

**FIRST YEAR  
Semester-I  
HSc-101 Basic Nutrition**

Theory: 4hrs/week  
Practicals: 2 hrs./week

**THEORY**

**Unit I                    Definition and introduction to nutrition and RDA**

- Nutrition – definition, importance, Good nutrition and mal nutrition, visible symptoms of good health, Guidelines for good health
- RDA: Definition, Reference Man and Women, Factors affecting on RDA of individual, Uses of RDA

**Unit II                :**    A) **Energy:** Definition, dietary sources, RDA, deficiency.

- B) Determination of energy value of food by Bomb calorimeter. Basal metabolic rate - Definition, factors affecting on BMR, Thermic effect of food, Specific Dynamic Action of food.

**Unit III             :**    **Macro Nutrients –**

- **Carbohydrates** – Classification, functions, dietary sources, RDA, deficiency, role of fibre in human nutrition
- **Lipids** – Classification, functions, dietary sources, RDA, deficiency, recommended combinations of oils for optimal health benefits. Essential Fatty Acids – Functions, deficiency
- **Proteins** – Classification (Chemical and nutritional), functions, dietary sources, RDA, deficiency

**Unit IV             :**    **VITAMINS**

- **Fat soluble Vitamins-** Functions, Deficiency, RDA, Food sources of Vitamin A, Vitamin D, Vitamin E, Vitamin K
- **Water soluble** – Functions, Deficiency, RDA, Food sources of Thiamin (B<sub>1</sub>), Riboflavin(B<sub>2</sub>), Niacin (B<sub>3</sub>), Pyridoxine (B<sub>6</sub>), Folate, Vitamin B<sub>12</sub> and Vitamin-C

**Unit V              :**    **MINERALS**

- **Macro Minerals** – Functions, Deficiency, RDA, Food sources of Calcium, Potassium and Sodium
- **Micro Minerals** – Functions, Deficiency, RDA, Food sources of Iron, Iodine and Zinc.

**PRACTICALS**

1. Standardization of weights and measures of various food items.
2. Consulting Nutritive value of Indian Foods, calculating the nutritive value of recipe
3. Identification of nutrient rich sources of foods, their seasonal availability and price.
4. Study of nutrition labelling on selected foods.
5. List out low cost nutrient rich foods.
6. List out nutrient foods for different income groups.
7. Preparation of Soups
8. Preparation of salads

**FIRST YEAR**  
**Semester- I**  
**HSc-102 Biochemistry**

**Unit-I**

**Chemistry of carbohydrates:** Definition, classification, physical and chemical properties of carbohydrates, Isomerism (Stereo – Geometrical & optical isomerism), colour reactions of carbohydrates.

**Unit II**

**Chemistry of lipids:** Definition, Classification, physical and chemical properties of lipids. Colour reactions of lipids, saturated and unsaturated fatty acids.

**Unit–III**

**Chemistry of proteins:** Definition, classification, Classification of amino acids. Colour reactions of proteins.

**Unit–IV**

**Enzymes:** Definition, classification IUB, Inhibition. Factors affecting enzyme activity. List of Co enzymes.

**Unit–V**

Functions and structure of Nucleic acids

Functions and structure of Nucleotides.

Structure and types of RNA

Nucleoproteins

**PRACTICALS**

1. Qualitative analysis of carbohydrates-
2. Monosaccharides (Glucose, Fructose),
3. Disaccharides (Lactose, Maltose and Sucrose) and
4. Polysaccharides (Starch).
5. Stages in acid hydrolysis of starch
6. Qualitative analysis of amino acids (Tyrosine, Tryptophan and Arginine).
7. Qualitative analysis of Lipids

# Semester- I

## HSc-103 Microbiology

### THEORY

**Unit I:** Classification of microorganisms-Based on plants/animals-based on cellularity,-based on nature of nuclear material-Five kingdom concept

Scope and importance of microbiology

1. Bacteria-General Characteristics, classification, morphology,
2. Bacterial physiology, nutrition, reproduction, growth curve, temperature, oxygen and PH

#### **Unit II:**

- a. Virus-Morphology-classification-reproduction-lab culture
- b. Fungi- morphology, physiology, lab culture, economic importance
- c. Sexually Transmitted Diseases-Syphilis, Gonorrhoea, HIV/AIDS

#### **Unit III:**

##### **a. Immunology:**

Infection-organism and host related factors, Immunity (definition,-types-active-passive immunity), Resistance

**b. Food contamination and spoilage:** 1.Cereals, 2.Fruits, 3.Vegetables,4.Milk & Milk products, 5.Meat & Fish, 6.Eggs

#### **UNIT IV:**

##### **Microbiology of special environments**

Microbiology of soil -Nitrogen cycle, carbon cycle

Microbiology of water, Microbiology of sewage

#### **UNIT V:**

Causes, symptoms, mode of infection, diagnosis, treatment and control of the following diseases:

- a. Bacterial diseases (Cholera, Typhoid, Tuberculosis, Diphtheria, Pertusis, Tetanus)
- b. Viral (Measles, Rubella, Hepatitis)
- c. Protozoal: Diseases (Amoebiasis, Malaria)

### PRACTICALS

1. Study of Microscope and its parts
2. Simple staining method
3. Gram staining
4. Acid fast staining
5. Laboratory equipment
6. Observation of fixed slides

**FIRST YEAR**  
**Semester-II**  
**HSc-201 Human Physiology**

**Theory**

- UNIT- I : (a) **Circulatory system** : Blood- Composition, functions, clotting of blood, blood groups, R<sup>h</sup> factor , anaemia.
- (b) **Cardiovascular system**: Anatomy of the heart, heart rate, Cardiac cycle, Blood Pressure, Factors maintaining blood pressure.
- UNIT-II : (a) **Digestive system**: Structure and functions-Liver and pancreas
- (b) **Respiration**: Structure of respiratory organs; Mechanism and Chemistry of respiration. Abnormal types of respiration- anoxia, hypoxia, asphyxia and Artificial respiration.
- UNIT-III : **Excretory system**: Structure and functions of Kidney, urine- composition volume, formation and micturition
- UNIT-IV : **Nervous system**: Structure of neuron, reflex action, spinal cord, brain and their membranes, autonomic nervous System. Central Nervous System
- UNIT-V : (a). **Endocrine glands** : Hormones, Secretion of hormones, and their influence on growth Metabolism & reproduction. Pituitary, thyroid, parathyroid and adrenal glands
- (b)**Physiology of Reproduction**: Anatomy of male and female reproductive system. Puberty changes

**PRACTICALS**

**I. Slides**

- 1 .Types of epithelium -any three (columnar, ciliated, squamous,etc)
- 2 Types of muscle -any three (striated, non-striated, cardiac, etc.)
3. T..S of organs -any three (cartilage, bone, kidney, testes, ovary, etc.)

**II. Experiments.**

- 4 Identification of Blood groups & Rh factor
- 5 Preparation of Blood smear.
- 6 Observation and recording of body temperature and pulse rate before and after exercise.
- 7 Estimation of Hb -.Demonstration

**FIRST YEAR**  
**Semester-II**  
**HSc-202 Nutritional Biochemistry**

**Unit I:**

**Metabolism of Carbohydrates:** Introduction, anabolism, catabolism, metabolism.

Glycogenesis, Glycogenolysis, Glycolysis, Krebs's cycle, energy output, Homeostasis of blood sugar-role of hormones, Glucose Tolerance Test.

**Unit II:**

**Metabolism of lipids:**

Introduction,  $\beta$ -oxidation of fatty acids, Biosynthesis of fatty acids, Synthesis of triglycerides, Atherosclerosis (in brief)

**Unit III:**

**Metabolism of proteins:**

Dynamic equilibrium, nitrogen balance, Essential Amino Acids, glycogenic, ketogenic, and both glycogenic and ketogenic amino acids.

**Oxidation of amino acids-**(i) Transamination, (ii) Deamination- a.Oxidative, b. Non-oxidative, (iii) Decarboxylation.

**Unit IV:**

(a). Importance of water– functions, sources, requirement – effect of deficiency.

(b). Acid base balance.

**Unit V:**

(a). Interrelationship between nutrients

(b). Nutrition and Infection

**PRACTICAL:**

1. Estimation of reducing sugar by Benedict's quantitative method
2. Estimation of ascorbic acid in limejuice
3. Estimation of iodine value of fat/ free fatty acid value (gingelly oil, groundnut oil, coconut oil)

**Demonstrations:**

Estimation of blood glucose (Glucose Tolerance Test)

Chromatographic separation of carbohydrates/ amino acids

Enzymes- ptyalin or salivary amylase action on boiled starch solution- spot plate testing with iodine.

**FIRST YEAR  
Semester-II  
HSc-203 General Psychology**

**THEORY**

**Unit-I:**

**Introduction to Psychology:** Definitions, Branches of psychology -1.Pure psychology 2.Applied psychology. Methods of psychology – Introspection, Naturalistic observational, experimental method, clinical method and Normative survey methods.

**Unit-II:**

**(a)Perception: Definition, meaning-** perceptual organization and its principles -perceptual constancies: shape, size, brightness, space, distance, direction, etc; perceptual organization and illusions

**(b)Attention-**definition- types – determinants of attention. meaning of span of attention, shifting of attention, Division of attention, Distraction of attention

**Unit-III:**

**Learning and Remembering:**

**(a)Learning-** Definition – classical and operant conditioning- learning by imitation – cognitive learning.

**(b)Memory** – definition, Process of memorization, kinds of memory immediate, short term, and long term memory, the study of memory, Memorization techniques.

**Forgetting-** definition and types, nature of forgetting – improving memory.

**Unit-IV:**

**(a)Motivation and Emotions:** definitions – psychological basis –Needs and Drives- classification – physiological, psychological and social motives, unconscious motivation.

**(b)** Definition of emotion and feelings- development of emotions. Theories - Some examples of adaptive and disruptive emotion.

**Unit –V:**

**(a)Definition of intelligence and its nature** – classification of intelligence, gifted, slow learners, and retarded and their characteristics, concept of I.Q, tests of intelligence,-verbal and nonverbal,

**(b) Personality:** Definition- personality theories in brief, Personality tests- assessment of personality

**PRACTICALS**

1. Muller lyre illusion – Perception.
2. Thurston’s Interest Schedule – Vocational Interest.
3. Bells Adjustment Inventory – Personality.
4. Raven’s progressive Matrices – Intelligence.
5. Memory tests – Memory.
6. Projective tests - Personality.
7. Interest record.

**SECOND YEAR**  
**Semester-III**  
**HSc-301: Food Science**

**Unit I Introduction to food, nutrition and nutrients-**

**Definitions:** Food, Food Science, Nutrition, Nutrients, Health, Malnutrition, Balanced diet.

**Functions of food**

**Classification of food,** Basic five food groups (NIN), energy yielding, bodybuilding and protective foods; food guide pyramid

**Unit II: Methods of cooking-** Definition, advantages and disadvantages of cooking

**a) Classification of cooking methods-**

*i. Wet methods-* Boiling, simmering, steaming (direct, indirect), cooking under pressure

*ii. Dry methods-* Baking, broiling or grilling, pan-broiling, parching.

*iii. Frying methods-* Deep fat frying, shallow fat frying

*iv. Microwave cooking, solar cooking.*

Effect of cooking on food and nutrients.

**b) Objectives of Cooking**

**Unit III: Study of food from vegetable origin:**

*i. Rice-* Structure, composition, nutritive value, parboiling, gelatinization, rice products (rice flakes, puffed rice).

*ii. Wheat-* Structure, composition, nutritive value, wheat products (spaghetti, vermicelli, bread, noodles).

*iii. Maize-* Structure, composition, nutritive value.

*iv. Millets-* Ragi, jowar, bajra, oats; malting.

**b. Legumes or pulses-** Composition, nutritive value, sprouting or germination, fermentation.

**c. Nuts and oil seeds-** Groundnut, coconut, gingili seeds, soybean, etc., and their role in cookery.

**d. Fruits and vegetables-** Classification, composition, nutritive value, pigments, ripening changes, browning reaction (enzymatic and non-enzymatic).

**e. Spices and condiments-** Definition, uses, role in cookery, common spices and condiments used in India.

**Unit IV: Study of food from animal origin:**

**a. Milk and milk products-** Importance, composition, nutritive value, and types of milk available in the market (non fermented, fermented, etc),

**b. Eggs-** Structure, composition, nutritive value, role of eggs in cookery.

**c. Flesh food-**

**i. Meat-** Composition, nutritive value, tenderness of meat, changes during cooking.

**ii. Poultry-** Classification, nutritive value.

**iii. Sea foods-** Fish : composition, nutritive value.

**Unit V: Miscellaneous foods:**

**a. Beverages-** Definition, classification, types of fruit beverages

**b. Ready-to-eat or convenience foods-** Advantages and disadvantages, types of convenience foods available in the market.



### **c. Food Labelling**

#### **PRACTICALS**

1. Preparations with cereals and millets.
2. Preparations with legumes.
3. Preparations with fruits.
4. Preparations with vegetables.
5. Preparations with Milk
6. Preparations with Egg
7. Preparations with Flesh foods
8. Preparation of Beverages
9. Experimental cookery on:

Cereals, Pulses, Fruits, Vegetables, Green leafy vegetables, Milk , Eggs.

**SECOND YEAR**  
**Semester-III**  
**HSc-302 Textile Fibers**

**Unit I : Introduction to Textiles and Clothing:**

a.Importance of study of textiles to the consumer:

**Terminology**-Staple, filament, tenacity, abrasion resistance, heat conductivity, absorbency, dye ability, dimensional stability, drapability, and wrinkle resistance

**Properties:** Physical, thermal and chemical properties.

**Classification of textile fibers:**

(a) Based on length-Staple and filament

(b) Based on source- Natural, manmade, synthetic

**Unit II: Detailed study of production, properties, use and care of**

a. Natural vegetable fibers-Cotton

b. Natural vegetable fibers-Linen

**Unit III: Detailed study of production, properties, use and care of**

a. Natural protein fibers-Silk

b. Natural protein fibers- Wool

**Unit IV: Detailed study of production, properties, use and care of**

Manmade fibers-Rayon, Nylon, Polyester and Acrylic fibers

**Unit V: Yarn formation:** Definition, steps in spinning- mechanical and chemical, yarn count (denier- used for manmade fibers), yarn twist, classification of yarns-simple, novelty, textured yarns

Mixtures and Blends of natural cellulose fibres, natural protein fibres and manmade fibres.

**Additional Input:**

Care and storage of clothing – Care of clothing, during wearing & taking off.

Care of different fabrics – cottons, woolens, silken, synthetic.

Storage of clothing – Steps to be considered.

**PRACTICALS**

1. Sewing machine description, use, care and simple repairs
2. Sewing kit, sewing equipment, measuring tools, marking tools and tools used during construction
3. **Basic hand stitches:** I) Decorative stitches-stem, chain, lazy-daisy, satin, buttonhole, feather, straight, French knot, bullion stitch, etc. (any 10 stitches)

II. constructive stitches- Temporary stitches : i. Even basting    ii Uneven basting    iii. Diagonal basting  
iv. Slip basting

Permanent stitches: Running    ii.Back stitch

4.Hem stitches: Ordinary hemming    ii.Slip hemming (**Seams and seam finishes**)

4. i. Plain    ii.French    iii.Run and fell

**5.Introducing fullness:**Darts: i.Single    ii.Double pointed :Pleats:i.Box    ii.Knife

Tucks:Pin tucks

5. **Neckline finishes:** Preparation of bias strip, stay stitching, facing and binding.

**6. Plackets:**

- i. Two way
- ii. Continuous

**7. Fasteners:**

- i. Buttons and buttonholes
- ii. Hooks and eyes
- iii. Zipper

10. Textiles chemistry- identification of textile fibres- microscopic examination- burning test

**SECOND YEAR**  
**Semester-III**  
**HSc-303 Housing for Better Family Living**

**THEORY**

Theory: 4hrs/week  
 Practicals: 2hrs/week

Objectives:

- To impart knowledge on housing, its importance and functions
- To educate the students on types of houses, components of housing and planning
- To orient the students on types of energy saving household equipment

<b>Unit-I</b>	<p><b>Housing</b></p> <ul style="list-style-type: none"> <li>• Functions of a house</li> <li>• Housing needs in different stages of family life cycle.</li> <li>• Selection of site</li> <li>• Safety at Home: Pest Control, Prevention of accidents</li> </ul>
<b>Unit-II</b>	<ul style="list-style-type: none"> <li>• Orientation</li> <li>• Principles of planning- aspect, prospect, privacy, grouping, circulation, sanitation Language of drafts man</li> <li>• Advantages of owning and renting a house</li> </ul>
<b>Unit-III</b>	<ul style="list-style-type: none"> <li>• Planning for efficient work centers-Types of kitchens (differentiate L, U, Broken L, U, Single walled, peninsular shaped kitchen)</li> <li>• Planning for storage areas in the kitchen</li> </ul>
<b>Unit-IV</b>	<ul style="list-style-type: none"> <li>• Prefabrication of buildings, Laurie baker Housing</li> <li>• Components of a building</li> <li>• Organisations of Housing-HUDCO, AP State Housing Corporation, NBRI, NBO</li> </ul>
<b>Unit -V</b>	<ul style="list-style-type: none"> <li>• Household equipment- importance, classification, factors in selection of equipment</li> <li>• Construction, mechanism use and care of refrigerator vacuum cleaner, washing machine, geysers, microwave, mixer, pressure cooker, dish washer &amp; induction stove.</li> <li>• Appropriate Technologies – smokeless chulah, gohar gas , solar cooker and rural refrigerator</li> </ul>
<b>Additional Inputs</b>	<p>Elderly/Disabled friendly Housing          Solar Energy-Applications          Modular Kitchens</p>

## **PRACTICALS**

1. House plan- symbols, site plan, floor plan
2. House Plans- 1 BHK,2 BHK
3. Kitchen plans- L shape, U shape, broken, L, U Shape, peninsular, one walled
4. Market study on building material- floor finishes- wall finishes- ceiling finishes
5. Study of house hold equipment with demonstration
6. Study of cost effective appliances with demonstration
7. Field visit to observe various types of kitchens

**SECOND YEAR**  
**SEMESTER IV**  
**HSc- 401 Family Nutrition**

Theory: 4hrs/week  
Practicals: 2hrs/week

**Objectives:**

- To impart knowledge on physiological functions and nutritional requirements for different age groups
- To enlighten students on selection of food, effecting factors, food fads and fallacies
- To develop skill of meal planning

**Unit-I. (a) Selection of food:** Socio-economic and socio-cultural factors influencing family food choices with special emphasis on food fads and fallacies.

(b) Principles of Meal Planning

**Unit-II. Food and Nutritional requirements for**

- a. Infancy (breast and bottle feeds, weaning and supplementary foods)
- b. Preschool children
- c. School going children –
- d. Packed lunch

**Unit-III. Food and Nutritional requirements for**

- a. Adolescent boys and girls
- b. Adults – Man and Women (Sedentary, Moderate, and Heavy work)

**Unit IV: Food and Nutritional requirements for old age**

- a. Nutrition related problems of old age,
- b. Modification of diet during old age
- c. Food and Nutritional requirements

**UnitV: Food and Nutritional requirements for**

- (a) **Expectant Mothers:** Physiological changes, General dietary problems, complications Food and Nutritional requirements
- (b) **Lactating Women:** Role of Hormones, Factors affecting the volume and composition of breast milk, Food and Nutritional requirements

**Additional Input:**

1. Nutritional needs for Industrial workers.
2. Nutritional needs Sports people

## **PRACTICALS**

1. Planning and preparation of a balanced diet for pregnant women.
2. Planning and preparation of a balanced diet for a Nursing Mother.
3. Preparation of low cost weaning mixes
4. Planning and preparation of a balanced diet for a Pre School Child.
5. Planning and preparation of packed lunch for school going child
6. Planning and preparation of a balanced diet during Adolescence.
7. Planning and preparation of a balanced diet for adult man and woman doing different physical activities-sedentary, moderate, heavy worker.
8. Planning and preparation of a balanced diet for elderly.

**SECOND YEAR**  
**Semester-IV**  
**HSc-402: Fabric Construction**

Theory: 4hrs/week  
Practicals: 2hrs/week

**THEORY**

**Objectives:**

- To develop the knowledge and understanding about the Textiles
- To understand the process of conversion of fiber in to fabric

**Unit I: Fabric Construction:**

- i. Weaving – Introduction, parts of a loom, essential weaving operations,.
- ii. Types of weaves – Basic-plain, basket, rib, twill, satin and sateen.
- iii. Thread count, selvage, grain, fabric balance.
- iv. Decorative weaves

**Unit II: Non-Woven fabrics** – Knitting: Felting, Braiding, Netting, Laces- crochet

**Unit III: Finishes:** Introduction, definition, classification.

**Mechanical finishes** – Beetling; Brushing and shearing: Calendaring, Sanforising, Crepe effect.

Embossing, Moireing, Glazing; Napping: Smooth finish: Tenting.

**Unit IV: Chemical finishes;** Sizing and Dressing; Mercerizing; Bleaching, weighting Crease resistant, Crêpe effect. Flame proof.

**Special purpose finishes** – Water repellency: Water proof; Absorbent finishes, Moth proof, mildew proof, slip resistance; Antiseptic and anti static finishes.

**Unit V: Traditional Textiles of India**-History of art of weaving in India, Ducca Muslins, and sarees, Chandery Muslins, Baluchar Buttedar, Paithanis and Pithambers, Patola, Banaras Brocades, Himrus and Amrus, Bandhanis.

**Additional Input:** Readymade clothing- selection and examination of garments for quality of cloth, shape of garments, fitting and price, comparison of readymade garments with homemade and tailor made-garments.

Consumer buying- budget, advertising, labeling and standards

Factors which control price fashion- advertising- production cost- world condition- availability of raw materials



## **PRACTICALS**

1. Preparation of fabric for garment construction- straightening- shrinking- pressing-
2. **Preparation of fabric for cutting**-importance of grain, steps in preparing the fabric for cutting, laying the pattern on fabric, cutting, marking and stay stitching
3. **Taking body measurements**
4. **Construction of Sleeves:** Basic (plain) sleeve
- 4.**Weaving:**
  - a. Plain weave
  - b. Basket weave
  - c. Rib weave
  - d. Twill
  - e. Satin and sateen weave
  - f. Thread count
5. Field visit to textile mill.
6. Construction of a baby frock (5-6 years)

**SECOND YEAR**  
**Semester-IV**  
**HSc-403 Interior Decoration**

**THEORY**

Theory: 4hrs/week  
 Practicals: 2hrs/week

**Objectives:**

- To educate the students on the elements and principles of design
- To develop knowledge on application of art principles in interior decoration
- To impart skills in flower arrangement, furniture arrangement and accessories

<b>Unit I:</b>	<ul style="list-style-type: none"> <li>• Interior Design Meaning and importance of interior design, objectives</li> <li>• Elements of Design-Line, Form, Shape, Texture, Value, Colour, Space,</li> </ul>
<b>Unit II:</b>	<ul style="list-style-type: none"> <li>• Principles of Art- Harmony, Balance, Rhythm, Emphasis and Proportion</li> <li>• Colour- Prang colour chart, colour schemes , emotional effects of colours</li> </ul>
<b>Unit III:</b>	<ul style="list-style-type: none"> <li>• Accessories –importance, classification types, use in interior decoration</li> <li>• Flower arrangement- traditional, modern, Japanese- Ikbana- Miniature and Deminiature, Aids and accessories in Flower arrangement</li> </ul>
<b>Unit IV:</b>	<ul style="list-style-type: none"> <li>• Furniture : types, selection arrangement</li> <li>• Table setting: requisites, western and Indian styles</li> </ul>
<b>Unit V:</b>	<ul style="list-style-type: none"> <li>• Furnishings-Classification, Factors in selection, fabric selection</li> </ul>

**Additional Inputs:**

Computer Aided Designing-Interiors, Furniture

Interior Decoration in relation to different cultures-Rajasthan, Kerala, Jammu & Kashmir, North East)

**Practicals**

Interior Design- A) Elements of Design, B) Types of Design- Natural, Decorative conventional, Geometric abstract drawing/ painting/ clipping using magazines.

1. Application of principles of art in different rooms- a) Harmony b) Balance c) Rhythm, d) Emphasis and e) Proportion, Drawing/ painting/ clipping from magazine  
 .Colour- value chart, prang colour chart, six standard colours, application of colour harmonies in different rooms of the house.
2. Different types of flowers arrangement
3. Table setting- Indian and western styles
4. North Indian and south Indian meal laying
5. Buffet arrangement

**THIRD YEAR**  
**Semester-V**  
**HSc-501:Human Development**

**THEORY**

Theory: 3hrs/week  
Practicals: 2hrs./week

Objectives

- To impart knowledge principles and factors affecting growth and development
- To educate students on the development patterns of different stages of life span
- To develop skills of conducting case studies

Unit-I	<ul style="list-style-type: none"><li>• Growth and development- definitions of growth, development, maturity, learning, heredity, environment,</li><li>• Principles of development</li><li>• Factors affecting growth and development</li></ul>
Unit-II	<ul style="list-style-type: none"><li>• Prenatal period- stages of pre natal development with its Hazards – factors influencing , Major and minor complications during pregnancy</li><li>• Parturition-stages, types of birth</li></ul>
Unit-III	<ul style="list-style-type: none"><li>• Neonate: APGAR test, Physical and physiological needs of neonate- characteristics of neonate, adjustments of neonate</li><li>• Babyhood-characteristics- physical, motor, language, social, emotional and cognitive developments</li></ul>
Unit-IV	<ul style="list-style-type: none"><li>• Early childhood -characteristics- physical, motor, language, social, moral, emotional and cognitive developments</li><li>• Late childhood-characteristics- physical, motor, language, social, moral, emotional and cognitive developments</li></ul>
Unit-V	<ul style="list-style-type: none"><li>• Puberty-characteristics - physical and physiological changes</li><li>• Adolescence- characteristics physical, social, moral, emotional and cognitive developments, adjustment problems in the family</li></ul>

**Additional Inputs:**

Aberrations in development

## **PRACTICALS**

- 1) Case study of a pregnant woman
- 2) Observation of characteristic of infant
- 3) Observation of characteristics of preschool child
- 4) Observation of characteristics of preschool
- 5) Observation of characteristic of late childhood
- 6) Visit to a Neonatal Unit
- 7) Case study of adolescent and adjustment problems

**THIRD YEAR**  
**Semester-V**  
**HSc-502 Management of Family Resources**

Theory: 3hrs/week  
Practicals: 2hrs./week

**Objectives:**

- To educate students on the management of different family resources
- To impart knowledge on decision making at household level
- To develop skill in efficient management of time and energy

**THEORY**

<b>Unit-I</b>	Resources- meaning, classification and characteristics, guidelines for use of resources
<b>Unit-II</b>	Management process- planning, organizing, controlling, delegating, guiding, coordinating, supervising and evaluating ,its importance in Home making – Qualities of a good homemaker-Ethics in Home Management
<b>Unit III</b>	Decision making: definitions- kinds of decision- habitual versus conscious decision making, individual and group decisions, steps in decision making- role of decision making
<b>Unit IV</b>	Management of time- nature and significance- different activities in the home – Preparation of Time Plans ,Techniques of Time Management-Work curve, Peak Load, Time Cost
<b>Unit-V</b>	Energy management in the home- meaning- principles of work simplification- Mundel’s classification of change/ Body mechanisms, fatigue- meaning- types of fatigue and methods of avoiding fatigue- peak loads

**Additional Inputs:**

- Theories of motivation
- Resource management with respect to environment

**PRACTICALS**

- 1) Work simplification techniques –Path way chart
- 2) Plan and arrange for a festival a) Sankranthi b) X-mas, c) Ramzan
- 3) Decision Making Tree
- 4) Identifying short term, long term goals of a family.

5) Time plans

- a) Students on a working day and holiday
- b) Time plan for house wife
- c) Time plan for working woman on a working day and holiday

**THIRD YEAR**  
**Semester-V**  
**HSc-503 Home Science Extension**

Theory: 3hrs/week  
Practicals: 2 hrs./week

**THEORY**

**Objectives:**

- To introduce the students to the concept and philosophy of extension education
- To acquaint them with the elements and scope of communication.
- To make them understand the principles of teaching and learning, different teaching aids.

**Unit I : Nature and scope of Extension education–**

- Definitions
- Meaning of Extension
- Concept of Extension Education Process (Dr.J.Paul Leagans)
- Need for Extension Education
- Distinguishing features of Extension Education
- Principles, Objectives and functions of extension
- Principles and Philosophy of Extension Education
- Principles underlying the philosophy of extension.
- Role and qualities of Extension worker/ agent

**Unit II: Basic Principles of Teaching and Learning.**

- Definition: Teaching, Learning, learning experiences, learning situation.
- Basic elements of learning situation and their characteristics.
- Principles of learning and their implications for teaching.
- Principles of Motivation in Extension, Classification of Motives
- Steps in Extension teaching.

**Unit III: Communication- Introduction**

- What is communication?- definition
- Types/ forms, and functions of communication.
- Key Elements of communication process (Leagan's model).
- Nature and importance of communication
- Components of communication process

**Unit IV: Teaching aids**

- Definition (Audio, Video and Audio-visual aids) and Purpose
- Classification of audio-visual aids
- Types of Audio Visual Aids (Cone of Experience by Edgar Dale)
- Effective use of Audio visual aids
- Purpose, Advantages and limitations of each aid.

- Public address system, telephone
- Models, mock-ups, specimens, objects
- Exhibits, motion pictures, video, recordings
- Still pictures (a) projected, (b) non-projected
- Other visual aids- chalk board, bulletin board, flannel graph, flash cards, poster, charts- different types of charts.
- Dust and mud sketching.
- Dramatization, puppets, role play, harikatha, burrakatha, etc.
- Factors influencing the selection of Audio Visual Aids
- Criteria for Selection of Audio Visual Aids

### **Unit V: Role of Home Science in community Development**

- Meaning and scope of Home Science
- Role of Home Science in Community Development
- Role of Home Science Extension

#### **Additional Input:**

1. Development of communication models for community
2. Crafts/preparation of teaching material-Aids

### **PRACTICALS**

#### **o Preparation of Teaching aids**

- Model
- Poster
- Flash cards
- Flannel graph
- PPT/ OHP Slides
- Charts
  - Pull chart
  - Tree chart
  - Flip chart
  - Strip-tease chart
  - Overlay chart
- Puppets

#### **2. Putting up display:**

- Bulletin board
- Exhibition



**THIRD YEAR**  
**Semester-V**  
**Elective I**  
**HSc-504(a) Sociology**

Theory: 3hrs/week  
Practicals: 2 hrs./week

**Objectives:**

- To educate students on the different social institutions
- To create awareness on social problems

**THEORY**

- Unit-I      Sociology- its relation to other social sciences, nature of society and culture  
Society and individual, social interaction, socialization, agents of socialization,  
social institutions- family, marriage, religion and educational institution
- Unit-II      Social groups- primary- secondary groups, formal and non formal groups  
Different types of family structure, changing village system in India.
- Unit-III     Indian city- consequences of planned and unplanned industrialization, problems  
of providing basic amenities
- Unit-IV     Prevailing practices- current social problems Juvenile delinquency uncontrolled  
population (poverty, beggary, human trafficking and domestic violence, child  
marriage). Areas needing social change- social reforms and progress with special  
reference to women.
- Unit-V      Concept of welfare state- Directive principles of the Indian constitution.  
Causes for growth of population, Consequences of population explosion,  
Population Education  
Additional Inputs: Case studies on social problems.

**THIRD YEAR**  
**Semester-V**  
**Elective II**  
**HSc-505(a)- Fabric Embellishment**

Theory: 3hrs/week  
Practicals: 2 hrs./week

**THEORY**

Objectives:

To gain knowledge about Aesthetics involved in dress designing.

To gain knowledge about different fabric embellishment techniques

**Unit I: Dyes and Dyeing:** Definition-dye, mordant, dyeing, fastness.

**Classification of dyes:**

**Natural Dyes:** Vegetable Animal, Mineral

**Synthetic Dyes:** Direct or substantive dyes, Vat dyes, Mordant or Chrome dyes, Acid, Basic, Sulphur, Disperse.

**Methods of Dyeing:** Preparation of material for dyeing and printing

Stock dyeing, Yarn dyeing, Piece dyeing, solution dyeing, Pigment or dope dyeing, garment dyeing.

Identifying dyeing defects:

**Unit II: Printing:** Introduction, definition.

**Various methods of printing:**

Direct:-Block, Stencil, Roller, Duplex, Discharge,

Resist- Screen, Transfer, Warp, Photo, Batik, Tie Dyeing and Flocking.

**Unit III: Care of clothing:**

i. Laundry equipment – reagents uses and applications.

ii. Principles of laundering-washing machines-brands available and types

iii. Methods of laundering – Bleaching and finishing.

iv. Stain removal

v. Dry cleaning

**Unit IV: Traditional Indian Textiles :**

Traditional Embroideries – Kaseeda, Punjab Phulkari, Chamba Roomals, Kanthas of Bengal, Lucknow Work- Motifs, Stitches used and colours etc.

**South Indian Textiles:** Kanjeevaram, Mysore silk, Venkatagiri, Mangalagiri, Gadwal, Uppada, Narayanpet, Pochampalli, and Kalamkari (Machilipatnam, Kalahasthi) fabrics.

**Unit V: Study of Traditional Indian Costumes and accessories-** Introduction, definition of costume, accessory.

Traditional male and female costumes prevalent in different states of India- Andhra Pradesh, Tamilnadu, Kerala, Karnataka, Maharastra, Punjab, Jammu & Kashmir, Assam, Bengal, their importance in present scenario in textiles and apparel industry.

Different types of accessories

**Additional Input:**

**Household textiles:** introduction, definition, classification

Table linen: fabric count, size, finish, design suitability, serviceability, workmanship, use and care.

Towels and bathroom ensembles: size, fiber construction, dimensions of pile, absorption, strength, compactness of background, colour co-ordination, use and care.

Bed linen- types, brands, size, quality, attraction, fiber content, colour co-ordination, construction, weight, finish, warmth, comfort, workmanship, use and care.

## **PRACTICALS**

1. **Laundering:** (a)Sorting, (b)Mending, darning, (c)Stain removal, (d)Laundering of cotton, wool, silk and synthetic fabrics, (e)Application of blue (direct and indirect method) (f)Application of starch, (g)Finishing /ironing
2. **Dyeing and Printing**
  - i) Direct dyeing/printing
    - (a) Stencil- with brush, spray techniques
    - (b) Block printing.
  - ii) Resist dyeing/printing
    - (a) Batik using cold dyes.
    - (b) Tie dyeing with naphthals and vats
- 3..Attaching sari fall
4. Picot
- 5 Renovating old garments
6. Drafting, pattern laying, cutting and Construction of
  - i. Pillow cover, ii. Sari petticoat, iii. Kameez/ kurthi, iv. Salvar/chudidar.

**THIRD YEAR**  
**Semester-V**  
**Elective III**  
**HSc-506(a)- COMMUNITY NUTRITION**

Theory: 3hrs/week  
Practicals: 2hrs/week

**THEORY**

**Objectives**

1. The course deals with the assessment of the nutritional status and common nutrition related problems of the community.
2. The students would learn the basic principles of diet therapy and therapeutic nutrition and understand the dietary management in common diseases/disorders commonly observed in the community.

**Unit – I : a. Food adulteration -**

- Adulterants in different foods, their harmful effects.
- Simple tests for detection of adulterants in food
- Prevention of Food Adulteration Act

**b. Home Scale methods of Food Preservation** – Introduction, preparation of Jam, Jellies and squash

**Unit - II : Assessment of nutritional status of the community**

Introduction, definition of Nutritional status, need of nutritional assessment.  
**Anthropometry**- Age, Body weight, Height, , MUAC, Head Circumference, Chest Circumference, WHR

- a) **Nutritional Assessment classification** - for children : weight for age, height for age and weight for height using WHO standards, for Adults: BMI (WHO Classification)
- b) **Clinical Assessment** – Nutritional deficiency symptoms
- c) **Biochemical Methods** – for assessing nutritional status need for biochemical tests (Urine, Blood and stools)

**Unit - III : (a) Dietary Assessment** - Food Balance sheet, Inventory or log book method, food weighing method, Expenditure pattern method, Oral Question method (24Hours Recall method). General guide lines for carrying out Diet surveys in the community.

**(b) Vital Statistics:** Infant mortality rate, Peri-natal Mortality Rate, Maternal Mortality Rate

**Unit- IV : a. National Nutrition Policy** – Direct and Indirect Interventions  
**b. National Nutritional Programmes** - Direct Nutrition programmes

- Vit A prophylaxis programme
- Iron prophylaxis programme
- Universal Iodisation of salt

**Indirect nutritional programmes**

- ICDS
- Mid day meal programme

**c. Role of National and international organizations in alleviating Malnutrition**

- Unit -V** :      **a. Nutritional problems prevalent in India** –Protein Energy Malnutrition, Anaemia, Vitamin-A, Iodine and B-complex deficiencies.
- b. Food Security** – Household level and National level
- c. Nutrition Education:** Importance and types

**Additional Inputs:**

Survey on implementation of Nutrition intervention programmes in Government and NON-Government Organizations

**PRATICALS**

1. Simple physical and chemical tests for detection of adulterants in food
1. Diet and Nutrition surveys
2. Identifying vulnerable, at risk groups
3. Breast feeding and weaning practices of specific groups.
4. Use of Anthropometric measurements in assessing the nutritional status.
5. Observation of mid day programme at Anganwadi Center.
6. Observation and Planning of School Lunch Programmes.

## THIRD YEAR

### Semester-VI

#### HSc-601 Early Childhood Care and Education

#### THEORY

Theory: 3hrs/week

Practicals: 2hrs./week

#### Objectives:

To impart knowledge on the early childhood education, its importance and history

To develop knowledge on play and its importance in childhood

To inculcate the skill on planning and conducting preschool activities

- Unit-I
- History and significance of ECCE- Aims and Objectives,
  - Types of preschools- Nursery, Anganwadi, Montessori schools
- Unit-II
- Characteristics of preschool - site, location, space, equipment, facilities, qualities of preschool teachers, records and registers to be maintained.
- Unit-III
- Play behavior in children- stages of play behavior- values of plays- physical, social, educational psychological and therapeutic values.
  - Types of play- free play, dramatic, constructive etc.
- Unit-IV
- Preschool program- long term, short term planning. Daily program, model program- importance of each activity in a days program (Medical check up, outdoor and indoor play, snack, rest, story, rhyme, creative activity and science experience)
  - Importance of parent teacher meeting.
- Unit-V
- Needs of children
  - Rights of Child
  - Organization and programs for child welfare-International- UNICEF, WHO, UNESCO, FAO, CARE ,National- NIPCCD, ICDS, NCERT, SSA, SOS village, ICCW, IAPE etc

#### Additional Inputs:

Digital Transactions-Impact

Consumer Activism-Case Studies

#### PRACTICALS

1. Observation of preschool child - recording the all round developmental behavior of the child.
2. Observation of preschool teachers
3. Observation of preschool program
4. Visit to Anganwadi centre.
5. Planning a days program and participating in preschool
6. Preparation of any play equipment
7. Organizing - participating in parent teacher meeting

**THIRD YEAR**  
**Semester-VI**  
**HSc-602 Therapeutic Nutrition**

Theory: 3hrs/week

Practicals: 2hrs/week

**Objectives**

- To understand different types of feeding methods
- To get information on diets to be given for various diseases
- To impart the knowledge on various diseases and etiological factors and causes

**THEORY**

- Unit – I** : 1. **Dietician** – Definition, Role & responsibilities of dietician, Code of Ethics, Indian Dietetic Association (IDA), introduction- history, membership, registered dietitian, Diet Counseling - Importance  
2. **Methods of Feeding** – Enteral and Parenteral  
3. **Types of diets**- clear fluid, full fluid, soft and regular normal diet
- Unit - II** : a. **Diet in Fevers** – causes, Types and general dietary modifications  
b. **Diet during Nutritional disorders**  
1. **Under nutrition** - Aetiology, Food and Nutritional requirement, dietary requirement.  
2. **Obesity** – Aetiology, Types, assessment, Dietary guidelines, nutritional requirements and suggested recipes.
- Unit - III** : a. **Diet in Diabetes Mellitus** – Aetiology, Types, Symptoms, Diagnosis, Management of Diabetes (Diet, Drugs, Physical activity and Awareness)  
b. **Kidney diseases** – Diet during Glomerulonephritis and Nephrotic Syndrome
- Unit- IV** : a. **Cardiovascular diseases** – Dietary management during Atherosclerosis and role of fat. Dietary management in Hypertension  
b. **Cancer** – Nutritional problems of cancer therapy and Dietary management
- Unit -V** : **Gastro intestinal tract diseases**  
1. Dietary management in diarrhea, constipation and peptic ulcer.  
2. Dietary management in liver diseases- Infective hepatitis, Cirrhosis of Liver, jaundice

**Additional Inputs:**

Modification of Nutrients in Therapeutic Diets

## **PRACTICALS**

1. Modification of normal diet.
2. Planning and preparation of diets for the following conditions
  - a. Peptic ulcer and constipation
  - b. Diabetes Mellitus
  - c. Atherosclerosis
  - d. Nephritis
  - e. Obesity
  - f. Jaundice
3. Diet in Kwashiorkor, Marasmus
4. Planning a diet for typhoid patient
5. Planning a diet for common fever
6. Planning a diet for hypertension patient
7. Visit to dietary department



**THIRD YEAR**  
**Semester-VI**  
**HSc-603 Home Science Extension & Community Development**

**THEORY**

Theory: 3hrs/week  
Practicals: 2hrs/week

**Objectives:**

- To explore the students to different teaching methods.
- To introduce them to the basic elements of programme planning.
- To get them learn the lesson planning techniques.
- To acquaint them with the concept of non-governmental organizations.

**UNIT I: Extension Programme Planning**

- Extension Programme Planning - Definition
- Criteria for Good Programme Planning
- Principles of Programme planning
- Steps for making a programme
- Methods to find out felt and unfelt needs of the community.
- PRA (Participatory Rural Appraisal) methods
- Evaluation: Principles, methods of evaluating individual and group performances

**UNIT II: Extension teaching methods:**

- Introduction
- Definition
- Classification of Extension teaching methods 1. According to use 2. According to form
- **Individual contacts**  
(i) Form and home visits (ii) Office calls (iii) Personal letters (iv) Result demonstration
- **Group contacts**  
(i) Method demonstration (ii) General meetings (iii) Field trips
- **Mass contacts**  
(i) Publications (ii) Circular letters (iii) News articles (iv) Radio (v) Television (vi) Campaign
- Strong and weak points of three categories of Extension methods
- Factors to be considered in the selection, combination and use of Extension methods.

**UNIT III: Planning lessons for specific groups.**

- Definition
- Introduction
- values and necessities of lesson plan
- components of lesson plan,
- Important aspects of good lesson plan, etc.

**UNIT IV: Contribution of voluntary organizations in Extension**

**International-** CARE- REDCROSS

**National--**DWACRA -TRYSEM - NREGA , NFSM, NIRD ICAR, CDP, KVK, MAHILA MANDAL, NES

**UNIT V:** (a): Three tire Panchayat raj system in India

(b): Extension Administration and Supervision – Principles of Good Administration, Coordination – Definition, Importance of Coordination in the Community

**Additional Inputs:** Visit to progressive farmers/ Agricultural Research Station

## **PRACTICALS**

1. Preparation of literature:
2. (Pamphlet/folders)
3. Survey in a community to find out needs and interests of people and resources available.
4. Planning lessons for the women based on their needs and interests.
5. Plan an activity to create awareness among women and children of community surveyed according to their needs and interest (Nutrition Education, Child care), (a)Lecture cum group discussion
  - a. Method demonstration
6. Conducting workshop to teach any craft.
7. Planning and conducting a field trip to any institute related to Extension work to get acquainted with the set-up.
8. . Extension programme planning- a model.
9. Visit to the Mandal office

**THIRD YEAR**  
**Semester-VI**  
**Elective I**  
**HSc-604(a) Family dynamics**

Theory: 3hrs/week  
Practical: 2hrs/week

**Objectives:**

To impart knowledge on marriage and family and their functions  
To develop skill on

- Unit-I (a) Marriage definition - goals of marriage, Criteria for mate selection- rituals followed in various marital ceremonies like Hindu, Muslim and Christian - practice of dowry and its present status, legal provisions related to marriage and family
- Unit-II Areas of marital adjustment  
Factors influencing marital adjustments. Pre-marital and marital counseling, love and arranged marriage.  
Family definition - functions, types of families - nuclear and joint – characteristics of a family - changing trends in family system - values needed for better family relations. Importance of family life education
- Unit-III
- Unit-IV (a) Stages in family life cycle-  
i. Family in the beginning  
ii. Expanding family  
iii. Maturing family  
iv. Old age  
(b) Preparation for parenthood - parenting styles (authoritarian, permissive and democratic styles) their impact on child development  
(c). Structure and forms of a family
- Unit-V Status of women in the modern world education, employment and marriage, economic responsibilities and privileges.  
Additional Input: Legal provisions for women to ensure their safety.

**Practical:**

1. Evaluation of matrimonial advertisements
2. Criteria for mate selection
3. Visit to family counseling center
4. Visit to old age home
5. Role play on problems of the aged
6. Panel discussions on social problems of adults
7. Picture talks on problems of adolescents

**THIRD YEAR**  
**Semester-VI**  
**Elective II**  
**HSc-605(a) Family Attire and Consumer Education**

**THEORY**

**Unit-I** Criteria of selection of fabrics for garment

- a. Characteristics and needs
- b. Characteristics of fabrics
- c. Thread count
- d. Shrinkage, labels, reliable brands
- e. Size of budget
- f. Selecting garments for different age groups

**Unit-II** Readymade clothing- selection and examination of garments for quality of cloth, shape of garments, fitting and price, comparison of readymade garments with homemade and tailor made-garments.

**Unit-III** Consumer buying- budget, advertising, labeling and standards

Factors which control price fashion- advertising- production cost- world condition- availability of raw materials

**Unit-IV Wardrobe planning:** Introduction, wardrobe-definition.

- a) Aims, personal analysis, inventory & clothing extenders
- b) Principles of wardrobe planning – budget, occasion, climate, occupation, interest, number of family members, age, figure, fashion, quality, accessories etc.
- c) Principles applied to general figure problems and use of colour, prints, lines and checks.
- d) Renovation of old garments.

**Unit V Household textiles:** introduction, definition, classification

Table linen: fabric count, size, finish, design suitability, serviceability, workmanship, use and care.

Towels and bathroom ensembles: size, fiber construction, dimensions of pile, absorption, strength, compactness of background, colour co-ordination, use and care.

Bed linen- types, brands, size, quality, attraction, fiber content, colour co-ordination, construction, weight, finish, warmth, comfort, workmanship, use and care.

**PRACTICALS**

1. Shrinkage Test/ dimensional stability
2. Colour fastness for sunlight.
- b. Making an inventory of one's own clothing.
- c. Planning wardrobe for two income groups.
2. Attaching sari fall
3. Picot
4. Renovating old garments
5. Drafting, pattern laying, cutting and Construction of
  - ii. Pillow cover
  - iii. Kameez/ kurthi
  - iv. Salvar/chudidar.

**THIRD YEAR**  
**Semester-VI**  
**Elective III**  
**HSc-606(a) Household Economics**

**THEORY**

Theory: 3hrs/week  
Practicals: 2hrs./week

Objectives:

- To impart knowledge on household economics, laws of economics
- To inculcate knowledge on consumer education
- To develop the skill of budgeting for different income levels

- Unit-I
- Basic terminology of economics, concept of household economics
  - Human wants- nature and classification,
  - Laws of consumption –Law of Demand, Law of equimarginal utility, Law of Diminishing marginal utility ,consumer surplus
- Unit-II
- Consumer education
  - purchasing methods- guidelines for wise purchase,-
  - Consumer rights
  - Consumer Protection Act
  - consumer problems
- Unit III
- Values, goal, standards, and their inter-relationship
  - Standard of living- Definition factors influencing standard of living, ways of improving standard of living
- Unit-IV
- Money management in the home
  - Budget- meaning, types and importance
  - Household financial records-Short term, Long term
  - Ways of Supplementing family income
- Unit –V
- Meaning and importance of savings
  - Types of savings in post office LIC, Chit funds and saving schemes of banks
  - Family investments – Bonds, Stocks and Shares

**Additional Inputs:**

Digital Transactions-Impact

Consumer Activism-Case Studies

**PRACTICALS**

- 1) Budget plans for different incomes
  - Low income group
  - Middle income group

- High income group
- 2) Interview any head of the family and collect the information about their savings
  - 3) Prepare a check list of qualities of good home maker and evaluate your self
  - 4) Prioritise your values and record the same
  - 5) Residential stay/ home management cottage stay.