

## SEMESTER-I

### COURSE 1: INTRODUCTION TO HOME SCIENCE

Theory

Credits: 33 hrs/week

#### Learning Objectives:

The course is designed to enable the students to:

1. Understand the concept, scope, and philosophy of Home Science.
2. Create awareness regarding various applied and core specializations of Home Science.
3. Appreciate the role of Home Science and its multidisciplinary approach in career building.
4. Cultivate human values through learning Home Science.

#### Unit: 1 Basics of Home Science

- Meaning, Definition and Branches of Home Science
- Scope of Home Science
- Development of Home Science as a discipline in India, Home Science Association of India-Role and activities in promoting Home Science
- Linkages of Home Science with other related subjects

#### UNIT 2: Branches of Home Science

- **Human Development:** Meaning, Definition and Scope of Human Development. • Stages of Human Development, Developmental tasks/milestones.
- **Food and Nutrition:** Definition, Importance and Functions of Food. Concept of Nutrition, Basic terms used in the study of Nutrition: Nutrients, Food Groups, Balanced Diet and Food Guide Pyramid.

#### UNIT 3: Branches of Home Science contd.

- **Textiles and Clothing:** Origin, Importance and Functions of Clothing. • Introduction to textile terms- fiber, yarn, textile, weaving, knitting, Classification of textile fibers.
- **Extension Education and Communication:** Concept, Nature, Scope and principles of Extension and communication.
- Methods and media of community outreach.
- **Resource management & Interior Design:** Concept and scope, Need for management, Classification of resources, Factors affecting use of resources, Importance of housing and functions of housing and interior design.

**Unit: 4 Research in Home Science: Research in Home Science-** Recent developments in Foods & Nutrition, Human Development & Family Studies, Textiles & Clothing, Resource Management & Interior Design and Extension Education & Community Development.

**Unit: 5 Careers & Entrepreneurship in Home Science:** Scope of careers and entrepreneurship in Foods & Nutrition – In hospitals, health centres, food industry ii. Human Development- welfare programs of Government/NGOs, preschools iii. Textiles & Clothing- in textile industry, boutiques, research labs iv. Resource Management- construction sector (CAD assistants, interior designer), creative crafts entrepreneur v. Extension education- extension projects of Government/ NGOs, entrepreneur making teaching aids.

**Additional inputs:**

1. Role of home science in government welfare programmes
2. Role of home science in empowering individual, family and community
3. Relevance of computers to home science

**References:**

1. Chouhan, A. (2015) “Comprehensive Home Science X”, 1.
2. Yadav, K and Singh, O. S. (2014) “Home Science”, ISBN 9788126919062, Atlantic Publishers and Distributors Private limited.
3. Premlata Mullick, P. “Textbook of Home Science”, Kalyani Publishers

## SEMESTER-I

### COURSE 2: HEALTH, HYGIENE & WELLNESS

Theory

Credits: 3

5 hrs/week

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#### **Learning Outcome: On completion of the course a student shall**

- Possess an understanding of the concept of good health and means to achieve it.
- Display the ability to identify the morphology, growth and reproductive features of various microorganisms
- Acquire the skills in various sterilization techniques
- Be equipped with skills of balancing stress and anxiety

#### **Theory**

##### **Unit I Health & wellness – Definition & meaning**

- Dimension/ Elements of health and wellness – Physical, Social, Emotional, Intellectual, and Spiritual.
- Factors affecting Health and Wellness
- Indicators of health- concept of Mortality, Morbidity, Disability

##### **Unit II Classification & Study of Microorganisms-** in terms of morphology, growth, Nutrition and Reproduction

- Bacteria, Virus, Yeasts, Algae and Mould
- Beneficial Applications of Microorganisms in Food Industry, Agriculture and other areas.

##### **Unit III Mode of infection**

- Infection- sources, mode of transmission.
- Diseases caused by microorganisms-Symptoms, etiology, mode of transmission of
  - a. Bacterial diseases- Typhoid, Tuberculosis, Jaundice, Dysentery;
  - b. Viral Diseases: Influenza, Measles, Poliomyelitis, AIDS
  - c. Parasite transmitted diseases- Malaria, Dengue, Filariasis

##### **Unit IV Prevention & Control**

- Control of Micro-organisms – Sanitation, Sterilization & Disinfection- Physical and chemical method.
- Immunity- definition & types, Immunization schedule
- Hygiene - Meaning and importance of personal hygiene
- Standard precautions to prevent infections

##### **Unit V Management of Health & Wellness**

- Modern lifestyle and hypo-kinetic diseases; prevention and management through Physical exercise
- Stress, anxiety, and depression- Definition and concept
- Role of Yoga, asanas and meditation in maintaining health and wellness.
- Role of sleep-in maintenance of physical and mental health.

**Additional Inputs:**

1. Reproductive health.
2. Existing cultural beliefs and taboos regarding health and hygiene.
3. Indigenous/local health and sanitation practices.

Semester II  
**Course 03: ESSENTIALS OF HOME SCIENCE EXTENSION**

**Credits -3**

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**UNIT I Extension Education -**

- Meaning, Concept, Scope and objectives
- Formal and Non formal Education
- Philosophy and principles of Extension Education
- Role and Qualities of an Extension worker

**Unit-II Teaching and Learning Process**

- Teaching – Meaning, definition, steps in Teaching.
- Learning – Meaning, definition, Elements of Learning.
- Learning Situation – Definition, Elements of Learning Situation.  
Principles of learning and their Implications for Teaching
- Motivation – Principles of Motivation in Extension
- Classification of motives

**Unit-III Teaching Methods/Techniques**

- Extension Teaching methods – Definition, Functions and Classification of Teaching methods – According to use and form
- Individual methods – Farm and home visits, Telephone calls, Personal letter, Result demonstrations.
- Group methods – Method demonstration, Group meetings/Discussions, Conferences, Field trips etc.
- Mass Methods – Print and electronic media, Internet, social media and Exhibitions
- Factors to be considered in selection and combination of teaching methods

**Unit-IV Audio - Visual Aids:**

- Audio Visual Aids – Meaning and Classification
- Factors Influencing selection of Audio-Visual Aids
- Principles of Preparing in Planning, Presentation and evaluating in Audio-Visual Aids
- The cone of Experience

**Unit-V Communication**

- Communication – Meaning, Definition and scope of Communication
- Key Elements in the process of Communication – 1. Communicator 2. Messages, 3. Channel 4. Treatment of Messages 5. Audience 6. Audience Response.
- Types of Communication – Verbal, Non Verbal, Small group and Mass Communication.
- Barriers to communication.

## **PRACTICAL**

### **Credits -1**

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1. Visit to a community/ village to find out the socio- economic needs of the people
2. Preparation of Survey Schedule
3. Preparation and display of teaching aids – Posters, charts, flash cards etc.
4. Display of bulletin board
5. Illustrated Lecture and Method Demonstration to any community on Home Science related Topics.

## **REFERENCES**

1. Adivi Reddy (1985). Extension Education, Sreelakshmi press, Bapatla,
2. Dahama.O.P. (1981). Extension and Rural welfare, Ram Prasad and Sons Agra Bhopal.
3. Doshi, S.L. (2007). Rural Sociology. Delhi Rawat Publishers.
4. Dubey, V.K.. (2009). Extension Education & Communication, 1<sup>st</sup> edition New Age International Ltd
5. Indhubala (1980), Gruhavignasastravistarana , Telugu academy text book publications
6. Sanths Govind, G. Tamliselvi And J. Meenainbigai .(2011). Extension Education and Rural Development .Agroblos (India) Chopasani Road Jodhpur- 342002 (Raj.)
7. Shekar Serene & Santosh Ahlawat (2013).Text book of Home Science Extension Education, 1st edition, Daya Publishing house.
8. Supe, S.V.( 1983). An Introduction to Extension Education. Oxford& IBH publishing Co, New Delhi.

## II SEMESTER

### Course 04: HUMAN DEVELOPMENT

Credits -3

#### THEORY

##### Unit I: Introduction to Growth and Development

- Understanding the terms Child, Growth, Development, Child Development, Human Development, and Developmental tasks.
- Principles of Child Development and Factors influencing growth and Development of Children.
- Determinants of Development - Heredity vs. Environment - Maturation Vs. Learning
- Stages of Development across life span

##### Unit II: Pre-natal and Early Years of Development

- Stages of Pre-natal development –Factors affecting prenatal development- Physical and Psychological care during pregnancy- Complications during pregnancy.
- Stages of birth and Types of Birth
- Infancy – Characteristics -Physical proportions, Physiological functions, Motor activities.
- Babyhood – Developmental Tasks and Characteristics, Physical-motor development, Cognitive development - Piaget’s Sensory motor stage, Language, Socio-emotional development.

##### Unit III Development during Early and Late Childhood

- Early Childhood Period –Characteristics -Physical, Emotional, Social and Cognitive development-Piaget’s Pre-operational stage -Social stages in play.
- Late Childhood Period – Characteristics, Physical, Emotional, Social and Cognitive development-Piaget’s Concrete-operational stage.

##### Unit IV: Development during Adolescence

- Adolescence – Definitions by WHO, UNICEF, NCERT- Characteristics of Adolescence
- Physical and physiological Changes during puberty for Boys and girls
- Developments during adolescence – Cognitive-Piaget’s Formal-operational stage, Emotional and Social development

##### Unit V: Development during Adult Hood

- Young Adulthood - Definition, Development tasks, significance of the period, Adjustments during young adulthood period
- Middle adulthood – Definition, physical, physiological and Psychological changes during middle age, preparation for retirement.

- Late adulthood –Sub groups and definitions, Characteristics of old age – Physical and physiological changes during old age, cognitive and memory changes. Problems of old age and coping up strategies

### **PRACTICALS:**

1. Observation of characteristics of an infant
2. Observation of different Developments of pre-school children –Physical development , -Language development , -Concept development.
3. Assessment of social Development among elementary school children
4. Study of adolescent adjustment problems
5. Study on awareness of cyber bullying among adolescents
6. Case study of man and woman during Middle adulthood
7. Case study of elderly man and woman

### **REFERENCES**

1. Berk, L. E. (2007). Child Development. Prentice-Hall of India Pvt. Ltd, New Delhi.
2. Feldman, R.S. (2011). Understanding Psychology, Tenth Edition, Tata McGraw Hill Education Private Limited, McGraw- Hill, New Delhi.
3. Hallahan, D.P. and Kauffman, J.M. (1991). Introduction to exceptional children. 5th ed. Allyn and Bacon, Boston.
4. Hurlock – E.B. (1990) Child Development, Tata McGraw Hill Company Ltd, New York. McGraw- Hill, New Delhi.
5. Rozario, J. and Karanth, P. (2003). Learning disability in India. Sage publication, New Delhi.
6. Santrock, J. W. (2013). Child Development. Tata McGraw Hill Company Ltd, New Delhi.
7. Singh, A. ( 2015). Foundations of Human Development: A life span approach, 1<sup>st</sup> edition Orient Black Swan Pvt. Ltd., New Delhi.
8. Prasad, J. and Prakash, R. (1996). Education of handicapped children, problems and solution. Kanishka publication distribution. New Delhi.



**Minor-II Semester**  
**INTRODUCTION TO FOOD SCIENCE (THEORY)**

Theory: 4 Hours/week  
Practical: 2 Hours/week

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**UNIT –I**

**15 hours**

1. Functions of Food, Classification of Food – Basic 5 food groups, Functional classification, objectives of foods, and concept of My Plate for the day.
2. Study of various cooking methods – (Wet, dry and combination methods)- Definition, advantages and disadvantages
3. Solar cooking and Microwave Methods - Definition, Advantages and disadvantages.
4. Cereals - Structure, composition and nutritive value of cereal grain, Parboiling, gelatinization.
5. Millets – importance of millets in daily diet.

**UNIT –II**

10 hours

1. Pulses and grams –composition, nutritive value, germination, Toxic constituents present in pulses.
2. Vegetables - Classification, composition, nutritive value, pigments.
3. Fruits - Composition, nutritive value, changes during ripening, browning reactions.

**UNIT –III**

13 hours

1. Beverages – Definition, Classification
2. Spices and Condiments – Definition, Medicinal value, role of spices in cookery
3. Fats and Oils – Refined oils, Rancidity, smoking point of oil, factors affecting smoking temperature of Fats and oils.
4. Sugar cookery- Stages of sugar cookery

**UNIT –IV**

12 hours

1. Milk – Composition & nutritive value, Types of processed milk available in the market, pasteurization of milk, Uses of milk in cookery
2. Egg - Structure, composition and nutritive value, uses of egg in cookery, methods to assess quality of eggs, changes during storage

**UNIT –V**

10 hours

1. Meat – Composition & nutritive value, post mortem changes in meat.
2. Poultry – Classification, composition& nutritive value.
3. Fish – Selection of fish, Classification, composition &nutritive value.

## **PRACTICAL**

1. Measuring ingredients Methods of measuring different types of foods – grains, flours & liquids
2. Cooking methods Moist heat methods – (i) boiling, simmering, steaming, & Pressure cooking, (ii). Dry heat methods – baking. (iii), Fat as a medium, Cooking-shallow and deep fat frying.
3. Methods of cooking fine and coarse cereals. Examination of starch
4. Cooking of soaked and unsoaked pulses, Common preparations with pulses.
5. Experimental cookery using vegetables of different colours & textures. Common Preparations with vegetables. Preparation of soups and salads. Prevention of darkening in fruits & vegetables.
6. Milk & milk products: Common preparation with milk, cheese & curd-cheese curry & cooking vegetables in milk.
7. Flesh foods: Fish, meat & poultry- preparations.
8. Egg Experimental cookery- boiled egg, poached egg. Common preparations with egg.
9. Beverages Preparation of hot beverages- coffee, tea. Preparation of cold Beverages-fruit drinks & milk shake.
10. Sensory Evaluation and preparation of score card.

## **Reference Books:**

1. Food science, Chemistry and Experimental foods by M. Swaminathan.
2. Food Science by Norman.N.Potter.
3. Experimental study of Foods by Griswold R.M.
4. Food Science by Helen Charley.
5. Foundation of Food Preparation by A.G. Peckam.
6. Modern Cookery for teaching and trade, volume I&II, Thangam Philip. OrientLongmans Ltd.
7. Food Fundamentals by MacWilliams, John Willy and son's, New York.
8. Food Facts & Principles by Shakunthala manay & Shadakhraswamy.
9. Food Science by Srilakshmi, second edition,2002.

**SEMESTER - IV**  
**HTN 204301 - THERAPEUTIC NUTRITION**

Theory: 4Hours/week  
Practicals: 2Hours/week

**THEORY**

**Unit -I Introduction to Therapeutic Nutrition**

- Therapeutic Nutrition – Purpose of Diet Therapy, Therapeutic adaptation of normal diets – liquid, soft and special feeding methods
- Dietitian – Roles and responsibilities,
- Diet counselling,
- IDA – Indian Dietetic Association

**Unit -II Malnutrition and Fevers**

- Fevers – Acute and Chronic fevers – Typhoid, T.B. – Causes, symptoms and dietary management
- Under weight – Causes, assessment and dietary management
- Overweight and Obesity – Causes, assessment and dietary management and complications

**Unit -III Gastrointestinal and Liver Diseases**

- Gastrointestinal Diseases – Peptic ulcer, Diarrhoea, Constipation- causes, symptoms and dietary management
- Liver diseases – Hepatitis, Cirrhosis of liver - Causes, symptoms and dietary management

**Unit -IV Cardio-vascular and Renal Diseases**

- Cardio-Vascular Diseases – Dietary modifications, Role of fat in the development of Atherosclerosis,
- Hypertension - Causes, symptoms and dietary management
- Kidney disease – Glomerulonephritis, Nephrosis, Chronic Renal Failure - Causes, symptoms and dietary management

**Unit -V Diabetes and Cancer**

- a. Diabetes Mellitus – Classification, causes, symptoms, Diagnosis, Dietary management and complications
- b. Cancer – Classification, dietary modification

**PRACTICALS**

**Planning and preparation of the following diets**

1. Preparation of modified diets-Liquid and Soft diets.
2. Planning and preparation of diet in fevers – Typhoid and T.B.
3. Planning and preparation of diets for Underweight and Obesity.
2. Planning and preparation of diet in diseases of Gastrointestinal System – Peptic Ulcer, Viral Hepatitis
3. Planning and preparation of diet in Cardio-Vascular diseases – Atherosclerosis and Hypertension
4. Planning and preparation of diet in Kidney diseases – Nephritis
5. Planning and preparation of diet in Diabetes Mellitus

## REFERENCES

1. Bamji MS, Krishnaswamy K, Brahmam GNV. (2016). Textbook of Human Nutrition, 4th edition, Oxford and IBH Publishing Co. Pvt. Ltd.
2. 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.
3. NIN. (2017). Food Composition Tables , National Institute of Nutrition, Hyderabad.
4. Srilakahsmi, B. (2019).Dietetics , 8<sup>th</sup> edition, New Age International Publishers.
5. Srilakahsmi, B. (2018). Nutrition Science , 6<sup>th</sup> edition, New Age International Publishers.
6. Sumati R. Mudambi,.Rajagopal, M.V.(2012). Fundamentals of Foods, Nutrition and Diet Therapy, 6<sup>th</sup> edition, New Age International Publishers.
7. Swaminadhan, M., (1988). Essentials of Food and Nutrition, Volume I and II, The Bangalore Printing and Publishing Co. Ltd., Bangalore.
8. Wardlaw MG&Insel PM. (2004). Perspectives in Nutrition, Sixth Edition,

**SEMESTER - IV**  
**HFC 204302 FABRIC CONSTRUCTION AND APPAREL CARE**

Theory: 4 Hours/week  
Practicals: 2Hours/week

**THEORY**

**Unit I Fabric Construction**

- Weaving – Introduction, parts of the loom, Steps in weaving.
- Types of weaves – Basic and Decorative weaves.
- Concept of Grain, fabric count / Thread count, balance, selvedge.

**Unit II Knitting and Non-woven fabrics**

- Knitting – Definition, classification (weft and warp) - Types of knitting,
- Comparison of Knitting with Weaving – Properties of Knits – Use and Care of Knits
- Non – woven Fabrics – Felting, Bonding, Braiding, Knotting and bonding. Properties of Non-woven fabrics. Applications of non woven fabrics.

**Unit III Finishes - Chemical, Mechanical and functional finishes**

- Introduction to finishes – Importance, Kinds of finishing processes, Classification
- Chemical finishes. – Bleaching, mercerizing, shrinking, degumming, weighting.
- Mechanical finishes – Tentering, Decating, Calendering, Schreinerizing, Moireing, napping, flocking, Crepe and wrinkled effect, beetling and embossing
- Functional finishes – water repellence, flame proofing, mildew proofing, moth proofing, antiseptic and antistatic finishes

**Unit IV Clothing Selection and Wardrobe Planning**

- Factors affecting selection of clothing.
- Clothing selection – Clothing for specific groups – Infants, children and teenagers.
- Selection of common household linen – Towel, table linen and bed sheets.
- Wardrobe planning – Definition, Importance, Factors and Steps for planning wardrobe

**Unit V Laundering**

- Manual Laundry Equipment – Washing, Drying and Ironing.
- Machine Laundry – Procedure in use of washing machines – Precautions. Reagents/ supplies used in Laundry – Soap, detergent, bleaching agents etc.
- Laundering procedure for cotton and linen, woollens, silk and synthetics,
- Process of Dry cleaning
- Stain removal – Classification of stains and ways of stain removal

**PRACTICALS**

1. Identification and preparation of different weaves
2. Identification of thread count of a fabrics
3. Samples of different knits

4. Classify stains and identify the methods of removing stains.
5. Drafting and stitching of salwar.
6. Drafting and stitching of Kameez.

## **REFERENCES**

1. Deepali Rastogi and Sheetal Chopra.(2017). Textile Science” 1<sup>st</sup> edition, Orient Black Swan Pvt. Ltd.
2. Sushma Gupta, NeeruGarg, Renu Saini (2018). Text book of clothing, textiles and laundry” 8<sup>th</sup> edition, Kalyani publishers.
3. Seema Sekhri(2017). Text book of Fabric Science – Fundamentals to Finishing, 2<sup>nd</sup> edition, PHI Learning Pvt. Ltd.
4. Vastala. (2003). Text book of Textiles and Clothing”, 1<sup>st</sup> edition, Published by ICAR.
5. Kanwar Varinder Pal Singh. (2004). Introduction to Textiles, 1<sup>st</sup> edition, Kalyani Publishers.
7. Dantyagi. S, (1996). Fundamentals of Textiles and Their Care, 5<sup>th</sup> edition, Orient Longman Limited.
8. Neomia D’ Souza (1998). Fabric Care, 1<sup>st</sup> edition, New Age International Publishers
9. Durga Deulkar, (2002), Household Textiles and laundry Work, Atma Ram & Sons, Delhi.

## SEMESTER IV

### HHD 204303 - HUMAN DEVELOPMENT AND FAMILY DYNAMICS

Theory: 4Hours/week

Practicals: 2Hours./week

#### **THEORY**

##### **Unit I Human Development - Adolescence**

- Adolescence – Definitions by WHO, UNICEF, NCERT, Characteristics.
- Physical and physiological Changes during puberty for Boys and girls
- Developments during adolescence – Cognitive- Piaget's Formal-operational stage, Emotional and Social development
- Major concerns during adolescence – Substance abuse, Delinquency, Suicidal Ideation, Teen age pregnancy etc. Symptoms and warning signs - Use of Counselling.

##### **Unit II Human Development -Young Adult Hood**

- Definition, Development tasks, significance of the period, Changing responsibilities
- Adjustments during young adulthood period
- Preparation for Marriage – Factors to be considered in the choice of marriage partner. Modes of mate selection, Self-choice marriage and arranged marriage – Advantages and disadvantages.
- Pre-marital counselling – Meaning and Need for Pre-marital Counselling.

##### **Unit III Marriage and Adjustments**

- Marriage –Definition and Functions, needs and goals. Criteria for successful marriage.
- Values and goals of marriage – Indian context. Different Marriage practices(Hindu, Muslim & Christian)
- Adjustments in marriage – In laws, sex adjustment to mate, adjustment to parenthood, and financial adjustments.
- Transition to Parenthood – Factors that influence Planned Parenthood.
- Factors responsible for an increase in the rate of legal marital dissolution – Post- marital counselling.

##### **Unit IV Indian Family and Changing Trends**

- Family – Meaning, Definition, functions of family, sociological significance of family.
- Types of Family – Definitions of Joint, Extended, Nuclear Families, Alternate family styles - Modern trends in family – Advantages and disadvantages.
- Changing Indian family structure – Factors responsible
- Problems faced by the modern family – Impact of modern family on children, Need for family counselling.

##### **Unit V Human Development - Middle and Late Adulthood**

- Middle adulthood – Definition, physical and physiological changes - health issues, Psychological changes during middle age, coping up strategies, preparation for retirement.
- Late adulthood – Sub groups and definitions, Late adulthood and Ageing (beyond 60 years) - Definitions, Characteristics of old age – Physical and physiological changes during old age, cognitive and memory changes.
- Problems of old age and coping up strategies

- Institutionalization of aged in Indian context, effect of institutionalization on elderly

### **PRACTICALS**

1. Study of adolescent adjustment problems
2. Case study of adolescent boy and Girl
3. Identification of Mate selection criteria depicted in Mass media
4. Case study of Married couple-Marital adjustment
5. Case study of elderly man and woman.
6. Visit to counselling centre –Finding common problems of adolescents and married Couples

### **REFERENCES**

1. Berk, E. L. (2013). Exploring life span development. 3rd ed. McGraw Hill, New York.
2. Hurlock – E.B. (1990) Child Development MC. Graw Hill Company Ltd, New York. McGraw- Hill, New Delhi.
3. Papalia, D.E. and Olds, SW. (2008). Human development. 11th ed. McGraw Hill. New York.
4. Parbati Sahu.(2009). Marriage and Family Relationships, 1<sup>st</sup> edition, Kalyani publishers
5. Rajammal P Devadasand and Jaya, N..(1984). A Text Book on Child Development, MacMillan India ltd.
6. Santrock, J. W. (2007). A topical approach to life-span development. McGraw- Hill, New Delhi:
7. Singh, A. (Ed).( 2015). Foundations of Human Development: A life span approach. New Delhi.
8. Sushila Srivastava and SudhaRani.K. (2014). Text Book of Human Development – A Life Span Developmental Approach” 1<sup>st</sup> edition, S. Chand & Company Pvt. Ltd.



**SEMESTER – IV**  
**HNB 204304 – NUTRITIONAL BIOCHEMISTRY**

Theory: 4Hours/week  
Practical: 2Hours/week

**THEORY**

**UNIT I Introduction to Biochemistry and Carbohydrates**

- Introduction to Biochemistry - Acids, Bases, PH, Buffers definitions
- Acid-base balance
- Chemistry of carbohydrates
  - Structural classification, (Monosaccharides , Disaccharides and Polysaccharides)
  - Properties, Reactions of carbohydrates
  - Role of Fibre in human nutrition

**UNIT II Lipids and Proteins**

- Chemistry of Lipids
  - Classification of Fatty Acids
  - Properties of Lipids,
  - Structural Lipids – Phospholipids, Glycolipids, Lipoproteins and Cholesterol.
- Chemistry of Proteins
  - Nutritional classification of Amino Acids
  - Classification of protein
  - Properties of protein
  - Reactions of amino acids

**UNIT III Enzymes and Co-Enzymes**

- Enzymes – Definition, Properties, Classification, Enzyme Specificity, Enzyme Action, Inhibition and Factors effecting Enzyme Activity.
- Co enzymes – Vitamins as co enzymes

**UNIT IV Metabolism of Carbohydrates**

- Digestion and absorption of carbohydrates
- Homeostasis of blood glucose or Regulation of blood glucose
- Glucose Tolerance Test.
- Glycolysis
- Kreb's cycle.

**UNIT V Metabolism of Lipids and Proteins**

- Synthesis of triglycerides
- Beta oxidation and bio synthesis of fatty acids.
- Metabolism of Amino acids – Deamination, Transamination, Decarboxylation of amino acids.
- Integration of Carbohydrate, protein and Lipid metabolism

## **PRACTICALS**

1. Preparation of acids, bases, buffers, measuring pH.
2. Qualitative analysis – Identification of carbohydrates
3. Qualitative analysis – Identification of proteins and amino acids
4. Qualitative analysis of Lipids.
5. Qualitative analysis of food enzymes – plant and animal.

## **REFERENCES**

1. Rama Rao, A.V.SS. (2015) A Text book of Biochemistry, 6<sup>th</sup> edition, UBSPD publications.
2. Singh S.P., (2011), Principles of Biochemistry, CBS Publishers.
3. Satyanarayana, U. (2000). Biochemistry, 2<sup>nd</sup> edition, Uppala Author publishers.
4. Dulsy Fatima, Dr. L.M. Narayanan (2005). Biochemistry, 1<sup>st</sup> edition, Saras publications.

**SEMESTER - IV**  
**HRF 204305 - RESOURCE MANAGEMENT & FAMILY ECONOMICS**

Theory: 4Hours/week

Practical: 2Hours/week

**THEORY**

**UNIT I** Management Process

- a. Management Process – Steps – Planning, Organizing, Controlling & Evaluating;
- b. Types of managerial situations in family- Elementary, Growth & Developmental and Preventive;
- c. Roles played by Home Maker, Role Overload, Role Conflict;
- d. Systems Approach to Management- Elements and Importance

**UNIT II**

- a. Factors motivating Management: Values, Goals & Standards – Types, Factors influencing, Inter-relationship
- b. Resources – classification, factors influencing
- c. Decision Making – Steps in Decision making, Types of Decisions, Factors influencing Decision making.
- d. Conflict Resolution – Methods, Importance.

**UNIT III**

- a. Time Management – Importance, Tools of time management – Time Norm, Time Cost, Work Norm, Work Curve, Peak Load; Management Process applied to Time – Planning – Controlling & Evaluating.
- b. Energy Management – Importance, Management process applied to Energy; Fatigue – Types- Physiological & Psychological, Methods of Coping.
- c. Work Simplification – Techniques to study work simplification -Process Chart, Pathway Chart, Operation Chart; Mundell's Classes of Change – Three classes of Change

**UNIT IV**

- a. Family as an Economic Unit – Functions, Economic Goals of Families, Factors influencing Economic Goals
- b. Family Income – Definition, Classification, Methods of handling Family Income, Methods of Supplementing Family Income.

**UNIT V**

1. Family Expenditure – Heads of expenditure;
2. Budget – Steps in Budgeting, Budgets for Different Income Levels, Factors influencing Family Budget
3. Savings – Importance, Benefits of Savings, Modes of saving in India – Advantages & Risks

## **PRACTICAL:**

1. Decision making – technique of decision tree
2. Time norm – for any two activities
3. Work norm – for any two activities
4. Study of peak load of selected career women/full time home makers through personal interview
5. Study of work simplification by using a) process chart b) pathway chart
6. Study of fatigue experienced by women through personal interview
7. Study of economic goals of selected home makers from beginning, expanding and contracting stages of family life cycle.
8. Planning of budget for different income levels.
9. Study of different modes of savings – visit to post office/banks to know

## **References:**

1. Koontz.H. and O'Donnell 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.
4. Khanna S.R., Hanspal S., Kapoor S. &Awasthi H.K., 2007Consumer Affairs, Universities,Press India Pvt. Ltd.
5. Sawhney, H.K. & Mital, M.,2007, Family Finance & Consumer Studies, Elite Publishing House Pvt. Ltd.
6. Seetharaman, P. and Sethi, M.,2001, Consumerism: Strength and Tactics, New Delhi: CBS Publishers.

## SEMESTER IV

### HEX 204306 HOME SCIENCE EXTENSION AND COMMUNITY DEVELOPMENT

Theory: 4Hours/Week  
Practical: 2 Hours/Week

#### **THEORY**

##### **Unit 1 Program Planning**

- Definition, Objectives and Principles of Program Planning in Extension
- Steps in Program Planning
- Evaluation – Principles, methods of evaluating individual and group performances.
- Methods to find out felt and unfelt needs of the community.

##### **Unit-II Lesson Planning**

- Characteristics of good lesson plan – Pre-requisites and components of lesson planning.
- Planning lessons for a specific groups – Women and Children
- Different topics for lesson plans – Swatch Bharath, Nutrition and health education.

##### **Unit-III Community Types and Their Characteristics**

- Features of Rural community
- Features of Urban community
- Features of Tribal community

##### **Unit-IV Community Development**

- Community Development – Definition , Scope objectives – Role of Functionaries
  - Panchayat Raj Systems in India (brief) – Meaning, Definition, Democratic Decentralization
  - Five tier system of Panchayat Raj – Village Panchayath –Functions
- Mandal Parishath – Seven Committees (Planning, Production etc.,) Functions
- Zilla Parishath – Committees, Functions- District, State and central level
- Extension organization in Panchayath raj set-up
- Concept of Welfare State, Directive Principles

##### **Unit- V Government and Non-Governmental Organizations**

- Government and Non- Governmental Organizations-Meaning and definition
- Role of organizations (Government and Voluntary ) for the development of people
- International Agencies – WHO, CARE, UNICEF,
- National and Voluntary Agencies – ICDS, RASS, KVK, DWCRA, MEPMA
- Local Level Voluntary Agencies, people's organizations at grass roots – PASS

#### **PRACTICALS**

1. Plan an activity to create awareness among women and children of community surveyed according to their needs and interests - Lecture cum group discussion
2. Field Visits – Mandal Office, ICDS, Mahila Pranganam, PASS organization
3. Community development – Need based group project work.

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