

**DEPARTMENT OF HOME SCIENCE
SARBATI DEVI WOMEN'S COLLEGE, RAJGANGPUR
PO, CO, PSO- NEP-2020**

Semester I

Core I Food and Nutrition

Course Outcome:

- The students will get basic knowledge on food, nutrients and their contribution.
- The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

Learning Outcome:

- The students will learn the basic concepts in food, nutrition and health.
- The students will gain an insight into the classification, functions, dietary sources, and daily requirements of various nutrients.
- The students will understand about different food groups and their nutritional contribution.
- The students will be aware of different methods of cooking along their advantages and disadvantages.

Unit I: Basic Concepts in Food and Nutrition

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio-cultural.
- Food Groups- Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages: Dry methods - frying, sautéing, parching, roasting, grilling/broiling, toasting and baking. Moist methods - boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

Unit II: Macro Nutrients

- Carbohydrates- Introduction, classification, functions, dietary sources and daily requirements.
- Proteins- Introduction, classification, functions, dietary sources and daily requirements.
- Lipids- Introduction, classification, functions, dietary sources and daily requirements.

Unit III: Micro Nutrients

- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.
- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.

- Minerals (Calcium, Iron, Zinc and Iodine)- Introduction, functions, dietary sources, daily requirements and deficiency diseases.

Unit IV: Practical

- Conduct a market survey (On-line/ offline of nearby locality) and prepare a list of food stuffs and food products of the following food groups:
- Cereals, Millets, Pulses, Fruits, Vegetables, Milk and Milk Products, Fish Meat and Poultry Products.
- Weights and Measures: Standardization of household measures for raw and cooked foods.
- Food preparations using different methods of cooking and understanding the principles involved in it - Dry heat-frying, broiling, parching, baking) and Moist heat- boiling, stewing, cooking under pressure: (One item from each method).
- Preparation of food exchange list of cereals/pulses/fruits/vegetables.

Core II Child Development

Course Outcome:

- Students will be able to understand the crucial aspects of child development.
- Students will understand about the developmental patterns of child development.

Learning Outcome:

- The students will gain an insight on scientific methods of studying child development.
- The students will be aware of the stages of prenatal development and factors affecting pre- natal development.
- The students will understand the developmental patterns during early childhood years (0- 5years).
- The students will gain practical knowledge on development tasks in childhood.

Unit I: Fundamentals of Child Development:

- Child Development- Meaning, definition, principles, stages, and methods of studying child development.
- Prenatal Growth and Development - Meaning, significance and stages of prenatal growth and development, conception, period of ovum, period of embryo and period of foetus.
- Prenatal Environmental Influences- Maternal age, nutrition, drugs, irradiation, alcohol, smoking, maternal emotions, maternal health, Rh factor, diseases and birth hazards.

Unit II: Developmental Milestones (During First Five Years of Child's Life):

- Physical Development- Physical growth cycles, body size, body proportions,

bones, teeth, muscles and fat, development of the nervous system.

- Motor Development – Meaning, principles and sequence of motor development.
- Speech Development – Meaning, pre-speech forms of communication, essentials in learning to speak, major tasks in learning to speak and speech disorders.

Unit III: Developmental Milestones (During First Five Years of Child's Life):

- Emotional Development - Meaning, common emotional patterns, and characteristics of childhood emotions.
- Social Development – Meaning, process and importance of early social experiences, factors influencing social development.
- Cognitive Development - Meaning and importance, factors influencing cognitive development.

Unit IV: Practical

- Assessing developments (physical/motor/emotional/social/cognitive/speech) using different methods of child study – interview schedule / observation schedule / anthropometry/ psychometry tests.
- Assessment of existing knowledge, attitudes and practices of parents and field functionaries (ANM/anganwadi workers/teachers) related to developmental milestones of children (any five samples).
- Plan and develop activities for children to facilitate motor and cognitive development through preparation of learning materials such as posters/charts/ toys etc.
- Plotting growth monitoring chart for children from one to five years and its interpretations.

Semester II

Core III Family Resource Management

Course Outcome:

- Students will be oriented about the available human and non-human resources in the family and their management.
- Students will learn the importance of judicious management of resources and their conservation techniques for sustainability.

Learning Outcome:

- The students will gain an insight on family resource management and its application. LO2: The students will be aware of the management process.
- The students will learn about judicious utilization of resources management for conservation and sustainability.
- The students will get practical knowledge on event planning and management.

Unit I: Resource Management in Family Setting

- Family Resource Management- Concept, definition and scope of family resource management.

- Resources- Meaning, classification and characteristics of family resources, factors affecting utilization of resources.
- Decision making- Types of decisions, steps of decision making.

Unit II: Motivating Factors in Management and Management Process:

- Motivating Factors in Management- Motivation in management, theories of motivation, Maslow's hierarchy of needs theory
- Motivating Factors- Values, goals and standards, interrelatedness of values, goals, and standards.
- Management Process- Definition and steps in management process: planning, organizing, controlling and evaluating, qualities of a good home maker.

Unit III: Resource Conservation:

- Money- Types of income, supplementing family income.
- Time- Concept and steps in time management, factors to be considered in making time and activity plan.
- Energy-Efforts, fatigue, work simplification techniques and Mundel's classes of change.
- Space – Meaning, importance, functional storage space management.

Unit IV: Practical

- Conduct a SWOC analysis of self/organization.
- Event planning for departmental activity (Celebration of any special day/seminar/workshop).
- Decision making through management games (Chess/tug of war/UNO).
- Plan and evaluate time activity chart for one day.

Core IV Home Science Extension Education

Course Outcome:

- To enrich students about relevance of extension education and its application.
- To understand about the application of extension teaching methods for teaching and training purpose. **Outcome Learning:**

- The students will be enriched with the principle and behavioral changes brought about by extension education.
- The students will understand extension education in community development.
- The students will be aware of the methods of teaching in extension education.
- The students will learn about the educative materials preparation of for different training purposes and get experience of various extension organizations.

Unit I: Introduction to Extension Education:

- Definition, needs, objectives and scope of extension education.

- Philosophy and principles of extension education.
- Behavioral changes through extension education.

Unit II: Role of Home Science Extension Education in Community Development:

- Meaning, definition and areas of community development. Home science extension education and its inter-relationship with community development.
- Role & qualities of Home Science extension workers.
- Home Science Extension Programmes- Mission Shakti, MGNREGA, National Mission for empowerment of women, ICDS, Green India Mission (GIM).

Unit III: Teaching Methods in Extension Education:

- Classification of Extension Teaching Methods- Individual, group and mass methods. individual methods: farm and home visits, office calls, telephone calls, personal letters.
- Group Methods- Method demonstration, campaign, puppetry, general meeting result demonstration, group discussion, tours, field trips, lecture, seminar, and workshop, advantages and disadvantages.
- Mass Methods- Leaflets and folders, exhibition, circular letter, radio, television, bulletins, story film show, and news articles, advantages & disadvantages.

Unit IV: Practical

- Prepare a leaflet/poster on various issues related women, children and environment.
- Prepare a project report within one thousand words on women/children/environment.
- Prepare a flow chart on the steps of method demonstration by extension worker.
- Visit to Mission Shakti centers/ NGO and prepare a report (Objectives, Functions, Achievements) **Text Books:**

❑ *V. K Dubey, Indira Bishnoi, Extension Education and Communication, New Age International Publishers.*

❑ *S. V Supe, An Introduction to Extension Education, Oxford and Publishing Co. Pvt. Ltd*

❑ *Nibedita Mishra and Gayatri Biswal, Text Book of Home Science Extension Education, Recent Edition.*

Semester III

Core V Introduction to Textiles

Course Outcome

- Students will develop an idea about different textile fibers.
- Students will develop the skills to analyse yarn construction techniques.

Learning Outcome:

- The students will learn about classification, usage and production of textile fibres.
- The students will know the manufacturing process and yarn construction techniques.
- The students will gain an insight on techniques of fabric construction, dyeing and printing.
- The students will be enriched about different types of dyeing and printing techniques.

Unit I: Introduction to Textile Fibres:

- Definition of textile fibres, terminology and classification of textile fibres.
- Production, Manufacturing Process, Properties and usage of fibres- Natural fibre (cotton, silk and wool).
- Production, Manufacturing Process, Properties and Usage of Fibres- Man-made fibers (rayon (Viscose), polyester, nylon).

Unit II: Yarn Construction

- Types and Classification of Yarns- Simple, ply yarns, cord yarns, novelty yarns. twist in yarn: “s” and “z” twist.
- Staple yarn formation.
- Woolen and worsted yarn formation process.
- Chemical spinning (wet, dry, melt)

Unit III: Techniques of Fabric Construction

- Weaving- Meaning, essential weaving operation, classification of weaves (plain, basket, ribbed, twill, satin, sateen)- structure, properties, usages.
- Dyeing and Printing Methods – Raw stock dyeing, skein-dyeing, piece dyeing, cross dyeing, tie-die, batik dyeing, printing methods – direct printing, block printing, stencil printing and printing by machine.

Unit IV: Practical

1. Fiber identification: Identification of natural and manmade fibers by following three methods - microscopic test, burning test.
2. Characteristics of Fabric (following standards): Fabric count using pick glass
3. Printing of fabrics using:
 - i. Direct style - Block, stencil and screen
 - ii. Resist style - Tie and dye, batik
4. Weaves- Prepare sample weave on plain, basket, ribbed, twill, satin, sateen.

Core VI Dynamics of Communication

Course Outcome:

- Understand the need of communication and communicate effectively.
- Gain the knowledge about the different aspects of communication.

Learning Outcome:

- The students will understand the concept, functions, types and scope of communication.
- The students will be aware of the principles, elements and models of communication.
- The students will learn about the concept of effective communication.
- The students will learn skills of writing scripts and preparation of educational aids for effective communication.

Unit I: Introduction to Communication

- Meaning, definition concept, nature and scope of communication
- Types of Communication- Formal and informal communication, verbal and non-verbal communication.
- Functions and characteristics of communication.

Unit II: Principles, Elements, and Models of Communication:

- Elements of communication and principles of communication
- Barriers to communication- Mental, physical, technical, environmental, semantic.
- Models of communication- Aristotle, Laswell, Shannon and Weaver, Osgood and Schramm, Riley model.

Unit III: Effective Communication

- Meaning, concept, and importance of effective communication.
- Factors influencing and hindering effective communication, importance of communication process.
- Role of empathy, persuasion, perception, listening, propaganda and publicity for effective communication.

Unit IV: Practical

1. Plan and conduct a small group communication in classroom setting on any topic and prepare

a report.

2. Visit to a nearby slum/community/village and communicate with the people on specific issues (health/ environment / social and write a report.

3. Write a short story with any social message related to Home Science.
4. Prepare a power point presentation on any contemporary social issue.

Core VII Development in Late Childhood and Adolescence

Course Outcome:

CO1- Students will able to gain understanding about the various needs of adolescent years.

CO2-This course will help to provide guidelines about the developmental tasks of adolescent years.

Learning Outcome:

LO1: The students will know about the characteristics, body changes and effect of puberty

LO2: The students will earn about the characteristics, developmental tasks and body changes during adolescence.

LO3: The students will gain an insight on characteristics, developmental tasks, and changes in early adulthood.

LO4: The student will understand about various adjustments of family.

Unit I: Late Childhood Years:

- Characteristics and developmental tasks of late childhood.
- Physical development, speech improvements and emotional expressions in late childhood.
- Social grouping and personality changes in late childhood.

Unit II: Puberty:

- Meaning, characteristics and age at puberty
- Body changes at puberty, puberty growth spurt: age and stages of puberty growth.
- Physical, psychological, and emotional changes during puberty.

Unit III: Adolescence:

- Meaning, characteristics of adolescent years.
- Developmental tasks during adolescence.
- Physical, emotional, hormonal and behavioral changes.

Unit-IV: Practical:

- Prepare a poster on developmental tasks of late childhood / adolescence.
- Develop an interview schedule for identifying adolescent's problems / issues and drawing inferences (at least 2 boys and 2 girls).

- Assess physical/social/emotional development among boys and girls during late childhood /adolescence.

Semester IV

Core VIII Maternal And Child Nutrition

Course Outcome:

- The students will gain knowledge about the fundamentals of maternal and child nutrition.
- The students will be able to prepare diets for different stages of life.

Learning Outcome:

- The students will learn about the recommended dietary allowance and principles of balanced diet.
- The students will have an insight about nutritional requirements during infancy, preschool and school going age.
- The students will be able to understand about the nutrition requirement during adolescence and nutrition for women in special conditions.
- The students will gain practical knowledge on menu planning for different stages of women and children.

Unit I: Menu Planning

- Explanation of terms related to menu planning (health, nutrient requirement, dietary standards, dietary reference intake, RDA, adequate intake, Estimated Average Requirement), determinants of food choice
- Food Guide- Food pyramid, my plate, mediterranean diet.
- Balanced Diet- Meaning, principles of planning balanced diet, steps involved in planning a diet.

Unit II: Nutrition in Infancy, Preschool and School Going Age

- Nutrition during Infancy- Introduction, growth and development during infancy, nutritional requirements, food requirements, breast feeding, weaning and artificial feeding.
- Nutrition in Preschool- Introduction, nutritional requirements, food requirement, factors affecting nutritional status, nutritional related problems and feeding programs for preschool children.
- Nutrition in School Going Age- Introduction, nutritional requirement, food requirement, nutritional problems of school children, packed lunches, and school lunch program.

Unit III: Nutrition in Adolescents and Women in Special Conditions:

- Nutrition in Adolescence- Introduction, nutritional requirements, food requirement, nutritional problems, nutritional program for the adolescents
- Nutrition during Pregnancy- Introduction, physiological changes during pregnancy, nutritional requirement, food requirement, general dietary problems.
- Nutrition during Lactation- Introduction, role of hormones during lactation, nutritional requirements and dietary guidelines for lactating women.

Unit-Iv: Practical

- Plan and prepare one day menu, calculate calorie, protein, and fat for the following age groups: infant, children and adolescent.
- Plan a one-day menu for pregnant / lactating woman and calculate calorie, protein, calcium, and iron.
- Plan and prepare one set of packed lunch for school going children (vegetarian/non-vegetarian).
- Develop and prepare one weaning food mix from local available foods.

Core IX Human Physiology

Course Outcome:

- The students will understand the structure and function of different organ systems of the body.
- The students will be able to get practical knowledge in human physiology.

Learning Outcome:

- The students will be able to understand the physiology of cell, blood, and heart.
- The students will gain knowledge on the structure and functions of digestive, excretory and reproductive system.
- The students will be able to understand the structure and functions of nervous, respiratory, and endocrine system.
- The students will be able to get practical experience on human physiology.

Unit I: Cell and Blood Circulation

- Human Cell - Structure and functions of cell organelles, cell division.
- Blood - Composition, structure and functions of RBC, WBC, blood platelets, blood coagulation, blood groups and Rh factor.

Heart- Structure and function of heart, cardiac cycle, blood pressure. Unit II: Digestive, Excretory and Reproductive Systems

- Digestive System – Structure and functions of different parts of digestive system and accessory glands (liver, pancreas, and gall bladder).
- Excretory System- Structure and functions of Urinary system and mechanism of urine formation.

- Reproductive System- Structure and functions of reproductive system (male and female), physiology of menstrual cycle.

Unit III: Nervous, Respiratory and Endocrine Systems

- The Nervous System- Structure and function of brain, sympathetic and parasympathetic nervous system.
- The Respiratory System - Structure and functions of lungs, mechanism of respiration, external and internal respiration and vital capacity.
- The Endocrine System - The location and functions of various endocrine glands – Pituitary, Thyroid, Parathyroid, Adrenal, Islets of Langerhans and Gonads.

Unit IV: Practical

- Prepare posters (any two) showing the organs and functions of human system. (Digestive/ Reproductive / Respiratory/Endocrine).
- Record blood pressure of five persons by using sphygmomanometer.
- Measure and record pulse rate, oxygen level and body temperature of five persons using oximeter and thermometer.
- Prepare any one model of (Cell/Digestive system/Circulatory systems/Respiratory system/Renal system/ Reproductive system/Skin).

Core X Fundamentals of Clothing and Fashion Design

Course Outcome:

- Students will acquire a comprehensive understanding on clothing and its dimensions.
- Students will learn the fundamentals on fashion and its application in textile industry.

Learning Outcome:

- The students will be aware about the origin, functions, and importance of clothing.
- The students will learn about the selection, use of clothing and evaluation of ready-made garments.
- The students will get advanced knowledge on fashion and role of a fashion designer.
- The students will understand the aesthetics in dress and will gain practical knowledge in it

Unit I: Importance of clothing:

- Clothing: Meaning, history, importance, functions of clothing: Protection and comfort, Identity, status, and prestige, ornamental and aesthetic, sociability and conformity, self-expression, and actualization function.

- Clothing for Different Activities - Sports and athletic activities, formal events and celebrations, casual outings and everyday wear, work environments, outdoor and adventure activities, gym and fitness workouts, formal education settings, entertainment and performance.
- Theories of Origin of Clothing – Modesty theory, immodesty theory, adornment theory, protection theory, new advances in clothing: Water-repellent clothing, antibacterial clothing, wrinkle-free clothing, clothing with protection against UV radiation , concept and advantages.

Unit II: Selection of Clothing:

- Selection of clothing according to body build, age group (infant, toddler, teenager, adolescent, and old age), Selection and evaluation of ready-made garments (design, fit, workmanship, price, comfort, care, maintenance), use of colors in clothing.
- Factors Influencing Buying of Ready-made Garment- Size, suitability, durability, aesthetic appeal, occupation, labels (basic information and care labels), brand, socio economic-conditions, location, climate.
- Types of Design and Components in Garments - Structural and applied design, components of garments (sleeves, necklines, collars, pockets).

Unit III: Fashion Design

- Definition and origin of fashion in India, factors favoring and retarding fashion.
- Fashion cycle, classic fashion, and fashion fad, theories of fashion: trickle-down, trickle up, trickle across, role of a fashion designer.
- Leading fashion designing centers in India NIFT, NID, SID, NIIFT.

Unit-IV: Practical

- Flat sketching of sleeves and necklines.
- Flat sketching of collars and pockets.
- Preparation of an album of garment feature collections of famous designers.
- Prepare a catalogue of different garment labels available in market.

Semester V

Core XI Marriage and Family Studies

Course Outcome:

- Students will be able to understand about relevance of marriage in sustenance of social life.
- This course will help to bring a harmonious society and family life.

Learning Outcome:

- The students will learn about marriage, types of marriage and marriage in contemporary society.
- The students will gain an insight on marriage rituals and ceremonies in different Indian communities.
- The students will understand the family, kinship relationship and stages of family life cycle.
- The students will understand about the problems of family.

Unit I: Marriage as an Institution:

- Meaning, definitions, functions of marriage and importance of marriage.
- Types of marriages -Monogamy, polygamy, exogamy, endogamy, polyandry, polygyny.
- Marriage in contemporary society–Arranged marriage, free-choice marriage, inter-caste marriage, inter-religion marriage.

Unit II: Marriage Rituals and Ceremonies:

- Significance of marriage rituals and ceremonies among various Indian communities: Hindus, Muslims, and Christians community.
- Adjustments in marriage- Sexual, financial, within-in-laws family and among working couples.
- Changes in marriage system in India

Unit III: Family System

- Meaning, definition, importance, characteristics of family
- Functions of family (Traditional and Modern)
- Family Life Cycle: meaning, importance and stages of family life cycle.
- Family-in-Transition –Merits and demerits, contemporary family types prevalent in India.

Unit IV: Problems Of Family Life:

- Prevailing Family Problems- Prolonged sickness/illness, accidents, widowhood, unemployment, economic distress/poverty, broken family, family with a disabled and suicide in the family.
- Marital Problems- Marital disharmony and conflict, separation and divorce, single parenthood, loss of spouse.
- Counseling and other strategies to overcome the family and marital problem

Core XII

Family Finance and Consumer Studies

Course Outcome:

- The students will be enabled to understand the principles of household economics.
- The students will learn the importance and scope of consumer education and consumer protection measures.

Learning Outcome:

- The students will gain knowledge about household income and expenditure.
- The students will be educated on consumer education and problems.
- The students will learn the importance of consumer protection.
- The students will gain practical knowledge on banking system and consumer organizations.

Unit I: Household Income and Expenditure:

- Maintaining household accounts, budget: meaning, significance, types, items of budget and steps in formulating budget.
- Factors influencing expenditure, family savings: concept, importance, objectives, types of savings and institutions of savings.
- National income (GDP, NDP, GNP, NNP) and per capita income: meaning and significance in national growth.

Unit-II: Consumer Education and Problems

- Definition and role of consumers, consumer awareness and education - Concept, Objectives, Importance
- Consumer rights and responsibilities

Unit-III: Consumer Protection

- Consumer problems- Products and service-related problems and solution
- Basic legislative framework for consumer protection in India, consumer protection act 1986, alternative redressal mechanisms, mediation centers.
- Consumer organizations– role and functions
- Quality marks (Handloom Mark, AGMARK, FPO, FSSAI, BIS, ECO MARK, Hall Mark), standardization and quality control measures.

Unit IV: Practical

- Conduct a case study of banker, post office to understand their services and products

- Learn to fill different bank forms for depositing money – fixed deposit or recurring deposit
- Preparing labels for any packaged food product
- Evaluate the packaging of any packaged food item

Core XIII

Community Health and Nutrition

Course Outcome:

- The course will enable the students to know about the concept of community health and nutrition and the nutritional problems.
- The students will learn about the assessment of nutritional status and gain experience on the planning of nutrition and health education programs.

Learning Outcome:

- The students will understand the definition, concept and scope of community health and nutrition.
- The students will gain an insight into nutritional problems and their implications.
- The students will learn about the objectives and methods of assessment of nutritional status.
- The students will gain experience about diet planning of Kwashiorkor and Marasmic child and planning and implementation of nutrition education programs.

Unit I: Nutrition Education and Assessment of Nutritional Status

- Definition and concept of community health and nutrition, concept of nutrition education, methods and teaching aids used in nutrition education.
- Meaning, importance and objective of assessment of nutritional status
- Methods of Assessment: Direct (Anthropometry, Biochemical estimation, Clinical examination, and Biophysical examination) and Indirect (Diet survey, Vital Statistics)

Unit II: Nutritional problem and their implications

- Protein Energy Malnutrition- Introduction, prevalence, classification, etiology, clinical features, nutritional requirement, treatment, and prevention.
- Iron Deficiency Anemia (IDA), and Iodine Deficiency Disease (IDD) – Types, prevalence, etiology, symptoms, prevention/treatment and prophylaxis programs.
- Vitamin A Deficiency (VAD) and Fluorosis - Etiology, prevalence, symptoms, prevention/treatment and prophylaxis programs.

Unit III: Nutritional Policies and Programs and Agencies to combat malnutrition

- Nutrition related Policies, Programs: National Nutrition Policy, ICDS, PDS, TPDS, Antyodaya Anna Yojana, National Food for Work Program
- National Agencies: ICAR, ICMR, NIN, NNMB
- International Agencies: WHO, UNICEF, FAO, CARE.

Unit IV: Practical

- Assessment of nutritional status of five children (1-5 years) by anthropometric measurements.
- Interpretation of data based on BMI of ten numbers of adolescents (boys/girls).
- Plan, prepare and calculate diet for kwashiorkor child /marasmus child/anemic adolescent girls.
- Visit to organizations implementing nutrition programs for children and women in your locality and prepare a report.

Core XIV Semester VI

Research Methodology

Course Outcome:

- The students will be oriented towards the importance and need of research in Home Science
- The students will be able to identify various issues in Home Science and will carry out research in the pertinent areas for societal development.

Learning Outcome:

- The students will become aware of meaning, purpose and types of research.
- The students will learn about various types of research designs.
- The students will gain an insight on sampling techniques.
- The students will be educated on research process.

Unit I: Research Methodology

- Research - Meaning, objectives and significance
- Types of research- Descriptive Vs. Analytical, Applied Vs. Fundamental, Qualitative Vs.

Quantitative, Conceptual Vs. Empirical.

- Criteria of a good research. **Unit-II Research Design**
- Research design - Meaning, concept, need
- Features of a good research design.

- Types of research design-Exploratory, Descriptive, Experimental **Unit III Sampling Techniques and Data Collection:**
- Sampling – Meaning and Types (Probability and Non-Probability Sampling)
- Collection of data-Primary and secondary data.
- Tools and techniques of data collection-observation, interview schedule, questionnaire, case study, Focus Group Discussion (FDG).

Unit IV: The Research Process

- Formulating the problem, formulation of objectives and hypothesis, preparing the research design, review of literature.
- Data analysis, measures of central tendency- Mean, median and mode.
- Data interpretation, bibliography and report writing.

Core XV

Housing and Interior Design

Course Outcome:

- The students will gain knowledge in House Planning for different income levels
- The students will gain insight on elements and principles of design and their household application **Learning Outcome:**
- The students will gain understanding of the basic principles of housing and house planning.
- The students will get familiarized with the elements of interior design
- The students will be educated on principles of interior design.
- The students will acquire practical knowledge of House planning for different income groups

Unit I: Housing and Principles of House Planning:

- Meaning, Importance, Types of Housing and Housing terms; Significance, functions, and types of houses; Selection of site and Factors influencing it- Location, Size and Shape, physical features, soil condition, sanitary condition, practical convenience
- Principles of House Planning I - Aspect, Privacy, Grouping, Roominess, Flexibility; Principles of

House Planning II – Circulation, Sanitation, Furniture Requirements, Prospect, Economy, Elegance

- Building plans for Family Living – Importance and advantages of planning space, Meaning and Concepts of building plans, Site plan, Floor plan, Elevation, Cross sectional view, Perspective view, Land Scape plan

Unit II: Elements of Design:

- Meaning and Concept of Interior design; Aims of Interior Design-Beauty, Expressiveness and Functionalism

- Elements of Design- Meaning, importance, characteristics of each element and their use in designing - Line, shape, form, space, size, texture and color
- Types of Motifs and arrangement- Motif development and fundamental steps in designing process

Unit III: Principles of Design

- Meaning, nature, types, and significance of design
 - Principles of Design- Balance, rhythm, emphasis, proportion, harmony
 - Flower Arrangement- History, meaning, types (line, mass, line-mass) and forms (circular, crescent, vertical, horizontal, miniature), tools and equipment required for flower arrangement
- Unit IV: Practical**
- Draw floor plans of houses for Low/ Middle/ High Income Groups
 - Draw different kitchen plans (L-shape, U-shape, Single wall)
 - Make a flower arrangement using flowers and foliage (Circular, Crescent, Vertical, Horizontal, Miniature)
 - Prepare a poster of different color combinations (Primary, Secondary and Tertiary)

Multi-Disciplinary Course - SEMESTER-II

Paper-VII:

Food and Nutrition (Home Science)

Credits: 3

Lectures:45 Hours Full Mark:100 (Theory)

Course Outcome:

CO1: The students will get basic knowledge on macro and micro nutrients and different types of food and their nutritional contribution.

CO2: The students will gain practical knowledge on market survey and locally available food stuffs from each food group.

Learning Outcome:

- **LO1:** The students will learn the basic concepts in food, nutrition, and health.
- **LO2:** The students will gain an insight into the classification, functions, dietary sources, and daily of requirements various nutrients.
- **LO3:** The students will understand about different food groups and their nutritional contribution.

Unit-I: Basic Concepts in Food and Nutrition:

- Introduction to Food and Nutrition Science- Definitions (food, food science, food additive, fermented food, food fortification, functional food, nutrition, health, nutrients, nutritional status, optimal nutrition, nutrition security).
- Classification and Functions of Food- Physiological, psychological, and socio- cultural.
- Food Groups-Basic five and seven food groups, their nutritional contribution.
- Methods of Cooking- Different methods of cooking and their advantages and disadvantages: Dry methods - Frying, Sautéing, Parching, Roasting, Grilling/Broiling, Toasting, And Baking. Moist methods-boiling, steaming, stewing, simmering, poaching, blanching, pressure cooking. Combination method- braising.

Unit-II: Macro Nutrients:

- Carbohydrates-Introduction, classification, functions, dietary sources, and daily requirement.
- Proteins-Introduction, classification, functions, dietary sources, and daily requirement.
- Lipids- Introduction, classification, functions, dietary sources and daily requirement.
- Fat Soluble Vitamins (A, D, E and K)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Water Soluble Vitamins (Thiamin, Riboflavin, Niacin, Folate, Vitamin B12 and Vitamin C)- Introduction, functions, dietary sources, daily requirement, and deficiency diseases.
- Minerals (Calcium, Iron, Zinc, and Iodine)-Introduction, functions, dietary sources, daily requirement, and deficiency diseases.

Unit-III: Micro Nutrients: