

B. SC. HOME SCIENCE IInd YEAR

Paper No.	Papers	Theory	Practical	Total
I	Food Science and Dietetics	75	50	125
II	Family Resource Management	75	50	125
III	Biochemistry	75	50	125
IV	Textile Chemistry	75	50	125
V	Developmental Psychology	100	-	100
VI	Extension Education	75	50	125
	Total Marks	475	250	725

1. Definition of Dietetics, Pre Requisite Knowledge in Diet Planning:

- a. A revision of foods groups, food pyramid
- b. Recommended allowances prescribed by I.C.M.R. (2010)
- c. Balance diet definition, what is a balance diet's study of balance diet pattern planned by I.C.M.R. to suit different activity, age groups and rules of meal planning

2. Planning Out Daily Menu Patterns and Weekly Menu:

- a. Importance of packed lunch and meals for office goers. Nursery school going children, adolescents and labourers. Their incorporation in meal plans in relation to other meal timings.
- b. Feeding of an infant breast feeding, importance of breast feeding
- c. Diet Plans for a Preschool Child: Nursery school child nutritional requirement training the child to accept the different variety of foods. Training at home and at school.
- d. **Diet in Adolescent Period:** Food needs of the boys and girls and nutritional disorder.

3. Inborn Errors of Metabolism**4. Diet in Adults:** Food needs for various occupational groups:

- a. Very active groups,
- b. Moderately active group
- c. Sedentary workers men/women
- d. Diet for elderly person

5. Therapeutic Nutrition

- a. Diet in the Treatment of Diseases: Modification and therapeutic adaptation of the normal diet and routine hospital diet (clear fluid, full fluid, semi solid, solid and normal diet)
- b. Diet in Pregnancy and Lactation: Nutritional management during pregnancy with special references to the third trimester and anaemic condition.

6. Nutritional Deficiency Diseases, Etiology and Symptoms**7. Dietary Treatment of the Following Diseases:**

- a. Protein calorie malnutrition
- b. Disorders due to vitamin deficiency

- c. Iodine deficiency disorder
- d. Nutritional anaemia
- e. Thyroid disorders
- f. Uric acid disorder

8. Dietary Treatment

- a. Dietary treatment in acute and chronic fever
- b. Dietary treatment in overweight and underweight
- c. Diabetes mellitus causes, symptoms and dietary treatment
- d. Dietary treatment in liver and gall bladder diseases: Jaundice, Cirrhosis of liver
- e. Dietary treatment in kidney diseases- nephritis, nephrotic syndrome, kidney stones, urinary tract infection
- f. Dietary treatment in the gastro intestinal tract disorder- diarrhoea, constipation, peptic ulcer, colitis
- g. Dietary treatment in cardio vascular diseases (CVD)- atherosclerosis and hypertension
- h. Dietary treatment of Tuberculosis
- i. Dietary treatment of different types of cancers

1. Preparing menu for breakfast, lunch and dinner.
2. Preparing menu and meals for packed lunches for school children, office goers and labourers.
3. Planning and preparing normal diet for children in nursery school, primary school, for adolescent girls and boys, in old age, in pregnancy and lactation.
4. Planning preparing and serving suitable diets for disorder viz fever, underweight, overweight, diabetes, constipation, diarrhoea, gastroenteritis, peptic ulcer, dyspepsia, hyperactivity, nephritic syndrome, nephritis, jaundice, hepatitis, hypertension and atherosclerosis.

1. Home Management:

- a. Management meaning, definition and principles
- b. Management Process: Planning coordinating, organizing, guiding, directing, delegating, supervising and evaluating
- c. Motivational Forces: Values, goals and standards.
- d. Decision Making: Characteristics and steps.

2. Resources: Human resources, non-human resources, classification of resources, factors affecting the use of resources.

3. Time and Energy Management: Organizing of work in relation to time and efficiency.

4. Work in the Home Body Mechanics: posture, motions and movements involved in work and prevention.

5. Concept of energy cost in work, oxygen consumption as a measure of energy expenditure.

6. Housing:

- a. Family housing, factors that influence families in the choice of housing and building, selection sites, family activities, sleeping, eating, bathrooms, storage.
- b. Factors influencing family housing needs size of family, family structure, family activities and financial status.
- c. Availability of houses: rented versus self owned homes
- d. Values and standards involved in owning a house.
- e. A self owned house different costs involved arrangement of finances for constructing a house.

7. Interior Decoration:

- a. The objective of decorating a home- beauty, expressiveness and functionalism.
- b. Use of art element in decorating a home viz. line, form, colour textiles pattern, light and space, judicious use of art elements in bringing out harmony.
- c. Principle of design in home arrangement such as proportion, scale balance, rhythm and emphasis.
- d. Finishing of walls, doors, and windows, floors, ceilings, uses of white wash colours, paints wall papers of different kinds. Keeping in mind the art elements.

- e. Dressing of windows, walls and curtains, draperies and screen blinds.
- f. Consideration regarding size length, textile material colour, construction other furnishing accessories viz. upholstery covering cushion cover covering. Their selection with regard to colour pattern, textile cost construction and need in the family.

8. Furniture:

- a. Arrangement of furniture in group.
- b. Use of normal and decoration accessories and pictures in decorating different area, use of accessories and pictures to express theme, period, style, colours, hobbies.

1. **House Planning:** House planning for High Income Group (HIG), Middle Income Group (MIG), exterior- landscape
2. Room arrangements, kitchen planning
3. **Flower arrangement:** Fresh and dry

- 1. History, Scope and Importance of Biochemistry:** Osmosis and osmotic pressure, active and passive transport across biological membranes. Simple experimental techniques centrifugation, colorimeter, chromatography and electrophoresis, (Beer's and Lambert's law)
- 2. Structure and General Properties of Physiologically Important Compounds:**
 - a. Carbohydrates: Glucose, fructose, galactose, sucrose, maltase, lactose, starch and glycogen
 - b. Lipids: Fatty acids, triglycerides, phospholipids
 - c. Protein: Amino acids and proteins
- 3. Chemistry and Physiological Function:** Vitamin A, D, E, K, thiamine, riboflavin, niacin, pyridoxine, folic acid, B-12 and ascorbic acid
- 4. Enzymes:** classification, elementary treatment of enzyme catalysed reaction.
- 5. Digestion and Absorption:** Digestion and absorption of carbohydrates, fats and proteins.
- 6. Hormones:** Definition, classification, general mode of action. Functions of Pituitary, Thyroid, Thymus, Adrenals, Pancreas, Stomach, ovaries and testes.
- 7. Metabolism:** anabolism and catabolism
 - a. Carbohydrates: Glycolysis, citric acid cycle, synthesis and breakdown of glycogen. Gluconeogenesis, blood sugar and its regulation.
 - b. Lipids: Oxidation of fatty acid, fatty liver, ketosis.
 - c. Protein: General reaction of amino acid metabolism, urea cycle.
 - d. Nucleic Acids: Deoxyribonucleic acid (DNA) and ribonucleic acid (RNA)
 - e. Biological Oxidation: Electron transport chain, oxidative phosphorylation.
 - f. Metabolism of Inorganic Elements: Calcium, phosphorus, iron, iodine, water and electrolyte balance
 - g. Urine formation and composition.

1. Qualitative Analysis

- a. Test for carbohydrates
- b. Identification of glucose, fructose, galactose, sucrose, maltose, lactose and starch
- c. To determine the achromic point during the salivary digestion of starch

2. Proteins: Colour test for proteins**3. Lipids:** General tests for lipids**4. Quantitative Analysis**

- a. To draw a calibration graph for fructose using resorcinol reagent
- b. Estimation of amino acid by formal titration
- c. Estimation of protein calorimetrically
- d. Estimation of glucose in the biological sample
- e. Estimation of vitamin in the biological sample

1. Introduction:

- a. Scope of textiles, brief historical development of major textiles, properties and their importance to consumer
- b. Classification of textile fibres

2. Natural Fibres:

- a. Cotton, linen, wool, silk, minor cellulosic fibres
- b. Rayon: Types of rayon, specialty wool fibres- mohair, vicuna, angora, alpaca
- c. The non thermoplastic manmade fibres
- d. The alginates.

3. Thermoplastic Manmade Fibres: Nylon acetate, Zefran, Modacrylics.**4. Yarns:** Yarn construction, effect of type of yarn on the type of fabric, simple yarn, novelty yarn, bulk yarn**5. Fabric Construction:** Felting braiding, bonding, netting, knitting and weaving.**6. Fabric Finishing:** Mechanical, chemical and temporary finishes:

- a. Embossing, moiring, screnerizing and napping.
- b. Functional Finishes: Resin finishes, water-repellent, crease resistant, water proofing, flame retardant finishes, stain and soil resistant, moth and mildew resistant finishes.

7. Dyeing: Classification of Dyes: Acid dyes, basic dyes, mordents, vat dyes, coal dyes.**8. Applied Designs:** Block printing, tie dyeing, stencil printing, batik printing and roller printing.**9. Woven Designs:** Basic weaves and variations**10. Traditional Textiles of India:** Chikankari, Phulkari, Baluchari, Kantha of Bengal, Patola of Gujarat, Brocade, Kashmiri shawls, Muslin of Dhaka and Chandari sarees.**11. Fabric Care****12. Laundering****13. Water and its Cleaning Action:** Hard water and soft water

- a. Soaps and detergents, composition, and mode of action
- b. Stains and their removal, bleaches- optical brightening agents
- c. Dry Cleaning: Principles of dry cleaning and process of dry cleaning

1. Identification of textile fabrics
2. Dying of textile fabrics with special reference to tie and dye and batik
3. Dying cotton and silk fabrics
4. Stain removal
5. Scouring bleaching of textile fabrics
6. Screen printing with two colours
7. Microscopic identification of fibres: cotton, silk, wool and nylon

1. Adolescent:

- a. Characteristics of adolescence, problems and developmental tasks of adolescence
- b. Physical changes during adolescence
- c. Emotional patterns during adolescence
- d. New social grouping
- e. Personal intimacies
- f. Educational, vocational, religious interests,
- g. Development of heterosexuality; sex-role typing
- h. Hazards of adolescence

2. Adulthood:

- a. Characteristics, developmental tasks, foundation of intimate relationship, friendship love
- b. Sexuality issues and attitudes, single life
- c. Gay and lesbian relationships
- d. Entering matrimony
- e. Parenthood: attitudes toward parenthood
- f. How dual earner couples cope.
- g. Divorce: Adjusting to divorce, remarriage and step parent hood
- h. Middle age: characteristics, developmental tasks of late middle age, death of spouse, friends adjustment to single hood

3. Old Age:

- a. Old age characteristics, developmental tasks, happiness and unhappiness in old age
- b. Problems in old age: physical, financial, mental- Dementia, Alzheimer's and loneliness

1. **Home Science Extension Education:** Meaning, principles, types of education, philosophy, objectives
2. **Methods of Communication:** Intrapersonal communication, interpersonal communication, group communication and mass communication
3. **Communication Process:** Functions, models of communication, elements of extension communications system, channels of communication, tools of communication, problems in communication
4. **Programme Planning:** Objectives, concept, principles, criteria for good programme plan and steps of program planning and evaluation
5. **Home Science Extension Worker:** Qualities and importance
6. **Rural Sociology:** Meaning, definition, scope, importance and method of study rural sociology
7. **Leadership:** Meaning, definition, need of leadership, types of leadership, qualities of good leaders, identification and selection of leaders, method of leadership development/ methods of training, role and function of a leader
8. **Adoption and Diffusion:** Definition of diffusion, elements of diffusion, methods of diffusion, factors of diffusion, adoption process, characteristics of adoption process, principles and theories of adoption process, types of adopters, stages of mental process in adoption, factors helpful in accelerating adoption, factors affecting the adoption, relation of communication in adoption process
9. **Community Development:** Definition, elements, objectives, principles, philosophy, methods and National Extension Service (NES) in India.
10. Welfare programs for women and children

1. Prepare community need based story line for puppets show and street play.
2. Prepare poster, chart, flashcard and folder for educating the rural and urban communities on issues related to disease, nutrition, education, population control, female foeticide, and Water, Sanitation and Hygiene (WASH).
3. Generate awareness on environmental issues in community.