



**Department of Home Science  
DeenDayal Upadhyaya Gorakhpur University**

**Proposed CBCS Course Syllabus  
Of  
B.Sc. HOME SCIENCE  
(3 Years Degree Program)**

## **INTRODUCTION**

Home Science is a single discipline which equally empowers the individuals towards self reliance as well as academic enrichment. Its interdisciplinary nature makes it a unique discipline which has countless entrepreneurial avenues to its graduates and at the same time it helps them to develop as a professional contributing in national development. The students are encouraged to develop a scientific temper. All the five windows of opportunity that Home Science offers for its recipients are i.e. Food and Nutrition, Human Development and family Studies, Family Resource Management, Development Communication and Extension and Fabric and Apparel Sciences. In these course, the students learn the fundamental principles and foundations of all the 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 objectives of the present B.Sc. Home Science Program course:**

- 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, extension communication and human development.
- To take science from the laboratory to the people.

**B.Sc Home Science****Structure of B.Sc Home Science Under Graduate Program**

Year/ Semester	Subject Major 1	Subject Major 2	Subject Major 3	Minor /Elective	Co- curricular Minor	Vocational Minor	Industrial Training/ Project	Credits (Major + Minor)	Remarks
1 <sup>st</sup> Year/ I Sem	Group I 8 credits (4+2)+ 2	Group II 8 credits (4+2)+ 2	Group III 8 credits (4+2)+ 2	Any 2 credit per Sem Course as offered in other Departments during Corresponding odd/even semesters	–  NCC/NSS /Rovers Rangers/ Sports/ Cultural Activities/ etc. 2 credits Per Semester	–  2 credits Per Semester As available		24+4=28 (+2co- curr.)	Basic course
1 <sup>st</sup> Year/ II Sem	Group I 6credits (4+2)	Group II 6credits (4+2)	Group III 6credits (4+2)					18+4=22 (+2co- curr.)	
II <sup>nd</sup> Year/ III Sem	Group I 6credits (4+2)	Group II 6credits (4+2)	Group III 6credits (4+2)					18+4=22 (+2co- curr.)	
II <sup>nd</sup> Year/ IV Sem	Group I 6credits (4+2)	Group II 6credits (4+2)	Group III 6credits (4+2)				–	18+4=22 (+2co- curr.)	
III <sup>rd</sup> Year/ V Sem	Group I/II/III 10 credits (8+2)	Group I/II/III 10 credits (8+2)				4 credits	20+ (2+4)	Only 2 Majors to be opted	
III <sup>rd</sup> Year/ VI Sem	Group I/II/III 10 credits (8+2)	Group I/II/III 10 credits (8+2)				4 credits	20+ (2+4)		
Total Credits	46 Credits	46 Credits	26 Credits	8 Credits	12 qualifying credits	8 credits	8 qualifying credits	134 credits + 20qualify ing credits	

**The complete UG program shall be of 134 credits + 20 qualifying credits.**

**PROGRAM SPECIFIC OUTCOME:**

- Understand and appreciate the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
- Understand the sciences and technologies that enhance the quality of life of people
- Acquire professional and entrepreneurial skills for economic empowerment of self in particular, and community in general
- Develop professional skills in food, nutrition, textiles, housing, product making, extension communication and human development.
- Take science from the laboratory to the people
- Participate as knowledge disseminator for wholesome development of the society

## **B.Sc. HOME SCIENCE**

### **GROUP I- FOODS AND NUTRITION**

#### **SEMESTER -1**

#### **BHSC 001- FUNDAMENTALS OF FOOD**

**(Credit- 2+0)**

##### **Course outcome**

- i. Comprehend relationship between food, nutrition and health.
- ii. Understand the functions of food, basic concepts of food groups and balanced diet.
- iii. Understand the selection, nutritional contribution the commonly consumed foods.
- iv. Develop understanding about the methods of preparing food.
- v. Understanding the various food standards and regulations related to food

##### **Unit I**

###### **Basic concepts in food and nutrition**

- Concept of nutrition and health,
- relationship between food, nutrition and health
- Functions of food-Physiological, psychological and social

##### **Unit II**

###### **Food Groups:** classification based on: Source, Functions

Selection, nutritional contribution of the following food groups:

- Cereals
- Pulses
- Fruits and vegetables
- Milk & milk products
- Eggs
- Meat, poultry and fish
- Fats and Oils

##### **Unit III**

###### **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  
Minimising nutrient losses
- Methods of improving nutritive value

## Unit IV

### Food adulteration:

- Definition, common adulterants in food and their effects on health
- Food laws and standard

### 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*, 3rd 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

## **BHSC 101- HUMAN PHYSIOLOGY**

**(Credit- 4+0)**

### **Course Outcome**

- Gain the basic knowledge of human anatomy and physiology.
- Define the main structures composing human body.
- Explains structure and functions of cells, tissues and organs ,systems of the human body
- Relates structure and functions of tissue.
- Provides excellent preparation for careers in the health professions and/or biomedical research.

### **Unit I**

Introduction to Human body:

Organs, tissue and cell, cell structure, cellular organelles and their functions

Blood and Lymphatic System:

- Blood - Composition and functions.
- Plasma Protein -Composition and functions.
- Lymphatic system structure and function
- Structure and functions of lymph node and lymphatic ducts

### **Unit II**

Cardiovascular system:

- Structure of heart, blood vessels (systemic, pulmonary, and portal)
- Cardiac cycle, cardiac output (Definition and factors affecting)
- Blood pressure (Definition and factors affecting)

Respiratory Physiology: general overview of the respiratory passage, structure and functions.

Mechanism of internal and external respiration.

- Structure of lungs and its functions

Digestive system:

- Overview of the Gastrointestinal Tract, organization and functions.
- Structure and functions of: Stomach, Liver, Gallbladder, Pancreas

### **Unit III**

Excretory System:

- Structure and functions of kidney and nephrons.

Endocrine System:

- Overview of endocrine system, feedback mechanism/cascade. Structure of main endocrine glands and their functions: Pituitary, Thyroid, Parathyroid, Adrenal Glands, sex and Pancreatic hormones

#### **Unit IV**

Reproductive system:

- Structure and function of uterus and ovaries
- Physiology of menstruation and menopause

Nervous System

- Overview of organization of nervous system, different types, structure of neurons and nerve impulse transduction

#### **RECOMMENDED READINGS**

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



**BHSC102 - PRACTICAL**

**(Credit- 0+2)**

- Determination of pulse rate in resting condition and after exercise (30 beats/10 beats method)
- Determination of blood pressure by Sphygmomanometer (Auscultator method).
- Measurement of Peak Expiratory flow rate.
- Detection of Blood group (Slide method).
- Measurement of Haemoglobin level (Sahli`s or Drabkin method).
- Different Styles of cutting fruits & vegetables
- Salad Decorations & Dressings
- Table Setting
- Weighing of Raw Ingredients
- Preparation of Recipes using different methods of cooking

## **SEMESTER-II**

### **BHSC103 - NUTRITIONAL BIOCHEMISTRY (Credit- 4+0)**

#### **Course outcome**

- To study the bio-molecules present in biological system of energy metabolism and its nutritional aspects
- To study the chemical/biochemical properties of carbohydrates, lipids, and proteins
- To study the functional role of proteins as enzymes and biocatalysts.
- To examine the functional role of vitamins and minerals.
- To understand the research techniques used in basic biochemistry and nutritional biochemistry research.
- To evaluate and criticize the experimental approaches and scientific information presented in the research articles related to nutritional biochemistry.

#### **UNIT I**

##### **Introduction to Biochemistry**

- Definition, objectives, scope and inter-relationship between biochemistry and other biological sciences

##### **Carbohydrates**

- Definitions, classification, structure and general properties of:
- Monosaccharides-glucose, fructose, galactose, ribose
- Disaccharides – maltose, lactose, sucrose
- Polysaccharides – dextrin, starch, glycogen
- Carbohydrate metabolism, glycolysis, gluconeogenesis, glycogenesis, glycogenolysis, blood sugar regulation
- Inborn errors of metabolism

#### **UNIT II**

##### **Lipids**

- Definitions and classification of lipids
- Types and properties of fatty acids
- Composition and properties of fats
- Significance of acid value, iodine value and saponification value
- Oxidation and biosynthesis of fatty acids
- Ketone bodies and ketosis & significance of cholesterol

##### **Proteins**

- Definition, classification, structure and properties of amino acids
- Essential and non-essential amino acids

- Definition, classification, elementary knowledge of structure of proteins
- Protein metabolism , Transamination, deamination, carboxylation, Urea cycle

### **UNIT III**

#### **Vitamins - Structure and biochemical role:**

- Fat soluble vitamins – A, D
- Water soluble vitamins – B1, B2, niacin, pyridoxine, folic acid, B12 and C
- Functions, dietary sources and clinical manifestations of deficiency/ excess of the following nutrients:
  - Water soluble vitamins B & C
  - Fat soluble vitamins-A, D, E and K

### **UNIT IV**

#### **Minerals**

- Biological role and occurrence of inorganic elements – iron, calcium, phosphorous, iodine, selenium and zinc
- Functions, dietary sources and clinical manifestations of deficiency/ excess of the following nutrients:  
Minerals – Calcium, Iron, Phosphorus, Iodine, Selenium & Zinc

#### **Enzymes**

- Introduction to Enzymes, Classification and properties of Enzymes, Co-enzymes, Enzyme Inhibition
- Water, electrolyte and acid base balance

### **RECOMMENDED READINGS**

1. Guthrie A.H.- (1986) : Introductory Nutrition 6<sup>th</sup> Ed. The C.V. Mosby Company.
2. Robinson C.H., Lawin, MR, Chenoweth, W.L and Garwick A.E.- (1986) : Normal and therapeutic Nutrition, 17<sup>th</sup> ED. MacMillan Publishing Company.
3. Swaminathan M.-(1985) Essentials of food and nutrition Vol. I & II, Ganesh & Co. Madra.
4. Gopalan C. – et. al., (1991) Nutrition Value of Indian Foods, Indian Council of Medical Research, (1989).
5. Nutrition Requirements and Recommended Dietary Allowance for Indian, New Delhi.
6. FAO/WHO/UNO- Technical Report-Series 724 (1985) Energy and Protein Requirement Geneva.
7. WHO – Technical Report Series for Different Nutrition
8. Lehninger A L, Nelson D L and Cox M M (2009). Principles of Biochemistry, 6th Ed. CBS Publishers and Distributors.

**BHSC104 –PRACTICAL**

**Credit (0+2)**

- Tests of mono, di and polysaccharides and their identification in unknown mixtures
- Qualitative Tests for reducing and non reducing sugars in foods
- Determination of acid value, saponification and iodine number of natural fats and oils
- Reactions of amino acids and their identification in unknown mixtures
- Estimation of ascorbic acid content of foods by titrimetric method
- Identification of different types of tissues (permanent slides)
- Identification of different types of blood cells -slide preparation
- Monitoring of heart beat, pulse rate and blood pressure

## **SEMESTER-III**

### **BHSC 201-: NUTRITION FOR FAMILY**

**Credit (4+0)**

#### **COURSE OUTCOME:**

1. Understanding the basic concept of balance diet, principles of meal planning, food pyramid.
2. Acquire knowledge about the nutritional needs of an individual through the life cycle.
3. Gain knowledge of nutrition consideration, guidelines, food selection for different age groups, activity levels and income groups.
4. Competent in calculating nutritive value of food product.
5. Able to provide balanced meal to different age groups and physiological conditions.

#### **UNIT 1**

Concept of balanced diet, Basic concepts meal planning: Factors affecting meal planning and food related behavior. Dietary guidelines for Indians, food pyramid

#### **Unit II**

Energy Requirement and Protein Quality Assessment

- Energy in human nutrition – energy balance, assessment of energy requirement,
- Factors affecting energy requirements, BMR, PAL, SDA
- Proteins quality: methods of assessment, Factors affecting protein bioavailability.

#### **UNIT III**

Nutrition during infancy, childhood

Growth standards, nutritional guidelines & nutritional concerns and selection of food for Infants &Preschool children

Growth standards, nutritional guidelines & nutritional concerns and selection of food for School children &Adolescents

#### **UNIT IV**

Nutrition during the adult years: nutrition concern for age, sex and different activities, food selection, Physiological changes, nutritional guidelines, nutritional concerns and selection of food  
Nutrition during lactation: nutritional needs, concern and food selection.

Physiological changes, nutritional guidelines, nutritional concerns and selection of food during old age.

#### **RECOMMENDED READINGS**

Developed CBCS B.Sc. Course suggested by Higher Education according to letter no. 216/ committee 2021

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

## **BHSC 202 – PRACTICAL**

**Credit (0+2)**

- Weights and measures; preparing market order and table setting
- **Introduction to meal planning**
  - Use of Food Composition Table
  - Use of food exchange list
- **Planning and preparation of diets for**
  - Young adult
  - Pregnant and Lactating woman
  - Preschool child
  - School age child and adolescents
  - Elderly
- Identification and characteristics of micro organisms: bacteria, virus, protozoa, fungi
- Identification of bread mould
- Identification of food spoilage causing micro organisms
- Gram staining: Gram negative and gram positive bacteria

## **SEMESTER-IV**

### **BHSC 203 - FOOD MICROBIOLOGY**

**Credit (4+0)**

#### **Course Outcome:**

- To provide knowledge of microorganisms associated with foods and their origin and role;
- Knowledge of the factors that determine the presence, growth and survival of microorganisms in food
- Knowledge of the main microbial groups involved in different food types and their prevention.

#### **Unit I**

- Introduction to microbiology and its relevance to everyday life,
- general morphology of micro-organisms- general characteristics of bacteria, fungi, virus, protozoa and algae

#### **Unit II**

- Growth of micro-organism- growth curve
- effect of environmental factors on growth of microorganism, pH, water activities, oxygen availability, temperature
- Growth media, types and uses.
- Control of micro-organisms- Physical and chemical methods

#### **Unit III**

- Microbial contamination and spoilage of different kinds of foods and their prevention:
  - Cereal and cereal products
  - Vegetables and fruits
  - Meat and fish
  - Eggs and poultry
  - Milk
  - Canned foods

#### **Unit IV**

- Food preservation: Importance, principles and methods- home and commercial, use of high and low temperature, pasteurization, dehydration, freezing, irradiation and use of preservatives.

#### **RECOMMENDED READINGS**

- Food Microbiology by Stanier
- Microbiology by Frazier
- Textbook of microbiology by Pclezar



## **BHSC 202 PRACTICAL**

**Credit (0+2)**

- Demonstration of the different parts of the microscope, their use and care of the microscope including oil immersion lens.
- Preparation of Bacterial Smear
- Simple Staining
- Differential Staining
- Isolation of Microorganisms- Pour Plate, Spread Plate, Streak Plate Methods
- Preparation of common laboratory media for cultivation of bacteria, yeast and molds.

## **SEMESTER-V**

### **BHSC301 - FOOD SCIENCE**

**Credit (4+0)**

#### **Course Outcome**

- Understand the basic concept of food science and its multidisciplinary nature.
- Acquire brief and coherent knowledge of food chemistry and its application in cookery.
- Gain knowledge of nutritional composition of various food commodities, its wise selection and storage guidelines.
- Get acquainted with the different

#### **UNIT I**

1. Introduction to food science and its multidisciplinary approach
2. **Cereals**
  - a) Functional properties: gelatinization, dextrinization & factors affecting the same
  - b) Effect of processing on nutritive value of cereals

#### **UNIT-II**

3. Fats and oils-
  - A) role of fat in food preparation. Shortenings, Emulsifying agents, Fat substitutes
  - B) Deterioration of fats/oils
4. Pulses:
  - a) Role in cookery
  - b) Effect of processing on nutritive value
  - c) Anti nutritional factors of pulses

#### **UNIT-III**

5. Milk
  - a) Composition of milk
  - b) Effect of heat, acid etc on milk
6. Meat, Fish and poultry: Nutritional contribution in diet

#### **UNIT-IV**

- 7 Egg: Nutritional contribution, role in cookery  
Fruits and vegetables: Nutritional contribution
9. Effect of processing on nutritive value of Fruits and vegetables

### **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, 3rd 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 P13-

## **BHSC 302-THERAPEUTIC NUTRITION**

**Credit (4+0)**

### **Course Outcome:**

- Knowledge of principles of diet therapy
- Understanding the various therapeutic modification of normal diet
- Ability to counsel the persons and individuals about dietary intakes and modifications

### **Unit 1**

#### **Introduction to Diet Therapy**

Basic concepts of diet therapy

Therapeutic modifications of the normal diet

Different methods of feeding

Interaction between drugs and nutrients (in brief).

### **Unit II**

#### **Common diseases/ disorders**

Etiology, clinical features and nutritional management of:

Febrile disorders

GIT disorder-ulcers, Diarrhoea, constipation, pancreatitis

Underweight, overweight and obesity

### **Unit III**

#### **Lifestyle disorders**

Etiology, clinical features and nutritional management of:

Diabetes, Cardiovascular disease

Hypertension, Hypothyroidism

### **Unit IV**

#### **Chronic diseases**

Classification, etiology, symptoms and dietary management in

Stomach, liver and gallbladder diseases, Peptic Ulcer Gastritis, hepatitis, cholelithiasis

Renal diseases: nephritis, nephrosis

Arthritis, osteoporosis, and Gout.

### **RECOMMENDED READINGS**

- Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2013). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
- Stacy Nix (2009). William's Basic Nutrition and Diet Therapy, 13th Edition. Elsevier Mosby.

- ICMR (1989) Nutritive value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- Seth V and Singh K (2007). Diet Planning through the Life Cycle Part II: Diet Therapy. A Practical Manual, 4th edition. Elite Publishing House Pvt. Ltd.

## **BHSC 303 PRACTICAL**

**Credits (0+2)**

1. Planning and preparation of Soft, fluid and bland diets
2. Planning and preparation of diets in-
  - i. Protein energy mal-nutrition
  - ii. Vitamin A deficiency
  - iii. Iron Deficiency Anaemia
3. Overweight and underweight
4. Fevers
5. Constipation and Diarrhoea, ulcers
6. Jaundice and other liver diseases
7. Diabetes mellitus, Hypertension and coronary heart diseases,.
8. Renal diseases
9. Monitoring growth of child: Weighing and charting graph.
10. community survey for Nutritional Assessment

## **SEMESTER-VI**

### **BHSC 304-COMMUNITY NUTRITION**

**Credit (4+0)**

#### **Course Outcome:**

- Develop basic understanding of concept of community nutrition.
- Understand the Multifaceted nature, causative factors and preventive strategies of common nutritional problems of India.
- Learn Direct and Indirect Nutritional assessment methods for individual, family and community.
- Get insight of various aspects of nutrition education.
- Get familiarize with the policy and programme operating in India to overcome malnutrition.

#### **UNIT-1**

1. Concept of community nutrition.
2. Common nutritional deficiencies  
Etiology, prevalence, clinical features, prevention and management of PEM  
Micronutrient deficiencies such as Vitamin A deficiency, iron deficiency Anemia, Iodine Deficiency Disorders, flurosis

#### **UNIT-II**

3. Assessment of nutritional status: methods and application
4. Direct methods – anthropometry, biochemical and clinical examination, dietary surveys

#### **UNIT III**

5. Indirect methods – vital statistics
6. Nutrition education :

Meaning of nutrition education and its importance

#### **UNIT-IV**

7. Organizing nutrition education programme
8. National Nutritional Policy and Programs  
-ICDS  
-MDM  
- National program for Prevention of Anemia/VAD/IDD

#### **RECOMMENDED READINGS**

- Wadhwa A and Sharma S (2003). Nutrition in the Community- A Textbook. Elite Publishing Pvt Ltd, New Delhi.
- ICMR (1989) Nutritive value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.

- **Understanding Nutrition:** *Whitney E.N. & Rolfe S.R.* 8th Edition West/ Wordsworth.1999
- 3) **Nutritional Research:** Current Scenario and Future Trends Editor: *K, Krishnaswamy*, Oxford and IBH Publication Co. Pvt. Ltd., 2000 6)
- **Nutritional Problems of India:** *Shukla P.K.*, Prentice Hall of India Pvt. Ltd., Delhi1982



## **BHSC 305: FOOD SERVICE MANAGEMENT**

**Credit (4+0)**

### **Course Outcome:**

- Knowledge of type of food services in INDIA
- Understanding characteristics of various food service outlets
- Analysis of various resources required for food service establishments

### **UNIT I**

#### **Introduction to Food Service**

- Factors contributing to the growth of food service industry
- Kinds of food service establishments

### **UNIT II**

#### **Food Production**

- Menu planning: Importance of menu, Factors affecting menu planning, Menu planning for different kinds of food service units
- Food Purchase and Storage
- Quantity Food production: Standardization of recipes, quantity food preparation techniques, recipe adjustments and portion control
- Hygiene and Sanitation

### **UNIT III**

#### **Resources**

- Money
- Manpower
- Time
- Facilities and equipment
- Utilities

### **UNIT IV**

#### **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, & Palgne 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

**BHSC 306 – PRACTICAL**

**Credit (0+2)**

1. Assessment of Nutritional status
2. Identification of nutritional problems among vulnerable groups.
3. Planning nutritive recipes.
4. Analyse the relationship between the purchased amount, edible portion and cooked weight of food stuffs.
5. Visit to a Food service Establishments to study its planning and functioning.
6. Cost analysis of menu.
7. Analysis of food safety and hygiene in different food instructions.

## **GROUP II- HUMAN DEVELOPMENT & EXTENSION EDUCATION**

### **SEMESTER-1**

### **BHSC 002- FUNDAMENTALS OF EXTENSION EDUCATION    Credit (2+0)**

#### **Course Outcomes**

- Gain knowledge on the need and importance of communication and its significance in exchange of information
- Analyse the models of Communication and role of media in societal development
- Perceive the importance of extension education
- Acquire knowledge on the extension models and approaches

#### **Unit-I**

1. Concept of Extension:
  - a) Meaning of extension
  - b) Origin and wider understanding of the meaning of extension education
  - c) Principles, scope, limitations
  - d) Goals, philosophy and role of extension education

#### **Unit-II**

2. Extension worker
  - a) Role of extension worker
  - b) Qualities
  - c) Training
3. Extension Education Process:
  - a) Environment for learning, role of educator, role of the people in learning and development
  - b) Learning experiences imposed information oriented to experiences

#### **Unit-III**

4. Community organization:
  - a) Concept of organization in community development
  - b) Process of community organization
5. Leadership Patterns:  
Traditional leadership –role and functions  
Emerging leadership-Shared leadership  
Leadership and community organization for development

**Unit-IV**

6. Home Science Education as empowerment :

- a) The interdisciplinary of Home science education
- b) The role of Home Science education for personal growth and professional development, National Development

**RECOMMENDED READINGS**

- Reddy A : Extension Education, Bapatia, India, Sri Laxmi Press
- WHO- Education for Health
- Gorges, Alan Teaching Adults in Extension Education
- Dhama OP &Bhatnagar OP: Education and Communication for Development

## **BHSC 105 - FUNDAMENTALS OF HUMAN DEVELOPMENT Credit (4+0)**

### **Course Outcome:**

- Get insight of meaning, domains and the multidisciplinary nature of human development.
- Develop basic understanding of development from conception to old age.
- Understand theoretical perspectives in human development.
- Identify the principles guiding growth and development.
- Comprehend different methods to study development in children.

### **Unit I**

Understanding Human Development

Definitions, scope and multidisciplinary nature of Human Development

Contexts, stages and domains of development

### **Unit II**

Historical perspective of human development

Methods of child study

### **Unit III**

Principles of Growth and Development: Norms and Milestones

Role of environment and inheritance in development

### **Unit IV**

Prenatal development (three stages of intra-uterine development and stages of birth process)

Prenatal influence on the fetus, biological risks, age of mother, illness, diet and nutrition, stress and emotional strain, environmental hazard

### **RECOMMENDED READINGS**

- Santrock, J. W. (2011). Life-span development. New York: McGraw-Hill.
- Singh, A. (Ed.) 2015. Foundations of Human Development. New Delhi: Tata McGraw-Hill.
- Berk, L. (2013). Child development. 9th ed. Boston: Pearson.
- Snow, C. W., & McGaha, C. G. (2003). Infant development (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Rice, F.P. (1998). Human Development: A Lifespan Approach. New Jersey: Prentice Hall.
- Rutter, M. and Rutter, M. (1992). Developing Minds: Challenge and continuity across the lifespan. London: Penguin
- Papalia, D.E. and Martorell, G. (2015). Experience Human Development. McGraw Hill Education.

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**BHSC 106 -PRACTICAL**

**Credit (0+2)**

1. Interaction with villagers and understand the felt and unfelt need
2. Carryout a case study using any one Extension approach
3. Visit to an community organization/women development and understand the organizational structure and Interact with the staff and understand their functions
4. Application of extension methods in the real life situations
5. Application of PRA methods in the real life situations.
6. Use Supportive techniques – secondary sources, direct observation, and semi structured interviews, case studies and stories, drama, games, role play, workshops
7. Develop skills in program planning and using individual and small group methods in extension.
8. Analysis of monitoring and evaluation of developmental programmes
9. Organizing and evaluating programmes for women and children at village level
10. Critical review of evaluation studies on women and rural development programmes.

## **SEMESTER-II**

### **BHSC 107-LIFESPAN DEVELOPMENT**

**Credit (4+0)**

#### **Course Outcome**

- Develop an understanding about the need and importance of studying human growth and development across life span
- Learn about the biological and environmental factors that affect development
- Learn about the characteristics, needs and developmental tasks of different stages in the human life cycle
- Understand the different theoretical frameworks fundamental to HDFS
- Learn about the classic human development theories
- Develop professional attitude for working with human beings across life span

#### **Unit-I**

##### Physical Development across life span

1. The new born physical appearance, size, weight, bodily proportion, sensory capacities i.e. hearing, vision, touch etc.
2. Changes in size, shape, bone and brain as it continues through infancy , preschool, childhood, adolescent growth spurt(primary and secondary sexual characteristics, Plateau in adulthood, decreasing physical abilities in old age

##### Motor Development

- a. Reflexes in infancy, major milestones of infancy, pre-school years, middle and late childhood, adolescent plateau in adulthood, declining co-ordination in adulthood and age
- b. Factors affecting Physical and motor development

#### **Unit-II**

##### Social Development:

- a) Social development and socialization as an important part of the process becoming human
- b) Social milestones; beginning with the emergence of the social smiles, attachments, separation anxiety acquiring sex roles in childhood, social development at puberty, induction into occupational roles by adulthood, social isolation and consequences in the late adulthood and in the elderly

##### Emotional Development:

- i) Concepts of emotions and emotional development
- ii) Basic emotional reactions, joy, fear, jealousy, anger, sadness, aggression



- iii) Emotional Development through infancy, childhood, adolescence, stability of emotions in adulthood and old age.
- iv) Hazards in emotional Development

### **Unit III**

1. Cognitive Development across the life span:
  - a) Meaning of cognitive Development:
    - I. The concept of Intelligence.
    - II. A brief Introduction in Piaget's theory and stages,
2. The Development of Language across the Life span.
  - i. Language as a form of communication.
  - ii. Function of Language.
  - iii. Communicating before language development i.e. the stage of vocalization undifferentiated crying, differentiated babbling, initiation of sound, patterned speech.
  - iv. Beginning in use language. One or two word sentence, early sentences, telegraphic speech grammatical language development.
  - v. Refinement of language through middle, late childhood and puberty,
  - vi. Decline of language in the aged (Speech impairment and disorders).

### **Unit IV**

3. Development of play:
    - vi. Play as means of development and learning.
    - vii. Development stage of play.
    - viii. Social dimension of play, unoccupied behaviour, onlooker behaviour, solitary play, parallel play, associative play and co-operative play.
    - ix. Play as a means of children's all round development.
  4. Development of Creativity:
    - i. Meaning of creativity
    - ii. Development of creativity
    - iii. Components of creativity
    - iv. Expression of creativity
    - v. Factors affecting creativity
- PERSONALITY DEVELOPMENT---Important aspects

### **RECOMMENDED READINGS**

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

- Rutter, M. and Rutter, M. (1992) *Developing Minds. Challenge and continuity across the life span*. London: Penguin.
- Santrock, J. W. (2007). *A topical approach to life-span development*. New Delhi: Tata McGraw- Hill.
- Singh, A. (Ed). 2015. *Foundations of Human Development: A life span approach*. New Delhi: Orient BlackSwan.
- Tennant, M. and Pogson, P. (1995) *Learning and Change in the Adult Year*, San Francisco: Jossey-Bass.

**BHSC 108- PRACTICAL**

**Credit (0+2)**

1. Observing children indifferent situations, recording the observations, analysing the observations and writing report
2. Assessment of physical development of children
3. Assessment of motor development of children: gross motor skills, fine motor skills
4. Assessment of social behaviour
5. Assessment of emotional maturity/ emotional quotient
6. Plan and develop activities to facilitate development in different domains
7. Prepare play materials and teaching aids for children

## **SEMESTER-III**

### **BHSC 205-EXTENSION COMMUNICATION**

**Credit (4+0)**

#### **Course Outcome:**

- Develop understanding of scope and concepts of development communication.
- Comprehend the elements and process of effective communication
- Understanding about various communication methods and their use in community setting

#### **UNIT I**

1. Concept of development communication.
2. Meaning and importance of communication in development, purpose of communication
3. Existing patterns of communication. Factors that helps or hinders communication.

#### **UNIT II**

4. Communication process: one way and two way or interactive communication.
5. Gaps in communication or distortions in transmission of message and their causes;
- 6 Importance of two way communication, Basis for effective, interactive communication,

#### **Unit III**

Methods of communication in development methods to reach individuals

6. Personal contact:
  - Interview
  - House visits
  - Clinics to solve individual problems
7. Methods to reach small groups:
  - Illustrated lectures
  - Group discussions,
  - Role play
  - Demonstration
  - Camps
9. Methods to reach masses:
  - Radio programs
  - Newspaper
  - Posters
  - Exhibits

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Videos  
Films  
T.V. Programme  
Letters  
Folders  
Pamphlets  
Public meetings  
Selection, preparations, use and evaluation of the above methods

#### **Unit IV**

##### 10. Media for Development communication:

Folk media

Games

Puppet play

Print media

Newspapers – articles, stories

Audios/visuals, audio-visual media

Films: documentary, features

Selection, preparation and effective use of media in development education and evaluation of the effectiveness of the media

#### **RECOMMENDED READINGS:**

- Reddy A : Extension Education, Bapatia, India, Sri Laxmi Press
- WHO- Education for Health
- Gorges, Alan Teaching Adults in Extension Education
- Dhama OP &Bhatnagar OP: Education and Communication for Development

**BHSC 206- PRACTICAL**

**Credit (0+2)**

1. Survey of village/nearby slum area to students with conditions and problems to give them a background.
2. Training in preparation of charts, posters, flash cards, scripts, reading materials and other teaching aids
3. Practice in use of extension methods and techniques in the community.
4. Identify few of the folk forms of the region. Select any contemporary issue and evolve a script based on a selected folk format, and enact it.
5. Select target group and their relevant to the life situations in rural or urban settings, namely health education women's issues and so on, develop educational programme.

## **SEMESTER IV**

### **BHSC 207- ENTREPRENEURSHIP**

#### **Course Outcome:**

- Development of concept of Enterprise and Entrepreneurship
- Development of Understanding of scope of Entrepreneurship
- Development of Understanding of process of Entrepreneurship
- Development of Understanding of support institutions to promote Entrepreneurship

#### **UNIT I**

1. Definition and concept of Entrepreneurship, difference between Wage Employment, self employment and Entrepreneurship
2. Role of entrepreneurs in economic development of India.
3. Role of women entrepreneurs: opportunities and problems

#### **UNIT II**

4. Qualities of personality of an entrepreneur
5. Entrepreneurial motivation
6. Process of Enterprise development and management
  - a. Identification of opportunity
  - b. Preplanning of formalities
  - c Preparation of preliminary project report

#### **UNIT III**

- d. Basics of Costing and pricing
- e. Basics of Production management
- f. Basics of Marketing management
- g .Basics of Human Resource management

#### **UNIT IV**

- h. Basics of Finance management

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- i. Ergonomical safety & security
- j. Patent Rules, Environmental considerations and social responsibilities.
- k. Role of support institutions to promote small entrepreneurs

**RECOMMENDED READINGS:**

- Kaulgud A Entrepreneurship management
- Ormerod A Textile Project Management, the Textile Institute, 1992.
- SangramKeshariMohanti Fundamentals & Entrepreneurship: 2009: PHI learning.
- Vasanth Desai the dynamics of entrepreneurial development & Management: 6th edition Himalaya publish house. 2009.
- Franklin, T. Principles of Management, AITBS, 2002



**BHSC 208 – PRACTICAL**

**Credit (0+2)**

1. Assessment of entrepreneurial traits Thematic Appreciation Test (TAT) who am I
2. Paired Comparison Test (PCT) and Sentence Completion Test (SCT)
3. Risk Taking Behavior (Ring Toss)
4. Conceptualizing entrepreneurial values (block building exercise)
5. Achievement planning exercise (Business game)
6. Interaction with support agencies (Discussion)
7. Project Planning, formulation and report preparation (individual/group exercise)
8. Interaction with entrepreneurs (industry visits)
9. Case studies

## **SEMESTER V**

### **BHSC 307- EARLY CHILDHOOD CARE AND EDUCATION Credit (4+0)**

#### **Course Outcome:**

- Explain the need and importance of studying childhood as a distinctive stage of the life-span.
- Describe the historical views and theories on childhood
- Describe the characteristics, needs and developmental tasks of infancy, early childhood
- Explain the importance of early childhood years and significance of intervention programs for early childhood development.

#### **Unit I**

1. Significance and objectives of Early Childhood Care and Education.
  - a) Significance of early childhood years in individual development.
  - b) Need for intervention programmes for better growth and development.
  - c) Objectives of ECCE.
  - d) Different types of programmes currently offered.
    - i. ECE Programme- Balwadi, Anganwadi, Nursery Schools, Kindergarten, Montessori, Laboratory Nursery School.
    - ii. ECCE Programme- I.C.D.S. and Mobile Creche, Play Group, Crèche and Day Care.

#### **Unit II**

2. Historical Overview of ECCE:
  - a) View of Educationist and Philosophers - Comenius, Rousseau, Pestalozzi, Frobel, McMillan Sisters, Dewey and Montessori.
  - b) Psychological- Recognition of Effect of experiences in early childhood years, opportunities for expression of anger, tension through creative activities and dramatic play for proper mental hygiene.
  - c) Cognitive approach – Piaget’s contribution to curriculum for cognitive development.

#### **Unit III**

3. ECCE in India – Contribution of Rabindra Nath Tagore, Gandhiji, Tarabai Modak
4. Recent Development: Policies, Institutions and contributions of NGOs

#### **Unit IV**

5. Organization of ECCE Centre:

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- a) Place/ Building/ Space - Indoor and Outdoor, garden, play-ground, Storage space.
- b) Furniture and equipments: Criteria for selection, functional utility, maintenance, low cost alternative.
- c) Preparing equipments lists for indoor and outdoor activities

**RECOMMENDED READINGS :**

- Agarwal, J. C. (2007). Early childhood care and education: principles and practices. New Delhi: Shipra
- Agarwal, S.P. and Usmani, M. (2000). Children's education in India: from vedic a. times to twenty first century New Delhi: Shipra.
- Canning, N. (2010) Play and practice in the early years: Foundation stage. New Delhi: Sage.
- Fler, M. (2010). Early learning and development: Cultural–historical concepts in play. Cambridge: Cambridge University Press.

## **BHSC 308- SCHEMES AND PROGRAMS FOR COMMUNITY WELFARE**

**Credit (4+0)**

### **Course Outcome:**

- Social Responsibility · Intellectual Growth · Leadership Development · Appreciating Diversity · Collaboration · Career and Educational Goals.
- Awareness about the schemes and programmes launched by the government and NGO's from time to time for community welfare.
- Sensitizing towards the needs of the marginalized, women and children.

### **UNIT:I**

#### **Schemes and services for Women:**

1. Maternal and child health services , ante-natal and post-natal care, family planning services
2. Vocational Training Programme.
3. Programmes of department of women and child development.
4. Agencies working for women- SEWA,CHETNA and AIWC

### **Unit: II**

#### **Welfare Services for the Aged:**

5. Old age homes, Old age pension schemes.
6. Agencies working for aged, HelpAge India, Grant-in- aid programmes of Central and State Government.

### **Unit: III**

#### **Support Services for Youth Development:**

7. Counseling
8. Employment bureaus/ career guidance.
9. Sport and Recreational activities.
10. Life style education for Youth.
11. NCC, NSS and Youth Camp
12. Aid/HIV/STD awareness programmes

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13. Agencies working for Youth.

#### **UNIT IV**

##### **Child Welfare Services:**

14. Institutional services- SOS children's village, Orphanages, Foster Care and adoption.

15. Services for destitute and delinquent children.

16. Services for children of working mother's day care and factory crèches.

17. Development Services- ICDS

18. Agencies Working for Children: NIPCCD, NCERT, CRY, UNICEF.

##### **RECOMMENDED READINGS:**

- Bandarkar, P.I. and T.S. (2000). Methodology and Techniques of Social Research. Mumbai: Himalaya Publishing House •
- Dhama, O.P, and Bhatnagar O.P. (1991) Communication for Development. New Delhi: Oxford & IBH Publishing Co. Pvt. Ltd •
- Narayanaswamy, N. (2009). Participatory Rural Appraisal: Principles, Methods and Applications. New Delhi: Saga Publications •
- Neeta Mekherjee. (1997). Participatory Rural Appraisal: Methodology and Applications. New Delhi: Concept Publishing Company

**BHSC 309- PRACTICAL**

**Credit (0+2)**

1. Collection of traditional stories and songs.
2. Prepare picture book/story for infants and toddlers.
3. Prepare play materials /play activities to promote different areas of development
4. List the activities for each domain to promote all round development in young children
5. Planning pre-reading and writing skills.
6. Plan activities/materials to promote mathematical concepts and science experience.
7. Visit, Observe and submit report of various activities/programmes conducted in crèches, balwadis/aganwadi and preparatory schools.
8. Prepare a developmentally appropriate plan and its implementation
9. Visit and observe and submit report of various programmes/activities conducted in centres for children with special needs.

## **SEMESTER VI**

### **BHSC 310- COMMUNITY DEVELOPMENT**

**Credit (4+0)**

#### **Course Outcome:**

- Learn the history of community development programs in India
- Get acquainted with extension activities for community development
- Understand the importance of social surveys
- Gain knowledge of extension methods and approaches

#### **UNIT - I**

1. History of Community Development: Definition, objectives of community development programme

- i. limitations of community development,
- ii. Elements of community development : Role of community development worker,

#### **UNIT II**

2. Community development programmes : a) Shriniketan rural reconstruction

b) Gurgaon experiment c) Marthandum project d) Gandhian constructive programme

3. History of extension activities : a) Etawah pilot project b) Indian village service

c) Firka development scheme d) Nilokheri experiment

#### **UNIT III**

4. Social Survey: Definition, importance of social survey

5. Tools of data collection- questionnaire, observation, interview and schedule methods

#### **UNIT IV**

6. Methods and Approaches of Extension - classification, characteristics and selection

7. People's participation and social mobilization in development

8. Diffusion of innovation and adoption

#### **RECOMMENDED READINGS**

Developed CBCS B.Sc. Course suggested by Higher Education according to letter no. 216/ committee 2021

- 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



## **BHSC 311-THEORIES OF HUMAN DEVELOPMENT**

**Credit (4+0)**

### **Course Outcome:**

- Apply the theoretical approaches to work with human being across life span
- Learn about the classic human development theories
- Develop professional attitude for working with human beings across life span
- Explain the need and importance of studying human growth and development across life span.
- Identify the biological and environmental factors affecting human development.

### **Unit 1**

Early views on human development: Western and Indian Perspective of Human Development

Psychosexual Development Theory and Psychoanalytic Theory of Personality – Sigmund Freud

Psychosocial Theory – Erik Erikson

### **Unit 2**

Social Learning Theory – Albert Bandura

Learning Theories – Watson, Pavlov and Skinner

### **Unit 3**

Cognitive Development Theory – Jean Piaget

Socio-Cultural theory of Cognitive Development – Vygotsky

### **Unit 4**

Kohlberg's Moral Judgement Theory

Ecological Theory – Urie Bronfenbrenner

### **RECOMMENDED READINGS:**

- Bhangaokar, R., & Kapadia, S. (in press). Human Development Research in India: A historical overview. In G. Misra (Ed.), Hundred years of Psychology in India. New Delhi: Springer.
- Feldman, R., & Babu, N. (2009). Discovering the life span. New Delhi: Pearson
- Kakar, S. (1998). The inner world. Psychoanalytic study of childhood and society in India. Delhi: Oxford University Press.

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- Kapadia, S. (2011). Psychology and human development in India. Country paper. International Society for the Study of Behavioural Development Bulletin Number 2, Serial No. 60, pp.37-42.
- Keenan, T., Evans, S., & Crowley, K. (2016). An introduction to child development. Sage.
- Lightfoot, C., Cole, M., & Cole, S. (2012). The development of children (7th ed.). New York: Worth Publishers.
- Santrock, J. (2017). A topical approach to life span development (9th ed.). New NY.: McGraw-Hill Higher Education.
- Singh, A. (2015). Foundations of Human Development: A life span approach. ND: Orient Black Swan.
- Walsh, B.A., Deflorio, L., Burnham, M.M., & Weiser, D.A. (2017). Introduction to Human Development and Family Studies. NY: Routledge

**BHSC 312 – PRACTICAL**

**Credit (0+2)**

1. Visit of Local NGO
2. Studying the Annual report of NGOs
3. Studying the ongoing Activities
4. Studying the problems

## **Group III- TEXTILES & CLOTHING AND RESOURCE MANAGEMENT**

### **SEMESTER-1**

#### **BHSC 003- FUNDAMENTALS OF TEXTILES**

**Credit (2+0)**

##### **Course Outcome:**

- Fundamental understanding of Textiles
- Knowledge development regarding various types of basic textiles fibres
- Learning development regarding processes involved in yarn manufacture
- Comprehension development regarding use of various types of fibres and yarns

##### **Unit I**

1. Definition and Classification of textile fibres.
2. History, manufacture, properties (chemical, physical and microscopic) and importance of following textile fibres:  
Natural Fibres
  - Protein: wool, silk
  - Cellulose : cotton, linen
  - Mineral : Asbestos

##### **Unit II**

3. Man-made/Synthetic Fibres:
  - Cellulose: Rayon
  - Polyamide : Nylon
  - Polyester
  - Acrylic and Modacrylic

##### **Unit III**

- Olefin
  - Elastomeric
  - Mineral: Glass, Metallic
4. Yarn: definition and basic concept of:
    - a) Yarn construction Process : Mechanical spinning, Chemical Spinning

##### **Unit IV**

- b) Type of yarn
  - i. Staple yarns
  - ii. Filament yarns
  - iii. Simple Yarn

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- iv. Complex yarns
- c) Properties of yarns:
  - i) Yarn numbering system-count, denier, Tex
  - ii) Twists in yarns
- d) Textured yarns
- e) Fibre blends
- f) The effect of yarn on the finished fabrics

### RECOMMENDED READINGS

- Booth, J.E. (1996). *Principles of Textile Testing*. New Delhi: CBS Publishers & Distributors Pvt. Ltd.
- Corbman, P.B. (1983). *Textiles: Fibre to Fabric*. McGraw-Hill Publishers.
- Collier, B.J., & Epps, H.H. (1998). *Textile testing and analysis*. Prentice Hall Publishers.
- Dantyagi, S. (1996). *Fundamentals of Textiles and their Care*. India: Orient Black swan Private Limited.
- D'Souza, N. (2014). *Fabric Care*. New Delhi: New Age International Publishers.
- Greaves, P.H., Saville, B. P. (1995). *Microscopy of textile fibres*. bios Scientific Publishers
- Gohl, E., Vile sky, L. (2003), *Textile Science: an explanation of fiber properties* (2 edition), New Delhi.
- Hollen, R. N., Saddler, J., & Langford, A. (1979). *Textiles*. Macmillan Publishers.
- Joseph, M. (1992), *Introductory Textile Science*. Sixth edition, California: Harcourt College Publishers
- Rastogi, D., & Chopra, S. (2017). *Textile Science*. India: Orient Blackswan Private Limited

## **BHSC 109 - FUNDAMENTALS OF FAMILY RESOURCE MANAGEMENT**

### **Credit (4+0)**

#### **Course Outcome:**

- Comprehend the fundamentals of resource management in changing scenario
- Familiarize the students with the available resources, their uses and conservation
- Enable the students to utilize resources in a prudent manner
- Understand the processes of management in a scientific manner in the use of resources.

#### **Unit-I**

1. Introduction to management:
  - a) Basic concepts of management
  - b) Purpose of Management
  - c) Obstacles to the improvement of management
    - i) Lack of awareness of management
    - ii) Lack of awareness of resources
    - iii) Failure to evaluate result of management
    - iv) Lack of information
    - v) Seeking readymade answer to problems

#### **Unit-II**

2. Management Process:
  - a) planning
  - b) controlling
  - c) evaluation
3. Factors motivating management
  - a) Goal-definition, types and utility
  - b) Values- importance, sources of values, classifications, characteristic, changing values
  - c) Standards-definition, classification

#### **Unit-III**

4. Decision Making
  - a) Role of decision making in management
  - b) Steps in decision making
5. Resources in the family:
  - a) Classification

- b) Factors affecting the use of resources
- c) The family life cycle

#### **Unit-IV**

- 6. Money Management:
  - a) Family income
  - b) Expenditure
  - c) Family budget
  - d) Savings
- 7. Time management:
  - a) Importance
  - b) Tools in time management
  - c) Process

#### **RECOMMENDED READINGS**

- Nickell& Dorsey: Managemen in Family Living
- Gross &Crandle: Management for Modern families
- Vargese: Introduction to Home Management

**BHSC 110- PRACTICAL**

**Credit (0+2)**

1. Study of general physical properties of fibers
2. Fibre identification: Identification of natural and manmade fibers appearance microscopic test, burning test and solubility test.
3. Study of effect of various acids on fibres
4. Study of effect of various alkalis on fibres
5. Study of effect of sunlight on fibres
6. Study of effect of various laundry substances (soaps and detergents, bleaches) on fibers
7. Collection and study of various types of Yarns.
8. Study of S twist and Z twist
9. Preparation of various types of weaves with material
10. Collection and preparation of resource book of samples of weave



## **SEMESTER-II**

### **BHSC 111 -RESIDENTIAL SPACE DESIGN AND FURNISHING**

**Credit (4+0)**

#### **Course Outcome:**

- Understand the various features in period style furniture
- Select and arrange furniture and furnishings in different rooms in residential spaces
- Knowledge on factors influencing planning of life space
- Develop confidence in decorating interiors using furniture and furnishings

#### **Unit 1**

Introduction to Fundamentals of art : Design, Definition and types : Structural and Decorative Elements of design : Line Size Form Structure Space Pattern Shape Light : Characteristics and classification Study of colours – classification, dimensions, colour schemes and effect principles of design – definition and their characteristics and types : Balance Harmony Scale Proportion Rhythm Emphasis

#### **Unit II**

1. Family housing needs – protective, economic, affectionale, standard of living, housing goals, function
2. Factors influencing selective and purchase of site for house building:  
Legal aspects, location, physical features, soil condition, services, housing Cost
3. Housing
  - a. Principles of house planning – grouping, orientation, circulation, flexibility, privacy, spaciousness, aesthetics, economy, light and ventilation.
  - b. Planning different residential spaces: entrance, living rooms, drawing rooms, bedrooms, store rooms, study rooms, bath room

#### **Unit III**

4. Kitchen planning – types of kitchen, planning different work areas in the kitchen.
5. Furnitures:
  - a. Types of furniture.
  - b. Selection of furniture.

#### **Unit IV**

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6.
  - a. Furnishing : factors affecting furnishing choices.
  - b. Soft furnishing – selection and care of bed linen, table linen
  - c. Curtains and draperies: type, selection and care.
  - d. Floor covering, rugs and carpets. Types, care and cleaning.

**RECOMMENDED READINGS:**

- Arora. S. P., and Bindra S.P. (2005). *Building Construction*. Delhi: DhanpatRai Publications
- Bhavikatti, S.S., and Chitawadagi, M.V. (2019). (1<sup>st</sup> Ed.). *Building Planning andDrawing*. Hubli: Dreamtech Press
- Faulkner, R. and Faulkner, S. (1987). *Inside Today's Home*. New York: Rinehart Winston, India.
- Gandotra V., Shukul M., and Jaiswal N. (2011). *Introduction to Interior Design andDecoration*, New Delhi: Dominant publishers, India.
- Jankowsky, W.(2001). *Modern Kitchen Work Book*. New Delhi: Rockport Publishers, India.

## **BHSC 112- PRACTICAL**

**Credit (0+2)**

1. Preparation of colour wheel and colour scheme.
2. Elements of design laws of field, size, proportion, types of shadows.
3. Residential space planning – scale, lines, abbreviations. Metric projections, defining space by shades, shadows.
4. Use of Colour for wall/floor decorations and making accessories.
5. Application of design principles in flower arrangement – demonstration. Appreciation of art from the point of view of principles of design composition.
6. Drawing house plans with standard specifications.
7. Furniture layout of living, dining, kitchen and bedroom, Design presentation with furniture layout. Sectional elevation, views.
8. Development of designs and construction of any five of the under mentioned items-Cushions, Curtains, Carpets, Door mats, Rugs, Table mats.
9. Wall paintings, Picture frame designs and Crafts out of fibre, fabric coir, bamboo, clay metal etc.
10. Flower arrangements, styles, innovation of new style

## **SEMESTER-III**

### **BHSC 209-: BASICS OF CLOTHING CONSTRUCTION      Credit (4+0)**

#### **Course Outcome:**

- Understanding fundamentals of Clothing Construction
- Learning terms and terminologies used in clothing construction
- Ability development selection of fabrics
- Acquiring practical knowledge about construction of some basic garments

#### **Unit I**

1. Arranging Stitching area
2. Equipment: equipment and supplies used in clothing construction, their maintenance, problems faced, remedies with specific reference to sewing machine.
3. Basic terminology used in clothing construction  
General principles of clothing construction,
4. Selection of Fabrics, understanding width and right side of fabric, Grainline

#### **Unit II**

5. Body measurement for different types of garments,
6. Preparation of fabrics for garment making, laying out of pattern, marking and cutting of different types of fabrics (like checks, floral prints, pile etc)
7. Interfacing, lining and interlining
8. Pressing while stitching

#### **Unit III**

9. Simple stitches seams, necklines pockets, Fastners used in clothing construction
10. Fullness, gathers , tucks
11. Finishing of raw edges and disposal of fullness in clothing construction

#### **Unit IV**

12. Especial considerations for sewing for babies and children

13. Household Linen: Importance, factors affecting selection of various household linen, care and maintenance

14. Mending and renovation

**RECOMMENDED READINGS:**

- Armstrong, Pearson. (1995), Pattern making for Fashion Design, Fairchild Publication, New York 1995 (Indian Ed.)
- Cream, Penelope.,(1996), The Complete Book of Sewing - A Practical Step by Step Guide to Sewing Techniques, DK Publishing Book, New York
- Dorothy wood, the practical encyclopaedia of sewing, Anness publishing Ltd, London.
- Holman, Gillian. (1997), Pattern Cutting Made Easy, BSP.
- Janace E. Bubonia. (2012), Apparel production terms and processes, Fairchild Books, New York.
- Anna Jacob: Art of Sewing UBSPD, New Delhi
  
- Bane A –Tailoring, Mc Graw Hill Publication
  
- Reader’s Digest: Complete Guide to Sewing, Association inc New York
- Doongaji&Deshpandey : Basic Process and Clothing Construction, New Delhi, NewRaj Book Depot

**BHSC 210-: -PRACTICAL**

**Credit (0+2)**

1. Sewing machine and its parts, common defects and remedy for them, equipment used for clothing construction.
2. Sewing techniques: basic stitches, seams, fullness, gathers, pockets, tucks, Fasteners in common use, their application to the garments given below:
3. Drafting of child's basic bodies block.
4. Garments construction:  
Drafting, cutting and stitching of simple garments such as:  
Bib, A-line dress, apron and petticoat.

## **SEMESTER IV**

### **BHSC 211 - FABRIC CONSTRUCTION AND FINISHING      Credit (4+0)**

#### **Course Outcome:**

- Understanding techniques and processes involved in fabric construction
- Understanding the principles and processes of finishing fabrics
- Understanding applications and use of various types of fabric finishes for specific purposes

#### **Unit I**

1. Fabric construction
2. Structure and working of handloom
3. Weaving process
4. Types of weaves

#### **Unit II**

5. Other processes of fabric preparation
  - i. Felting
  - ii. Braiding
  - iii. Netting
  - iv. Knitting
  - v. Bonding
  - vi. Lace

#### **Unit III**

6. Definition Classification and purpose of finishes.
  1. Finishing of Textiles:
    - i. Bleaching.
    - ii. Mercerization.
    - iii. Weighing and sizing.
    - iv. Singeing.
    - v. Beetling.
    - vi. Calendering.
    - vii. Tentering.

#### **Unit IV**

- viii. Embossing.
- ix. Napping.
- x. Water resistant and waterproof.
- xi. Crease resistant.

- xii. Sanforization.
- xiii. Moth resistant and Bacteriostate.
- xiv. Antistatic.
- xv. Stain and soil resistant.

**RECOMMENDED READING:**

- Corbman, P.B. (1983). *Textiles: Fibre to Fabric*. McGraw-Hill Publishers.
- Dantiyagi, S. (1996). *Fundamentals of Textiles and their Care*. India: Orient Black swan Private Limited.
- D'Souza, N. (2014). *Fabric Care*. New Delhi: New Age International Publishers.
- Gohl, E., Vile sky, L. (2003), *Textile Science: an explanation of fiber properties* (2 edition), New Delhi.
- Hollen, R. N., Saddler, J., & Langford, A. (1979). *Textiles*. Macmillan Publishers.
- Joseph, M. (1992), *Introductory Textile Science*. Sixth edition, California: Harcourt College Publishers
- Rastogi, D., & Chopra, S. (2017). *Textile Science*. India: Orient Blackswan Private Limited.



**BHSC 212 – PRACTICAL**

**Credit (0+2)**

1. Weaving: Graphical representation of straight draft plan, lift plan and tie-up of plain weave and its variations.
2. Preparation of handloom for plain weave and weaving of sample identification of fancy weaves.
3. Identification of fancy weaves
4. Design development: All over design, border design, spot design and pallav design.
5. Printing: Block printing, stencil printing, tie and dye and bati with different dyes.
6. Screen printing and Stain removal
7. Bleaching, whitening, Mercerization and Starching

## SEMESTER V

### BHSC 310 - HOUSEHOLD EQUIPMENTS

Credit (4+0)

#### Course outcome:

- To learn the integration of physics and its application in the household equipment.
- To have a fair knowledge about the household Equipment's, their selection and classification.
- To learn their Working Principles and maintenance.

#### Unit-I

##### 1. Mechanics:

- a) Simple Machine
- b) Lever

##### 2. Forces: centripetal and centrifugal forces spin dryer in washing machine

##### 3. Frictions:

- a) Advantages and disadvantages, concept of ball bearing in sewing machine & vaccum cleaner

##### 4. Heat:

- i) Introduction to heat
- ii) Application in heat transfer
- iii) Refrigerator

##### 5. Light

- i) Introduction to light
- ii) Theories of light , reflection& refraction
- iii) Colour-Sources of colour, responses of eye to colour

#### Unit-II

##### 2. Electricity: Basic electricity, units of electric measurements, Ohm's Law series and parallel connections

##### 3. Effects of electricity- fuse circuit breaker, thermostat, bimetallic and hydraulic automatic steam iron, toaster, hot plate, water heater , water boiler

#### Unit-III

##### 4. Choice and care of motor driver appliances-Mixer, Blender, Hair dryer

5. Choice and care of motor driven appliances- washing machine and dryer

**Unit-IV**

6. Classification, selection, use and care of house hold equipment:

- i) Portable and Non-Portable
- ii) Electrical and motor driven/ Non electrical
- iii) Food Related
- iv) Laundry: Washing machine
- v) Cleaning: Vacuum Cleaner
- vi) Recreation
- vii) Hair dryer

7. Certification and Guarantee

**RECOMMENDED READING:**

- Johnson J B ,Equipments for Modern Living: The McMillon Company
- MohiniSethi: Catering Management An Integrated Approach, Wiley Eastern Ltd
- Poet L : Household Equipment New York,Wiley Eastern Ltd
- Vargese M A : Household Equipment Mannual Bombay, SNTD Womens University

## **BHSC 311 ADVANCE GARMENT CONSTRUCTION**

**Credits (4+0)**

### **Course Outcome:**

- Learning the use of components of garment construction
- Understanding the scientific approach to Anthropometric measurements
- Gaining knowledge about use and handling of various types of fabrics
- Getting acquainted about pattern and pattern making
- Learning and practicing about fitting and common fitting problems

### **Unit I**

#### **1. Taking Measurement:**

- i. Anthropometric measure. Concept and importance
- ii. Methods of taking body measurement for different garments.

#### **2. Fabrics for Garment making:**

- i. Handling of different types of fabrics.
- ii. Estimation of material required for different garments.

### **Unit II**

#### **3. Working on the Bias**

#### **4. Study of garment components and trims**

#### **5. Basics of binding, Frills, Braids, Tassel, Pompons and fringe preparation**

#### **6. Pattern Making: Techniques of pattern making. Principles and application of flat patterns for different styles.**

### **Unit-III**

#### **7. Draping.: concept, requirements, technique, advantages and disadvantages**

#### **8. Fitting**

- i. Principle of fitting.
- ii. Common fitting problems and remedial methods.

### **Unit IV**

#### **9. Commercial Patterns: concept, Common fitting problems and remedial methods**

#### **10. Introduction to Clothing manufacture industry: Concept and basic operation**

**RECOMMENDED READINGS:**

- Anna Jacob: Art of Sewing UBSPD, New Delhi
- Bane A –Tailoring, Mc Graw Hill Publication
- Reader’s Digest: Complete Guide to Sewing, Association inc New York
- Majumdar&Vatsala : Textbook of Clothing Construction, ICMR
- Carr& Latham: The Technology of Clothing Manufacture, Blackwell Science
- Doongaji&Deshpandey: Basic Process and Clothing Construction. New Raj Book Depot, New Delhi
- Jindal R: handbook of Fashion Designing
- Frings GS fashion from concept to consumerPrentice Hall Inc New Jersey, United States of America

**BHSC 312- PRACTICAL**

**Credit (0+2)**

1. Embroidery stitches:  
Make samples of different types of stitches
2. Preparation of two consumers items using contemporary embroidery.
3. Pattern making: variation in collars, sleeves, yokes
4. Garments: Gathered frock with Peter pan collar, Salwar kameez, Saree blouse, Nightie

## **SEMESTER VI**

### **BHSC 313- TRADITIONAL TEXTILES OF INDIA      Credit (4+0)**

#### **Course Outcome:**

- Appreciation of diverse and rich textiles heritage of India
- Learning about traditional embroideries from different parts of the country
- Comprehending about traditional textiles from different parts of the country
- Understanding role and significance of khadi
- Scientific knowledge about conservation of textiles

#### **Unit 1**

Dyed and printed textiles:

Kalamkari (painted and block printed),

Patola, bandhani (tie and dye) of Gujarat and Rajasthan.

Ikat of Orissa

#### **Unit II**

Woven textiles:

Brocades of Uttar Pradesh

Baluchar of West Bengal

Brocades of South India

Muslin of Bengal

Shawls of Kashmir

#### **Unit III**

Embroidered Textiles:

Chikankari of Lucknow

Phulkari of Punjab

Kantha of Bengal

Kashidakari of Kashmir

Kasuti of Karnataka

Zari embroidery

Embroidery of Kutch and kathiawar.

#### **UNIT IV**

Developed CBCS B.Sc. Course suggested by Higher Education according to letter no. 216/ committee 2021

- Status of traditional textiles in modern India: Evolution and socio economic significance of khadi, hand loom and handicrafts sector
- Intervention by organizations in sustenance of Indian textile craft
- Conservation of textiles: factors affecting deterioration of textiles, care and storage of textiles

**RECOMMENDED READINGS:**

- Dar SN Costumes of India and Pakistan. Bombay D B Taraporewala sons & Co Pvt Ltd
- Chattopadhyaya K D: Handicrafts of India Indian Council for Cultural Relations
- Dhamija & Jain: Handwoven Fabrics of India . Ahmedabad Mapin Publishing Pvt Ltd
- Bhatnagar P Traditional Indian Costumes & Textiles India Abhishek publications Chandigarh



## **BHSC 314 -TECHNIQUES OF WORK SIMPLIFICATION**

**Credit (4+0)**

### **Course Outcome:**

- Understanding on the concepts related to family resource management
- Appreciation of the significance of management process in efficient use of resources
- Imbibing nuances of human values and standards for successful management and decision making
- Focus on management of human energy as a family resource

### **Unit I**

1. Energy Management:
  - a) Importance
  - b) Fatigue-types, Measures to relieve fatigue
  - c) Process

#### Unit II

2. Work simplification
  - a) Importance
  - b) Steps of work simplification
  - c) Advantages and disadvantages
  - d) Principles of work simplification
  - e) Techniques of work simplification:
    - Pathway chart
    - Process chart
    - Operation chart
    - Micro motion film analysis

### **Unit III**

3. Work simplification studies for home making
4. Mundell's Classes of change in method of work

### **Unit IV**

5. Ergonomics:
  - i) Introduction, definition, scope, application, principles
  - ii) Postures: importance of correct postures
  - iii) Ergonomic work station

**RECOMMENDED READINGS:**

- Bhargava, B. (2005). Family Resource Management and Interior Decoration, Jaipur: Apple Printer and V. R. Printers
- Deacon, R. F., and Firebaugh, F.M. (1975). Home Management: Contexts and Concepts. Boston: Houghton Mifflin Company.
- Fitzsimmons, C. (1950). The Management of Family Resources. California: W. H. Freeman Co.
- Gandotra, V., and Jaiswal, N. (2008). Management of Work in Home, New Delhi: Dominant Publishers and Distributors. (ISBN No. 81-7888-526-3)
- Grandjean, E., and Kroemer, K.H.E. (1999). Fitting the Task to the Human - A Text Book of Occupational Ergonomics, New York: Taylor and Francis
- Gross, I.H., Crandall, E. W. and Knoll, M. M. (1980). Management for Modern Families. New Jersey: Prentice Hall Inc.
- Gross, I.H., and Crandall, E. W. (1967). Management for Modern Families. Delhi: Sterling Publishers.
- Koontz, H., and O'Donnell C. (2005), Management – A Systems and Contingency Analysis of Managerial Functions. New York: McGraw-Hill Book Company

**BHSC 315- PRACTICAL**

**Credit (0+2)**

1. Embroidery stitches:
2. Make samples of different types of stitches and prepare two consumers items using contemporary embroidery
3. Preparation of time plans for self and family
4. Time and Motion Studies for simplifying work- Flow process chart etc
5. Ergonomic analysis of different work, work places and appliances as sources of drudgery
6. Trial experiments on time and energy management using different household appliances
7. Determining working heights for different individuals at different levels
8. Resource optimization with reference to time, money, products, space, and natural resources
9. Principle, use and care of Household Equipments - Pressure cooker, Toaster, Gas Stove, Mixer & Grinder, Refrigerator, Washing machine, Microwave