (K) Jilla Udyogkendra
- (L) Gujarat agricultural industries.
- (M) Industrial extension board.
- (N) Gujarat industrial and technical consultancy organization.

#### **Unit - 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 retunes.

#### **PRACTICAL**

1. Prepare a project proposal to start a new enterprise and feasible report
2. Collect information by visiting different entrepreneurship program in your town
3. Collect information from small scale industries from the surrounding sources
4. Which of the legal aspects and the procedure do entrepreneurs need while the starting an enterprise

#### **RECOMMENDED READINGS**

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

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**COMMUNITY NUTRITION AND NUTRITIONAL HEALTH COMMUNICATION – 1**  
**PAPER - NO.5**  
**SE – 08 ( )**  
**(CREDITS: THEORY-2, PRACTICAL- 0 - TOTAL-2)**

**OBJECTIVES**

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

**Unit 1; - Health care of the community**

- Concept of health care
- Different levels of Healthcare
- Healthcare services at different levels
- National Population Policy -2000

**Unit;- 2 Nutritional education programs / Planning implementation and evaluation**

- Needs of nutrition and health education programs
- Essentials of nutrition – Educating planning
- Planning and implementation of Nutrition education programs
- Evaluation nutrition education programs

**Unit; - 3 Themes and messages in nutrition and health education**

- Themes in nutrition Education

**Theme; - nutrition during school age adolescence adulthood and old age**

- Themes in health education

**Theme; - preventing and treating common sickness and problems**

- Messages in nutrition and health education
  - Messages in nutrition education
  - Messages in health Education
  - How to improve relevance and effectiveness of a message

#### **Unit;- 4 Communication media useful in nutrition and health Education**

- Media
- Film
- Audio tapes
- Audio visual AIDS
- Leaflet pamphlet and folder
- Poster
- Chart
- Script writing and puppets

#### **Unit; - 5 Nutrition and health programmes in India**

- National fluorosis Control Programme
- National calcium supplementation program
- Pradhan Mantri gramodya Yojana (PMGY)
- Balwadi feeding program
- Ayodhya Anna Yojana (AAY)
- Annapurna scheme

#### **RECOMMEDED READINGS**

- 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.
- Jlliffee 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 Public Health Nutrition
- Preventive and Social medicine by Park & Park 21st Edition

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**PROCESS IN APPERAL DESIGN PAPER NO.06**  
**SE – 09 (**  
**(CREDITS: THEORY-0, PRACTICAL – 2, TOTAL – 2)**

**OBJECTIVES**

1. To able the students to equip them with techniques
2. Acquaint with the various step involved in the apparel making
3. To improve the skill in garment making
4. Prepare the garment as per measurement using appropriate tool, machine and technique

**Guide in lab to students**

**Unit: - 1 Introduction to body measurement**

- 1.1 Meaning of- Standard measurement
- 1.2 Standard mesuring points of body parts
- 1.3 Eight heads theory

**Unit: - 2 Introduction to pattern making**

- 2.1 Methods of pattern making
- 2.2 -Drafting
- 2.3 Paper Pattern
- 2.4 Block Pattern
- 2, 5 Lay Out

**Unit: - 3 Preparatory steps for garment construction**

- 3.1 Fabric grain Line.
- 3.2 Layouts for patterns- general guidelines, basic layouts- lengthwise, partial lengthwise, crosswise, double fold, open, combination fold
- 3.3 Spreading, marking and cutting
- 3.4 Layouts for fabrics- Unidirectional, bold and large prints, plaids, stripes and checks, various widths of fabric

**Unit:- 4 Seams and finishing**

- 4.1 Type of Seams
- 4.2 Finishes of Seams

## **Unit:- 5 Design & Fitting**

- 5.1 Designing for different figure types
- 5.2 Fitting guidelines
- 5.3 Fitting Problems
- 5.4 Fitting Remedies

### **PRACTICAL**

- 1. Application of different types of Seams
- 2. Bodice Block – Adult Bodice Block , Child Bodice Block
- 3 Construction of skirt/ Salwer for self
- 4 Construction of top/ kurta for self
- 5 Project Work: Sketch of Sleeves
  - Sketch of Colors
  - Sketch of Pocket
  - Sketch of Neckline

### **RECOMMENDED READINGS**

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

- **Bhakt Kavi Narsinh Mehta University, Junagadh**
- **Examination Coding System**
- **T.Y.B.Sc. (Home Science)**
- **Semester – 6 (Major - General Home Science)**

**Annexure ‘A’**

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	06	Research and documentation	CC-16	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Adolescent relation and well being	CC-17	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Indian traditional textile	CC-18	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Community nutrition and nutritional health communication – 2	DS-06	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	NGO management	SE-10	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	06	Basic of Design application	SE-11	06	0+2	35	15	-	50	-	3Hours	
		<b>Total</b>			<b>18+10</b>	<b>115</b>	<b>150</b>	<b>235</b>	<b>500</b>			

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE / DS – DISCIPLINE SPECIFIC COURSE / SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical)





**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –VI**  
**RESEARCH AND DOCUMENTATION - PAPER NO.01**  
**CC-16 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

To enable students to

1. Understand the fundamental principles of methodology concerning research;
2. Prepare research tools applicable to developmental issues;
3. Develop skills in documentation

**Theory;-**

**Unit I: Research- Meaning, purpose and approaches**

- Exploration, Description, Explanation
- Scientific method and research
- Research Designs –Experimental and Observational
- Quantitative and Qualitative approaches

**CONCEPTUALIZATION AND MEASUREMENT**

- Variables, concepts and measurement
- Levels of measurement
- Units of analysis

**Unit II: Sampling & Tools**

- Role of sampling in research
- Types of sampling

**RESEARCH TOOLS AND TECHNIQUES**

- Validity and reliability
- Interviewing and observational methods

**Unit III: The Research Process**

- Defining the problem, research questions, objectives, hypotheses
- Review of related literature and originality in writing
- Planning the research
- Subjects context and ethics

- Methodology and tools
- Citation formats: in medical sciences, social sciences

### **PRACTICAL**

1. Exercise in sampling, random number table.
2. Exercise in designing tools and their analysis : interview, questionnaire.
3. Data collection process: conducting interviews, FGDs, case studies

### **RECOMMENDED READINGS**

- Kumar, R. (2005) Research Methodology : A Step by Step Guide for Beginners. Sage Publications, New Delhi.
- Kerlinger F. N. and Lee, H.B. (2000) Foundations of Behavioural Research 4<sup>th</sup> Ed. Harcourt College Publishers
- Kothari, C. R. (2008) Research Methodology: Methods and Techniques 2<sup>nd</sup> Ed. New Age International Pvt Ltd, New Delhi.
- Black, J.A. & Champion, D. J. ( 1976) Methods and Issues in Social Research. New York: JohnWiley and Sons.

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –VI**  
**ADOLESCENTS RELATIONS AND WELL BEING - PAPER NO.02**  
**CC-17 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) Student will gain knowledge about the adolescents“ relations and well-being.
- 2) Students will gain knowledge about development of adolescent.
- 3) To impart skill and knowledge about the adolescent problems and remedies for them.

**THEORY**

**Unit: 1 Adolescent**

- Introduction and concept of adolescent
- Transitional period- middle childhood and youth
- Characteristic of adolescent period
- Development task of adolescent

**Unit :2 Developments of Adolescent**

- Puberty- Physical development (Sexual maturity)
- Psychological response
- Social development/ social relation : parents , siblings, peers, friendship ,interpersonal relation
- Emotion Maturity
- Cognitive development – reasoning power/wisdom, thinking , judgment/Decision power ,morality

**Unit :3 Related Issues of adolescent**

- Problems of adolescent
- Identity and self development
- Importance of yoga in life
- Counseling

## **PRACTICAL**

1. Class room exercise on peer relationships
2. Understanding self as a male/female adolescent: exercise on self-reflection
3. Writing a brief biography of relationship with a close friend
4. Relations with parents and siblings- separate interviews
5. Analysis of different forms of media to understand interpersonal relationships
6. Workshops- managing emotions with reference to relationships and to learn crisis management
7. Methods of promoting well-being- yoga, self-development resources, counseling

## **RECOMMENDED READINGS**

- Manthei, R. (1997). *Counselling: The skills of finding solutions to problems*. London: Routledge.
- Sharma, N. (2009). *Understanding Adolescence*, New Delhi: National Book Trust.
- Rice, F. P. (2007). *Adolescent: Development, Relationships and Culture*.
- Santrock, J. W. (2010). *Life Span Development: A Topical Approach*, New Delhi: Tata



3.5 Shadow work of Lakhaunav

**Unit: 4 Painted and Printed textiles**

4.1 Kalamkari of Andhra Pradesh

4.2 Dabu printing of Rajasthan

4.3 Ajarakh of Gujarat

4.4 Ikats of Gujarat

4.5 Bandhani of Gujarat

**Unit: 5 Evaluation, socio-economic significance and sustenance of textile craft**

5.1 Khadi unit

5.2 Handloom industry

5.3 Handicraft sector

**PRACTICAL**

**1. Embroidery stitches of traditional embroideries – Any Three**

1) Kanthas of Bengal

2) Phulkari of Punjab

3) Kashmiri work of Kashmir

4) Gujarat embroideries

5) Chikankari of Uttar Pradesh

6) Applique work of Bihar

**2. Traditional textile crafts ( Power Point Presentation- any one )**

**3. Collection of Painted/printed Photograph/ Picture**

**4. Visit to craft centers**

1. Khadi unit

2. Handloom industry

3. Handicraft sector

**RECOMMENDED READINGS**

1. Care and Presentation of Museum projects Agarwal, O.P., 1977, – II, NRL

2. Handicrafts of India, Chattopadhyaya, K.D., 1995, Wiley Eastern Limited, N Delhi

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –VI  
COMMUNITY NUTRITION AND NUTRITIONAL HEALTH COMMUNICATION - 2  
PAPER NO.04**

**DS- 6 (                      )**

**(CREDITS: THEORY-4, PRACTICAL-2 TOTAL-6)**

**OBJECTIVES**

- 1) To orient students to the basic principles of community nutrition
- 2) To acquire knowledge regarding the recent theories and components of communication as Relevant to nutrition health
- 3) To learn about Nutrition-Health-Communication (NHC) programmes and experiences in the Developing world of India
- 4) To gain skills in planning and conducting NHC projects

**THEORY**

**Unit – 1 Demography and Vital statistics**

- 1.1 Demographic profile
- 1.2 Vital statistics of developed and developing countries

**Unit - 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 food questionnaire and record procedure
- ii. Weighed food inventory
- iii. Recipe method
- iv. Weigh as you eat
- v. Food composite analysis method
- vi. Food diaries 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,

**III.** Mortality Rates(IMR, NMR, MMR, CDR, CBR)

### **Unit – 3**

### **3.1 Nutritional problems of the community and National Programs to Combat**

#### **Them: - 1**

a) National Anaemia control Programme

b) Vitamin A prophylaxis Programme

c) Iodine Deficiency disorder control Programme

#### **Them: - 2**

**3.2 .a)** Integrated child development service

3.2. b) ICAR, NIN, CFTRI

3.2.c) Mid day meal program

3.2.d) International Organizations in Community Nutrition and Health

FAO, WHO, UNICEF, CARE.

### **PRACTICALS**

#### **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 group's 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

5. Demonstration of low cost nutritious recipes in community educate the community by different messages on nutrition and health

## **RECOMMEDED READINGS**

- 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.
- Jlliffee 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
- Preventive and Social medicine by Park & Park 21st Edition

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –V**  
**NGO MANAGEMENT & CSR - PAPER NO.05**  
**SE – 10 ( )**  
**(CREDITS: THEORY-2, PRACTICAL-0 TOTAL-2)**

**OBJECTIVES**

- 1) To know about the role of development communicator in developing NGO
- 2) To teach students how to start NGO.
- 3) To understand about NGO Management

**THEORY**

**Unit 1 Concept of NGO**

- Meaning of NGO and GO
- Difference between Government Organizations and NGO
- Characteristics of good NGO
- Structure of NGO
- Functions of NGO
- Historical Perspective of NGO
- Advantages of NGO
- Present status of NGO
- Contribution of NGO in the Development

Role of Development Communicator in developing NGO

**Unit 2 Starting of NGO**

- Steps for starting NGO
- Registration of NGO
- Selection of Personnel
- Training of Personnel
- Proposal writing under NGO

- Identifying Funding agencies
- Resource Mobilization
- Planning, Implementation and Evaluation strategy under NGO
- Documentation
- PR in NGO

### **Unit 3: NGO Management**

- Organizational types and structures
- Managing people and teams in NGOs
- NGO management competencies
- Applying NGO principles and values
- Accountability and impact assessment for NGOs

### **Unit 4 Problems of NGO**

- Training
- Recruitment
- Funding
- Resource Mobilization
- Documentation

### **RECOMMENDED READINGS**

- S. Chandra, Guidelines for NGO Management in India (2003), Published by Kanishka Distributors, New Delhi
- D. Lewis, Management of Non Governmental Development Organization (2001), Second Edition, Published by Routledge, Newyork.
- A. Abraham, Formation and Management of NGOs (2003), Third Edition, Published by Universal Law Publishing Co. Pvt Ltd., New Delhi.
- Sundar, P. 2013, Business and Community: The Story of Corporate Social Responsibility in India , New Delhi, Sage Publication.
- Aggarwal, S.2008, Corporate Social Responsibility in India, Sage Publication Pvt. Ltd

**T.Y.B.Sc. (MAJOR - GENERAL HOME SCIENCE) SEMESTER –VI**  
**BASICS OF DESIGN APPLICATION - PAPER NO.06**  
**SE – 11 ( )**  
**(CREDITS: THEORY-0, PRACTICAL - 2 TOTAL -2)**

**OBJECTIVES**

To enable the students to-

- 1) Understand elements principles of Art & Design
- 2) Develop an understanding to the application of art principles in design composition of traditional & contemporary art architecture, textile and interior design.
- 3) Develop skill in creating design and making art object.

- **Lab guidance**

**Unit 1; - Design Fundamentals**

- Objectives of Art & Interior Design.
- Types of Design: Structural & Decorative.
- Elements of Content: Space, Point, Line, Shape, Form, Texture, Light & Color.
- Elements of Order: Scale, Similarity, Proximity, Sequence, Trends, Themes, Geometrical Organization.
- Principles of Composition – Rhythm, Balance, Proportion, Emphasis, Unity, (Variety, Simplicity/Economy, Suitability).
- Composition of a Drawing – Harmony, Clarity, Adequacy.
- Color & its Application.
  - Dimensions of color.
  - Importance of color & its role in creation of the design.
  - Color systems & Theories.
  - Color Harmonies.
  - Principles of Design as applied to color use.
  - Color Forecasting
- Design Drawing – Drawing as a language to explore & communicate Ideas.

## **PRACTICAL**

- Drawing – Introduction to drawing instruments & tools (manual & computer tools)
  - Drawing lines (freehand & with drawing instruments) - both 2-dimensional & 3-dimensional
  - Lettering
  - Sketching (figures, buildings, trees & plants, vehicles) - both 2-dimensional & 3-dimensional
  - Rendering for different surfaces such as trees, brick, grass, water, wood, stone, earth, concrete using Water Colours, Stubbing, Pencil Colours
- Preparation of catalogue comprising pictures denoting application of Art & Elements of Design; Colour - Colour Wheel, Dimension & Harmonies of Colour.
- Floor plans with rendering (Theme based- Manual/Computer aided)
- Elevation & perspective plans with rendering (Manual/Computer aided)
- Furniture & furnishing plans of specific areas- Critical Analysis
- Preparation of portfolio based on historical designs & market review of furniture and furnishing materials (upholstery, curtains and draperies, bed & table linen)
  - Wall coverings & decorations (pictures, etc)
  - Floor coverings & decorations
  - Window & door treatments
  - Lighting systems
  - Artifacts (sculptures, ceramics/terracotta, handicrafts, flower arrangements, etc.)
  - Fittings and fixtures
  - Wood and its substitute

## **RECOMMENDED READINGS**

- Lawrence M, (1987), Interior Decoration, New Jersey: Chartwell Books.
- Riley & Bayen., (2003), The Elements of Design, Mitchell Beazley.

- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- T.Y.B.Sc. (Home Science)
- Semester – 5 ( Major - Food & Nutrition )

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	06	Bio Chemistry	CC-13	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Dietetics – 1	CC-14	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Food science – 1	CC-15	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Fundamental of public health and Communication - 1	DS-05	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Food processing and safety	SE-08	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	06	Physiology	SE-09	06	0+2	35	15	-	50	-	3Hours	
		<b>Total</b>				<b>18+10</b>	<b>115</b>	<b>150</b>	<b>235</b>	<b>500</b>		

AE – ABILITY ENHANCEMENT COMPULSORY COURSE / CC – CORE COURSE /DS – DISCIPLINE SPECIFIC COURSE /SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S–skill enhancement course / P - Practical

**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER-V**  
**BIOCHEMISTRY - PAPER NO. 01**  
**CC - 13**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

This course will enable students to -

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

**UNIT; - 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

**UNIT;- 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.

## **UNIT; - 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

## **UNIT;- 4 ENZYMES**

- Importance and specificity.
- Chemical nature
- Classification and nomenclature
- Enzyme kinetics (factors affecting enzyme action)
- Coenzymes and isoenzymes.
- Inhibitors
- Clinical importance of enzymes



## **PRACTICALS**

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
7. Preparation of standard solution

## **RECOMMENDED READINGS.**

### **REFERENCE BOOKS**

1. Biochemistry - Powar and Chatwal 4<sup>th</sup> 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. Harper's Illustrated Biochemistry – R.K.Murray, D.K. Gramner, P.A.Mayes, and V.W.Rodwell (2003) McGraw-Hill Publication.
4. Instant Notes Biochemistry – B.D.Hames & N.M.Hooper 2<sup>nd</sup> 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.
7. Sundararaj P. and Siddhu A. - Qualitative tests and Quantitative Procedure in Biochemistry – A Practical Manual Wheeler Publishing

**T.Y.B.Sc. (MAJOR – FOODS & NUTRITION) SEMESTER-V**  
**DIETETICS – 1 PAPER NO.02**  
**CC-14 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

• **OBJECTIVE**

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

**THEORY**

**Unit: - 1. INTRODUCTION**

- 1.1 Application of the principles of diet therapy
  - 1.1.1 Tips for diet prescription
  - 1.1.2 Dietetic care in hospital patients.
  - 1.1.3 Team approach to health care & Role of Dietitian in the hospital & Community
  - 1.1.4 Assessment of patient needs
- 1.2 Modes of feedings
  - 1.2.1 Enteral
  - 1.2.2 Tube Feeding
  - 1.2.3 Composition of tube feeds and their preparation
  - 1.2.4 Parenteral feeding : Indication for use

**Unit;- 2. Risk factors for Chronic Degenerative Disorders**

- 2.1 Diet for healthy living

**Unit;-3.**

- 3.1 Dietary Management in febrile conditions, infections and HIV
- 3.2 Diet and surgery – Pre Operative and Post Operative nutrition

## **Unit;- 4 Etiology, Diagnosis and Dietary Management of obesity and underweight**

### 4.1 Obesity

4.1.1 Types and causes of obesity, prevention and treatment

4.1.2 Criteria for obesity and overweight.

4.1.3 Dietary management of obesity, types of diet and desirable rate of loss of weight

### 4.2 Underweight

4.2.1 The problem of underweight

4.2.2 Definition, etiology and assessment

4.2.3 Anorexia nervosa , bulimia

4.2.4 Dietary Management

## **Unit;- 5. Etiology, Diagnosis and Dietary Management of common Gastro intestinal disturbances**

5.1 Constipation

5.2 Diarrhoea

5.3 Peptic Ulcer

5.4 Ulcerative Colitis

## **Unit 6. Etiology, Diagnosis and Dietary Management of Anaemia**

6.1 Nutritional Anaemia

6.2 Sickle cell Anaemia

6.3 Megaloblastic Anaemia

6.4 Pernicious Anaemia

6.5 Anaemia due to acute haemorrhages etc

## **Unit;- 7. Etiology, diagnosis and Dietary Management of Diabetes Mellitus**

7.1 Type / Classification, symptoms and diagnosis

7.2 Role of diet in the management of various types of diabetes mellitus and preparation of diet plans (clinical V/s chemical control)

7.3 Secondary complications of diabetes mellitus and its control

7.4 Tests used for diagnosing and monitoring diabetes mellitus including glucose monitoring at home.

7.5 Names of tests used for diagnosing and monitoring diabetes mellitus

7.6 Insulin therapy, oral hypoglycemic control

7.7 Role of diet

7.8 Diabetes in pregnancy, surgery, illness

7.9 Diabetic coma, insulin reaction

7.10 Use of sweet alternatives, their composition and contra indications.

7.11 Patient education and counseling

## **PRACTICALS**

1) Prepare of List of foods rich in protein, fats, fiber sodium, calcium phosphorus, oxalic acid in each food exchange.

2) List of foods rich in cholesterol SFA, PUFA AND MUFA

3) Glycemic Index of food

4) Planning and preparation

a. Clear liquid diet b. Full liquid diet c. Soft diet d. Tube feeding

5) Planning and preparation of diets for

a. Typhoid b. Patient with tuberculosis c. Patient with HIV infection

6) Planning and preparation of diets for

a. Underweight b. Obesity

7) To plan and prepare diets for

a. Constipation b. Diarrhoea c. Peptic Ulcer d. Ulcerative Colitis

8) Plan & prepare diet in

a. Nutritional Anaemia b. Megaloblastic Anaemia

9) Planning, Preparation and calculation by use of exchange list for

a. Diabetes Mellitus

i. Normal Weight ii. Pregnancy

## **RECOMMENDED READINGS**

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

**T. Y. B .H. Sc. (MAJOR – FOODS & NUTRITION) SEMESTER-V**  
**FOOD SCIENCE – 1 - PAPER NO.03**  
**CC- 15 (**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES;-**

- 1) To impart knowledge pertaining to the basic properties of food.
- 2) To provide basic understanding of principles behind food and also with processing Technology used for different foods.
- 3) Understand the application of science principles to experimental study of foods.
- 4) Select food to meet your requirements both in terms of food quality as well as cost.
- 5) Identify the different types of energy giving, body building and regulatory foods Available in market.

**UNIT 1:- Energy Giving Foods**

**1.1 Cereals:** - Selection of cereals and millet. Nutritional factors in selection of cereals.

- a) **Wheat;** - Types, structure, composition and milling. Products of wheat (whole flour, bread flour, self raising flour, all purpose cake flour, Maida, semolina), macaroni product.
- b) **Rice;** - Composition and par boiling

**1.2 Roots and tubers:** - Selection of roots and tubers.

**1.3 Fats and oils:-** Selection of fats and oils, nutritional importance of fats and oils. Functions of fats and oils.

**1.4 Sugar, jaggery and other sweetening agents:-** Selection of sugar, jaggery and other sweetening agents. White crystalline sugar, cube sugar, brown sugar, liquid sugar glucose, jiggery, honey and saccharine related products. Indian chikki.

**UNIT 2; - Body Building Foods**

**2.1 Pulses:** - Selection of pulses, commonly used pulses, nutritional factors in section of pulses, Toxic factors in pulses.

**2.2 Milk and milk products:** Selection of milk and milk products, chemical composition, standardizing, pasteurization, kinds of milk available, food products derived from milk such as cream, ghee, curd, paneer, khoa, milk powder, cheese.

**2.3 Flesh foods:** Selection of flesh foods, meat, poultry, eggs, fish and other sea foods.

**2.4 Nuts:** Selection of nuts.

### UNIT 3; - Protective/ Regulatory Foods

**3.1 Vegetables:** Selection of vegetables, chemical composition of vegetables, salad.

**3.2 Fruits:** Selection of fruits, composition, ripening and storing of fruits, banana, orange, mango, lime, custard apple, pineapple, papaya, chickoo, guava, amla, melons, grapes, peach, berries

### UNIT 4; - Unconventional Foods

Soyabean, ragi, oats, and barley, unconventional leaves, mushrooms, spirulina.

### PRACTICALS

1) Selecting, preparing and serving items from current restaurant menus

(1 preparation each)

a) Cereals	e) Pulses
b) Roots and tubers	f) Milk and milk products
c) Sugar jiggery	g) Vegetables
d) Fats and oils	h) Fruits

2) Preparation of unconventional foods.

(1 preparation each)

a) Soya bean products	c) Unconventional cereal
b) Unconventional leaves	d) Unconventional roots and tubers

### RECOMMENDE READINGS

- 1) N Shukuntala Manay, M. Sadaksharaswamy, "Foods –Facts and Principles.
- 2) M Swaminathan "Food Science and Experimental Food."
- 3) Peckham G C. "Foundation of Food Preparation" The Mcmillan Co. 1962
- 4) Norman P N "Food Science" The A V I Publishing Co. 1982
- 5) Charley H "Food Science" John Wiley and Sons 1982
- 6) Griswold RM "The Experimental Study of Foods" Houghtan Migglin Co. 1962
- 7) Lowe B "Experimental Cookery" John Wiley and Sons.1965
- 8) ANC-1 Nutrition for the Community- Practical manual Part-1 IGNOU.
- 9) ANC-04 IGNOU.
- 10) CCCD-02 IGNOU.
- 11) Srilaxmi- Food Science.

**T.Y.B.Sc. (MAJOR – FOODS & NUTRITION) SEMESTER-V**  
**FUNDAMENTAL OF PUBLIC HEALTH AND COMMUNICATION - 1**  
**PAPER NO.04**  
**DS – 05**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) To orient students to the basic principles of community nutrition
- 2) To acquire knowledge regarding the recent theories and components of communication as Relevant to nutrition health
- 3) To learn about Nutrition-Health-Communication (NHC) programmes and experiences in the Developing world of India
- 4) To gain skills in planning and conducting NHC projects

**Unit 1; - Health care of the community**

- Concept of health care
- Different levels of Healthcare
- Healthcare services at different levels
- National Population Policy -2000

**Unit;- 2 Nutritional education programs / Planning implementation and evaluation**

- Needs of nutrition and health education programs
- Essentials of nutrition – Educating planning
- Planning and implementation of Nutrition education programs
- Evaluation nutrition education programs

**Unit;- 3 Themes and messages in nutrition and health education**

- Themes in nutrition Education

Theme; - nutrition during school age adolescence adulthood and old age

- Themes in health education

Theme; - preventing and treating common sickness and problems

- Messages in nutrition and health education
  - Messages in nutrition education
  - Messages in health Education
  - How to improve relevance and effectiveness of a message

#### **Unit;- 4 Communication media useful in nutrition and health Education**

- Media
- Film
- Audio tapes
- Audio visual AIDS
- Leaflet pamphlet and folder
- Poster
- Chart
- Script writing and puppets

#### **Unit;- 5 Nutrition and health programmes in India**

- National fluorosis Control Programme
- National calcium supplementation program
- Pradhan Mantri gramodya Yojana (PMGY)
- Balwadi feeding program
- Ayodhya Anna Yojana (AAY)
- Annapurna scheme

#### **Practicals**

1 demonstration of low cost nutritious recipes in community

- educate the community by different messages on nutrition and health

#### **Project work**

- Plan a nutritional education program by using different types of visual tools in the community for any vulnerable group

**Select any one vulnerable group eg.**

1. Pregnant / lactating women {knowledge practices (pre-post) effectiveness}
2. Infants- knowledge to mother's e.g
  - A. Breast feeding vs bottle feeding
  - B. ORS
  - C. Weaning foods
  - D. Importance of colostrum
3. Adolescent girl's
  - A. Anemia,



B. Iron and folic acid rich recipes

### **RECOMMEDED READINGS**

- 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.
- Jlliffee 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
- Preventive and Social medicine by Park & Park 21st Edition

**T.Y.B.Sc. (MAJOR – FOODS & NUTRITION) SEMESTER-V**  
**FOOD PROCESSING AND SAFETY PAPER NO.05**  
**SE – 08 ( )**  
**(CREDITS: THEORY – 2, PRACTICAL – 0, TOTAL – 2)**

**Objectives**

- 1) To make the students understand the importance of food additives and fortification.
- 2) To gain knowledge of food packaging and convenience food
- 3) To orient student to food safety laws and standards

**Theory**

**Unit;-1Food Additives**

- 1.1 Meaning
- 1.2 Classification of additives

**Unit;-2 Food Fortification**

- 2.1 Purpose and meaning of food fortification
- 2.2 Different fortified foods available in market

**Unit;-3 Food Packaging**

- 3.1.1 Types and importance of food packaging
- 3.1.2 Material used for packaging
- 3.1.3 Qualities of packaging materials

**Unit ;– 4Convenience Foods**

- 4.1 Types of convenience foods
- 4.2 Advantages and disadvantages
- 4.3 Extruded food

**Unit; – 5 Vinegar preparations**

- 5.1 Types of vinegar
- 5.2 Yeast used for vinegar preparation
- 5.3 Method of preparation

**Unit;–6 Food safety law and food standards**

- 6.1 Special responsibilities as to food safety
- 6.2 Responsibilities of the food business operator
- 6.3 Designated Officer
- 6.4 Powers & liability of food safety officer
- 6.5 General provision relating to penalty

**RECOMMENDED READING**

1. G. Subbulakshmi – Shobha A. Udipi, “Food Processing and Preservation”, New Age International Publisher.
2. Girdharilal, G.S. Siddappa – G.L. Tandon, Preservation of Fruits and Vegetables.
3. M. Swaminathan, “Food Science, Chemistry and Experimental Foods”.
4. B. Lakhtariya – “Food Safety and standard act 2006 with food safety and standard rules, 2011”. The new Gujarat Law house Ahmedabad.



- Bhakt Kavi Narsinh Mehta University, Junagadh
- Examination Coding System
- T.Y.B.Sc. (Home Science)
- Semester – 6 (Major - Food & Nutrition)

Annexure ‘A’

FACULTY	SEM.	Subject	Code	Paper No.	CREDITS T+P	PM	IM	EM	TM	External Exam Time Duration	Practical Exam Time Duration	Paper Code
BHS	06	Food Analysis	CC-16	01	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Dietetics – 2	CC-17	02	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Food science – 2	CC-18	03	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Fundamental of public health and Communication - 2	DS-06	04	4 + 2	20	30	50	100	2Hours	2Hours	
BHS	06	Food Microbiology	SE-10	05	2+0	-	15	35	50	1 ½ hours	-	
BHS	06	Food Behavior	SE-11	06	0+2	35	15	-	50	-	3Hours	

AE – Ability Enhancement Compulsory Course / CC – Core Course / DS – Discipline Specific Course /SE – SKILL ENHANCEMENT COURSE  
(Paper code: A – ability enhancement compulsory course / C – core course / D– discipline specific course / S– skill enhancement course / P -Practical)



**Unit;- 6 to study different parts , structure , principal , working and use of instrument**

- **Soxhlet apparatus , Oven , centrifuge machine , balances , water bath , hot plate**

## **PRACTICALS**

### **1. Separation techniques for identification of amino acids or sugars**

- a. Thin layer chromatography
- b. Paper Chromatography

### **2. Estimation in food**

- a. Moisture
- b. Crude fiber
- c. Calcium
- d. Ascorbic acid

### **3. Analysis of**

- a. Milk (Protein, fat, total solids)
- b. Fats and oils (Acid value, Saponification value, iodine value, peroxide value)
- c. Honey (Reducing sugar)
- d. Tea (Tannin)
- e. Spices (Ash)
- f. Grains (Gluten content in wheat flour)
- g. Pulses
- h. Coffee
- i. Cold drinks/Soft drinks
- j. Butter
- h. cold drinks soft drinks

**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER-VI**  
**DIETETICS – 2 - PAPER NO.02**  
**CC – 17**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) To understand the applications of principles of diet therapy
- 2) Plan and prepare diets for different diseases
- 3) To understand and use functional foods in diet therapy

**Unit;- 1. Etiology, Diagnosis and Dietary Management of**

1.1 Hypertension

1.1.1 Types, role of diet in the management of various types of hypertension

1.1.2 Consequences and complications of hypertension

1.1.3 Lifestyles change and behavior modification in hypertension

1.1.4 Use of salt alternatives, their composition and contraindications

1.2 Atherosclerosis / Ischemic heart diseases

1.2.1 Types and risk factors

1.2.2 Role of diet

1.2.3 Diet after bypass surgery and heart attack

1.2.4 Prevention : control of risk factors and lifestyle changes

**Unit;- 2. Etiology, diagnosis and dietary management of renal disorders**

2.1 Renal functions : normal and deranged Diagnosis : names of renal function tests

2.2 Glomerulonephritis

2.3 Nephrotic Syndrome

2.4 Acute and chronic renal failure

2.5 Dialysis/ Renal transplant

2.6 Renal calculi

**Unit;- 3. Etiology, diagnosis and Dietary Management**

3.1 Cancer, types and etiological factors

3.1.1 Role of diet in prevention of all types of cancers

3.1.2 Nutritional management of cancer patients undergoing



3.1.3 Radiotherapy

3.1.4 Chemotherapy

3.1.5 Diet to be followed after treatment

3.1.6 Cachexia

3.2 Side effects of cancer therapy and suggested diet modifications

**Unit;- 4 Some special conditions requiring nutritional support**

4.1 Bone disorders

4.2 Allergy

4.3 Burns : Nutritional management

4.4 Metabolic disorder : Diseases of the adrenal cortex, thyroid and parathyroid glands, gout, spontaneous hypoglycemia, phenylketonuria

**Unit;- 5 Etiology, Diagnosis and dietary management of Liver Disorders**

5.1 Liver functions - normal and deranged

5.2 Role of diet in liver health

5.3 Liver function tests and nutritional care in liver diseases

5.4 Viral hepatitis

5.5 Cirrhosis

5.6 Alcoholic liver diseases

5.7 Cholecystitis, Cholelithiasis, Pancreatitis

**Unit;- 6 Dietetic Techniques and Patient Counseling**

6.1 Dieticians as part of the medical team and outreach services

6.2 Medical history assessment-techniques of obtaining relevant information for patient profiles

6.3 Dietary diagnosis and tests for nutritional status-Correlating clinical and dietary information

6.4 Patient education and counseling-assessment of patient needs, establishing rapport, counseling relationship, resources and aids to counseling.

6.5 Aesthetic attributes of diets.

6.6 Follow up visits and patients' education.

## **PRACTICALS**

### **1) Planning, preparation and calculation by use of exchange list for :**

#### **a) Cardiovascular disease**

- i. Hypertension
- ii. Atherosclerosis
- iii. Diet for a patient after heart attack
- iv. Diet for a patient after bypass surgery

#### **b) Renal disorders**

- i. Diet for acute nephritis
- ii. Diet for chronic renal failure
- iii. Diet for a patient on dialysis
- iv. Diet for renal calculi

#### **c) Cancer :**

- i. Oral diet for Cancer patients
- ii. Tube feeding for cancer patients

### **2) Diet in metabolic disorders**

- a) Gout
- b) Hypothyroidism
- c) Hypoglycemia
- d) Phenylketonuria

### **3) Planning, preparation and calculation by use of exchange list for liver Disorder**

- a) Hepatitis
- b) Cirrhosis of liver

#### **4) Case study:**

- b) Select any one patient and record the diagnosis, laboratory findings and detailed dietary and clinical history
- c) Write down the steps in counseling and formulate a new diet for the diagnosed disease
- d) Prepare a report and do a formal presentation

## **RECOMMENDED READINGS**

1. Anderson, Dibble, Tukki, Mitchell, Rynbergen – NUTRITION IN HEALTH AND DISEASE, 17<sup>TH</sup> Edi, J.B. Lippincott Co. USA.
2. B. Srilakshmi – DIETETICS, 3<sup>rd</sup> Edi, New Age International (P) Ltd. Publisher, New Delhi
3. Carol West Suitor, Merriyl Forbes, Crowley – Nutrition – Principles and application in Health Promotion, 2<sup>nd</sup> Edi J.E Lippincott Co. Philadelphia
4. Clifford R Anderson – MODERN WAYS TO HEALTH, Southern Publishing Association, Nashville Tennessee.
5. Corinne H Robinson, Marilyn R Lawler – Normal and Therapeutic Nutrition, 17<sup>th</sup> Edi Oxford and IBH Publishing Co., New Delhi
6. Dr. R. Kumar, Dr. Meenal Kumar – Guide To Healthy Living, Deep and Deep Publications Pvt. Ltd., New Delhi.
7. FOODS THAT HARM FOODS THAT HEAL Reader's Digest Association Ltd.,
8. F.P. Antia and Philip Abraham – Clinical Dietetics and Nutrition, 4<sup>th</sup> Edi, Oxford University Press, New Delhi
9. Kathleen Mahan, Sylvia Stamp – Food, Nutrition and Diet Therapy – 11<sup>th</sup> Edi, W.B. Saunders Co., Philadelphia
10. M. Swaminathan – ESSENTIALS OF FOODS AND NUTRITION, Bappco, Bangalore
11. Mini Sheth, Swati Parnami, Ruch Vaidya, Role of Prebiotics in Health and Diseases, Scietific Reports Series No. 8, UGC/DSA Program of F.N. Department, M.S. University, Baroda
12. Peggi S. Standfield and Y.H. Hui NUTRITION AND DIET THERAPY – SELF INSTRUCTIONAL MODULES, 4<sup>TH</sup> Edi W.B. Saunders Co., Philadelphia
13. Shubhangini A. Joshi – NUTRITION AND DIETITICS, TATA Mc Graw Hill Publishing Co., Ltd New Delhi
14. S.R. Williams – ESSENTIALS OF NUTRITION AND DIET THERAPY, 5<sup>TH</sup> Edi, Times Mirror / Mosby College Publishing, Boston.
15. SOME THERAPETUTIC DIETS, NIN, Hyderabad
16. Vaid B. M. - Diet Therapy, Saurashtra University
17. Vaid B. M. - Therapeutic Nutrition, Saurashtra University

**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER – VI**  
**FOOD SCIENCE – 2 PAPER NO. 03**  
**CC-18 ( )**  
**(CREDITS: THEORY – 4, PRACTICAL – 2, TOTAL – 6)**

**OBJECTIVES**

- 1) To impart knowledge pertaining to the basic properties of food.**
- 2) To provide basic understanding of principles behind food and also with processing Technology used for different foods.**
- 3) Understand the application of science principles to experimental study of foods.**
- 4) Develop food preparations and evaluate by sensory methods.**
- 5) Select food to meet your requirements both in terms of food quality as well as cost.**

**Unit 1;- food acceptability**

Appearance factor, kinesthetic factor and flavour factor judged by sensory organs

**Unit 2;- Sensory evaluation of food**

Definition practical requirement for conducting sensory test classification of sensory methods difference test ranking test

**Unit 3;- Evaluation of food by objective methods**

**3.1 classification**

**3.2 objective methods for assessing food qualities such as chemical methods physico-chemical methods microscopical examination microbiological examination assessment of textural characteristic of course such as appearance colour volume wettability sand retention tenderness of foods rheology of foods .**

**Unit 4 ;- Colloidal system in foods**

**4.1 definitions difference between colloid suspension and solution**

**4.2 types of colloidal dispersion properties of colloidal dispersion**

**4.3 Dispersion of substance in food preparations**

### **Practicals:-**

- Sensory evaluation of foods by difference test
- A) Paired comparison test
- B) Triangle test
- C) Duo-trio test

- Sensory evaluation by rating test
- A) Ranking test
- B) Two sample difference test
- C) Multiple sample difference test
- D) Hedonic test
- E) Numerical scoring test
- F) Composite scoring test

### **G) RECOMMENDED READINGS**

- H) 1) N Shukuntala Manay, M. Sadaksharaswamy, "Foods –Facts and Principles.
- I) 2) M Swaminathan "Food Science and Experimental Food."
- J) 3) Peckham G C. "Foundation of Food Preparation" The Mcmillan Co. 1962
- K) 4) Norman P N "Food Science" The A V I Publishing Co. 1982
- L) 5) Charley H "Food Science" John Wiley and Sons 1982
- M) 6) Griswold RM "The Experimental Study of Foods" Houghtan Migglin Co. 1962
- N) 7) Lowe B "Experimental Cookery" John Wiley and Sons.1965
- O) 8) ANC-1 Nutrition for the Community- Practical manual Part-1 IGNOU.
- P) 9) ANC-04 IGNOU.
- Q) 10) CCCD-02 IGNOU.
- R) 11) Srilaxmi- Food Science.

**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER –VI  
FUNDAMENTAL OF PUBLIC HEALTH AND COMMUNICATION – 2  
PAPER NO.4**

**DS- 6 (                      )**

**(CREDITS: THEORY-4, PRACTICAL-2 TOTAL-6)**

**OBJECTIVES**

- 1) To orient students to the basic principles of community nutrition
- 2) To acquire knowledge regarding the recent theories and components of communication as Relevant to nutrition health
- 3) To learn about Nutrition-Health-Communication (NHC) programmes and experiences in the Developing world of India
- 4) To gain skills in planning and conducting NHC projects

**THEORY**

**Unit – 1 Demography and Vital statistics**

- 1.1 Demographic profile
- 1.2 Vital statistics of developed and developing countries

**Unit - 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 food questionnaire and record procedure
- ii. Weighed food inventory
- iii. Recipe method
- iv. Weigh as you eat
- v. Food composite analysis method
- vi. Food diaries 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,

**III.** Mortality Rates(IMR, NMR, MMR, CDR, CBR)

### **Unit – 3**

### **3.2 Nutritional problems of the community and National Programs to Combat**

#### **Them: - 1**

a) National Anaemia control Programme

b) Vitamin A prophylaxis Programme

c) Iodine Deficiency disorder control Programme

#### **Them: - 2**

**3.2 .a)** Integrated child development service

3.2. b) ICAR, NIN, CFTRI

3.2. c) Mid day meal program

3.2. d) International Organizations in Community Nutrition and Health

FAO, WHO, UNICEF, CARE.

### **PRACTICALS**

#### **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 group's 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

#### **RECOMMEDED READINGS**

- 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.
- Jlliffee 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



**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER –VI**  
**FOOD MICROBIOLOGY - PAPER NO.05**  
**SE- 10 ( )**  
**(CREDITS: THEORY-2, PRACTICAL-0 TOTAL-2)**

**OBJECTIVES**

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

**Unit;- 1 . Introduction to food microbiology**

**Unit;- 2 . Rapid methods for detection of microbes -**

Chemical methods, nucleic acid test , and immunological Methods.

**Unit;- 3. Food spoilage**

Reasons for food spoilage food poisoning food borne infections

**Unit;- 4 fermented food**

Oriented fermented food

Food produced by microorganisms

Single cell proteins

**Unit;- 5 Bakery**

Microbes used in bakery

Useful and harmful microbes

**Unit;- 6 milk microbiology**

Pasteurization of Milk microbes used in Dairy industries cheese and ripening of cheese

**Unit;- 7 Probiotics and Nutraceuticals**

**RECOMMENDED READINGS**

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

**T.Y.B.Sc. (MAJOR –FOODS & NUTRITION) SEMESTER –VI**  
**Food Behavior - PAPER NO.06**  
**SE- 11 ( )**  
**(CREDITS: THEORY-0, PRACTICAL-2 TOTAL-2)**

Objectives:-

- To impart knowledge pertaining to basic properties of food
- To provide basic understanding of principal behind cooking foods and also processing technology used for different foods

**Practicals**

**1 . Vegetable and fruit cooking**

Effect of types of water on characteristics of cooked vegetables, Browning reactions and preventive methods.

**2 . Quality of fruit juices**

Squeeze orange / lime and allow juice to stand in refrigerator covered and uncovered for short period and overnight notice flavour changes.

**3 . Experiments on starch gelatinization and gelatin factors affecting gelatines.**

**4 . Milk cookery- milk and acid soup combining and evaluation of cream of tomato soup.**

**5 . Pulses and softening of legumes.**

**6 . Fats and oils fat absorption and deep frying.**

**7 . Gelatinization of cereal and legumes.**

**8 . Caramelization and crystallization of sugars.**

# Bhakt kavi Narsinh Mehta University – Junagadh

## Theory Paper Style for B.Sc. Home Science

કુલ ગુણ : - ૫૦	કુલ ગુણ :- ૩૫
સમય:- ૨.૦૦ કલાક	સમય :- ૧.૫ કલાક
પ્ર. ૧.....	પ્ર. ૧.....
(૧૦)	(૧૦)
અથવા	અથવા
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પ્ર. ૨.....	પ્ર. ૨.....
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પ્ર. ૩.....	ટુક નોંધ - (કોઈપણ - ૩ )
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અથવા	.....(૧૫)
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