

**KVR GOVERNMENT COLLEGE FOR WOMEN  
(A), KURNOOL**

*Re-Accredited by NAAC with Grade "A"*

**DEPARTMENT OF HOME SCIENCE**



**B.Sc. HOME SCIENCE SYLLABUS**

**FOR II YEAR**

**With Effect From**

**2021-22**

### III SEMESTER

#### HSC-301 – COMMUNITY NUTRITION

Theory: 4Hours/Week  
Practicals: 2Hours/Week

#### **THEORY**

##### **Unit-I Meal Planning -Nutrition during Pregnancy and Lactation**

- Principles of meal Planning, Balanced Diet. Dietary guidelines for Indians
- Nutrition for Adults - Reference man and Reference women- Nutritional requirements for adult man and woman of different physical activities (Sedentary, Moderate and Heavy work).
- Pregnancy-Nutrition and Food requirements- Physiological changes and complications.
- Lactation- Physiology, Nutritional and Food requirements

##### **Unit-II Nutrition during Childhood**

- Infancy - Nutritional requirements – Breast feeding and its advantages; Artificial/bottle feeding; Weaning Practices, Supplementary foods.
- Early childhood - Nutritional requirements – RDA, Inculcating healthy eating habits among pre-schoolers
- Late childhood - Nutritional requirements – RDA, Food habits, Importance of breakfast and packed lunch.
- Traditional foods and Junk foods – Impact on health

##### **Unit-III Nutrition during Adolescence and Old age**

- **Adolescence**-Nutritional requirements –RDA, Food habits
  - Nutritional problems and Eating Disorders- Anorexia and Bulimia.
- **Geriatric Nutrition**- Physiological changes in elderly
  - Factors affecting food intake
  - Nutrient needs and Requirements
  - Nutrition related problems and their diet management

##### **Unit-IV Nutritional Status Assessment**

- Assessment of the Nutritional Status of the Community
- Direct methods-- Anthropometry, Biochemical Analysis, Clinical Examination, Diet Surveys, Functional assessment and Biophysical or Radiological examination.
- Indirect methods - Ecological factors and Vital Health Statistics

##### **Unit –V Nutritional Problems, Programs and Education**

- Nutrition problems prevalent in India - Under nutrition – PEM and deficiencies of Vitamin A, Iron and Iodine; Over nutrition
- Community Nutrition Programmes to combat malnutrition - Supplementary Feeding Programmes - ICDS, School lunch programme; Prophylactic Programmes to prevent Vitamin A, Iron, Iodine deficiencies

- Role of National and International Organizations in combating malnutrition - NIN, CFTRI, NNMB, WHO, FAO, CARE and UNICEF
- Nutrition Education – Definition, methods used in nutrition education to improve nutritional and health status of people.

### **PRACTICALS**

1. Planning and preparation of a balanced diet for adult man and women.
2. Planning and preparation of a balanced diet for Pregnant and Nursing mother.
3. Planning and preparation of a balanced diet for a Pre School Child.
4. Planning and preparation of a balanced diet during Adolescence.
5. Use of Anthropometric measurements in assessing the nutritional status.
6. Visit to ICDS and Anganwadi -Observation of a mid-day programme at AnganwadiCenter.
7. Visit to government school-Observation and Planning of School Lunch Programmes

### **REFERENCES**

1. Bamji MS, Krishnaswamy K, BrahmamGNV (2016). “Textbook of Human Nutrition”, 4th edition, Oxford and IBH Publishing Co. Pvt. Ltd.
2. Dietary Guidelines for Indians – A Manual (2011). published by NIN.
3. Food Composition Tables, (2017). published by NIN.
4. PrabhaBisht, Community Nutrition in India, Star Publications, Agra.
5. Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra S (2010). Basic Food Preparation: A Complete Manual, Fourth Edition. Orient Black Swan Ltd.
6. RavinderChada and PulkitMathur, (2015). Nutrition – A Life Cycle Approach, 1<sup>st</sup> edition, Orient Black Swan.
7. Sara Abraham (2016). Nutrition through life cycle, 1<sup>st</sup> edition, New Age International Publishers.
8. Srilakahsmi, B. (2018). Food Science , 7<sup>th</sup> edition, New Age International (P) Ltd.
9. Srilakahsmi, B. (2018). Nutrition Science, 6<sup>th</sup> edition, New Age International (P) Ltd.
10. Srilakahsmi, B. (2019). Dietetics, 8<sup>th</sup> edition, New Age International (P) Ltd.
11. Suryatapa Das (2018). Textbook of Community Nutrition” 3<sup>rd</sup> edition, Academic Publishers.
12. Swaminadhan, M. (1985). Essentials of Food and Nutrition Volume I and II”, 2<sup>nd</sup> edition, The Bangalore Printing and Publishing Co. Ltd., Bangalore

### **CO- CURRICULAR ACTIVITIES**

Celebration of Important Days (National and International): -

- Breast feeding week-August 1to7th
- International Women’s day-March 8<sup>th</sup>
- World Health day-April 7<sup>th</sup>
- International day of elderly-October 1<sup>st</sup>

## SEMESTER - III

### HSC - 302 PRINCIPLES OF GARMENT CONSTRUCTION

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

#### **THEORY**

##### **Unit-I Equipment in Garment Construction**

- Equipment- Measuring, Drafting, marking, sewing and finishing equipment.
- Sewing Machine – Parts of sewing machine, Defects and causes, adjustments in sewing machine and care of sewing machine.
- Types of sewing machine- Mechanical, Electronic, Computerized or Automated, Embroidery Machine, Over lock Sewing Machine

##### **Unit – II Body Measurements and Pattern Making**

- Recording of body measurements- Importance- Types of measurements – vertical, Horizontal and Girth measurements. Care to be taken in body measurements.
- Pattern making- Methods of pattern making -Drafting, draping and flat pattern making,
- Drafting – Tools for drafting- Information to be recorded on the draft – Points to be kept in mind while drafting and advantage of drafting
- Paper Patterns – Advantages, and content of paper patterns

##### **Unit – III Estimation and Preparation of the Fabric and Pattern Layout**

- Estimation of fabric for different garments.
- Importance of grain in fabric for cutting and garment construction.
- Steps in Preparation of fabric for cutting
- Pattern Layout – Importance, precautions, guidelines and care to be taken in pattern lay out for asymmetric, bold, striped checked designs etc.,
- Fabric Cutting – Guidelines to cut out pattern pieces,

##### **UNIT –IV Garment Components**

- Necklines – Types of necklines.
- Collars-Factors in designing collar styles. shapes and kinds of collars.
- Sleeves – Categories and styles of sleeves.
- Yokes – Factors for selection of yokes design and types of yokes.

##### **Unit-V Garment Fitting**

- Elements of fit – grain, set, line, balance and ease
- Characteristics of well finished garment
- Readymade garments –Selection and examination for quality, fitting and shape
- Tailor made and Homemade garments – examination for fitting and shape
- Comparison of readymade, tailor and homemade garments
- Common fitting problems and remedies for garments

## **PRACTICALS**

1. Basic Stitches – Temporary, permanent and neat ending finishes.
2. Seam and seam finishes.
3. Neckline finishes- Bias , Binding and shaped finishing.
4. Plackets – Continuous bound and two piece plackets.
5. Sleeves- Plain , Puff and bell sleeve.
6. Introducing fullness - Darts, tucks , gathers and pleats.
7. Fasteners- Hook and Eye, press buttons, button and button hole.
8. Drafting and construction of saree petti coat
9. Drafting and construction of frock.

## **REFERENCES**

1. ManmeetSodhia. (2005). Dress Designing, 1<sup>st</sup> edition, Kalyani Publishers.
2. Mary Mathews (2001). Practical clothing construction part I &II Designing drafting & tailoring, Cosmic Press, chennai.
3. Pooja Khurana& Monika Sethi (2017). Introduction to Fashion Technology, 2<sup>nd</sup> edition, 2017, Fire Well Media.
4. PremalataMullick. (2019).Garment Fabrication and Designing, 1<sup>st</sup>edition ,Kalyani Publishers.
5. PremlataMullick(2010). Garment Construction Skills,1<sup>st</sup> edition, Kalyani Publisher
6. Sumathi, G.J.(2002) . Elements of Fashion & Apparel Design, 1<sup>st</sup> edition New Age International (P) Ltd.
7. Sushma Gupta, NeeruGarg, Renu Saini. (2018). Text book of clothing, textiles and laundry, 8<sup>th</sup> edition, Kalyani publishers.

## **CO- CURRICULAR ACTIVITES**

1. Seminar/ Assignment / Quiz /Group Discussion
2. Use of ICT in Class reports and Seminars.
3. Visiting nearby tailoring units and observing different garment components.
4. Visiting nearby Ready-made clothing shops and observing different garment component

**SEMESTER - III**  
**HSC-303 CHILD DEVELOPMENT**

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

**THEORY**

**Unit I Introduction to Growth and Development**

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

**Unit II Pre-natal and Early Years of Development**

- Stages of Pre-natal development - Physical and Psychological care during pregnancy- - Complications during pregnancy.
- Stages of birth and Types of Birth
- Infancy – Characteristics -Physical proportions, Physiological functions, Motor activities.
- Babyhood, -Developmental Tasks and Characteristics, Physical-motor development, Cognitive development- language, Socio-emotional development.

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

- Early Childhood Period –Characteristics -Physical, Emotional, Social and Cognitive development-Social stages in play .
- Late Childhood Period-Characteristics -Physical, Emotional, Social and Cognitive development.

**Unit IV Children with Special Needs**

- Definition of childhood disabilities – General Causative factors
- Classification of childhood disabilities –Definition and characteristics of Auditory Challenge, Intellectual Challenge, Developmental Challenge and Learning Disability among children-
- Gifted Children –Definition and characteristics
- Importance of Early Identification and special education

**Unit V Child Rearing Practices and Behaviour Problems among Children**

- Parenting Styles- -Types of Discipline- Authoritarian, Authoritative and Permissive styles- Influence of child rearing practices on child's Behaviour.
- Behavioral Problems-Definition- Common Behaviour problems - Thumb sucking, enuresis, temper tantrums, destructiveness- Early identification and Referral.  
- Juvenile delinquency.-Definition and Causative factors

## **PRACTICALS**

1. Observation of characteristics of an infant
2. Observation of different Developments of pre-school children-Physical, language, Concept development
3. Assessment of social Development among elementary school children
4. Visit to local Special schools for children with disabilities-Taking Case studies
5. Identification of Children with Behaviour problems using a Check List

## **REFERENCES**

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

## **CO-CURRICULAR ACTIVITIES**

1. Observation of neonatal characteristics by visiting a maternity hospital.
2. Familiarise with childhood disabilities by visiting local centres for special children like Mentally challenged, Visually challenged and special schools.
3. Identifying children with learning disability in nearby elementary schools
4. Observation of a pre-school child
5. Visiting an observation home and finding out the reasons for placement in Juvenile homes
6. Celebration of Important Days (National and International): -
  - World Hearing day (March 3<sup>rd</sup> )
  - International day of elderly-October 1<sup>st</sup>
  - Children's Day ( Nov 14<sup>th</sup> )
  - World Disability Day (Dec 3<sup>rd</sup> )

**SEMESTER - IV**  
**HSC-401 - THERAPEUTIC NUTRITION**

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

**THEORY**

**Unit -I Introduction to Therapeutic Nutrition**

- Therapeutic Nutrition – Purpose of Diet Therapy, Therapeutic adaptation of normal diets - liquid, soft and special feeding methods, pre- and post operative diets.
- Dietitian – Roles and responsibilities, Diet counselling, follow up and patient education.

**Unit -II Malnutrition and Fevers**

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

**Unit -III Gastrointestinal and Liver Diseases**

- Gastrointestinal Diseases- Dyspepsia, Peptic ulcer, Diarrhoea, Constipation and Malabsorption Syndrome – Steatorrhea, Celiac disease and Tropical Sprue – Causes, symptoms and dietary management
- Liver diseases – Hepatitis, Cirrhosis of liver - Causes, symptoms and dietary management

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

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

**Unit -V Diabetes and Cancer**

- Diabetes Mellitus - Classification, causes, symptoms,
- Tests for detection of Diabetes Mellitus, Dietary management- and complications
- Cancer –Carcinogenic process-Classification, symptoms,
- Risk factors-genetic and environmental.
- Nutrients and cancer- Dietary guidelines for prevention of cancer

**PRACTICALS**

**Planning and preparation of the following diets**

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



## 5. Planning and preparation of diet in Diabetes Mellitus

### REFERENCES

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

### CO-CURRICULAR ACTIVITIES

1. Academic based: -
  - Visit to dietetics Dept. and diet counselling centre
  - Exhibition on therapeutic diets
  - Diet plans and laboratory reports
2. Research based: -
  - Case studies
  - Project work on assessment of obesity among staff members and students of the college
3. Value based: -
  - Clean and green, nutrition games
  - Drama, dance, and music to propagate and promote nutrition education
4. Celebration of Important Days (National and International): -
  - World Diabetes day -November 14<sup>th</sup>
  - World Cancer day -February 4<sup>th</sup>
  - World Health day -April 7<sup>th</sup>
  - National Cancer Awareness Day-Nov 7<sup>th</sup>

## SEMESTER - IV

### HSC - 402 FABRIC CONSTRUCTION AND APPAREL CARE

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

#### THEORY

##### Unit I Fabric Construction

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

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

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

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

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

##### Unit IV Clothing Selection and Wardrobe Planning

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

##### Unit V Laundering

- Manual Laundry equipment- Laundry reagents- Drying and Ironing.
- Machine Laundry – Procedure in use of washing machines- Precautions.
- Laundering procedure for cotton and linen, woollens, silk and synthetics,
- Process of Dry cleaning
- Stain removal - principles of stain removal. Removal of different stains

## **PRACTICALS**

1. Identification and preparation of different weaves
2. Identification of thread count of a fabrics
3. Samples of different knits
4. Classify stains and identify the methods of removing stains.
5. Drafting and stitching of salwar.
6. Drafting and stitching of Kameez.

## **REFERENCES**

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

## **CO- CURRICULAR ACTIVITIES**

1. Seminar / Assignment / Quiz / Group Discussion
2. Use of ICT in Class reports and Seminars.
3. Visit to dry cleaning centres to know about laundry and stain removing techniques.
4. Visit to Weaving center

**SEMESTER IV**  
**HSC-403 -HUMAN DEVELOPMENT AND FAMILY DYNAMICS**

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

**THEORY**

**Unit I Introduction and Adolescence**

- Introduction : Life span Development Approach- Principles and stages of Human development –Importance of study of Marriage and family dynamics-. Family life cycle stages.
- Adolescence- Definitions by WHO, UNICEF, NCERT,-- Sub divisions –Early and Late Adolescence, Characteristics .
- Early adolescence (10-14 years) –Physical and physiological Changes during puberty for Boys and girls-
- Developments during adolescence- Cognitive, Social and emotional development- Identity formation
- Major concerns during adolescence – Substance abuse, ,Eating disorders , Delinquency Suicidal Ideation etc.- Symptoms and warning signs- Treatment -Use of Counselling.

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

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

**Unit III Marriage and Adjustments**

- Marriage –Definition and Functions, needs and goals . Criteria for successful marriage.
- Values and goals of marriage- Indian context.
- Marriage practices- The traditional, approved, unapproved forms of marriage.- Advantages and disadvantages
- Criteria for successful marriage. -Adjustments in marriage.- In laws, sex adjustment to mate, adjustment to parenthood, and Financial adjustments .Common conflicts between partner and other family members.
- Transition to Parenthood- Factors that influence Planned Parenthood.
- Factors responsible for an increase in the rate of legal marital dissolution- Post- marital counselling.

**Unit IV Indian Family and Changing Trends**

- Family- Meaning, Definition, functions of family, sociological significance of family.
- Types of Family-Definitions of Joint, Extended, Nuclear Families, Alternate family styles- Modern trends in family –Advantages and disadvantages.

- Changing Indian family structure -factors responsible- Advantages and disadvantages of change in family structure,--impact on Children.
- Problems faced by the modern family- Need for family counselling .

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

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

### **PRACTICALS**

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

### **REFERENCES**

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

### **CO-CURRICULAR ACTIVITIES**

1. Analysing the reasons for suicides of adolescents reported in mass media
2. Identification of Mate selection criteria depicted in Mass media
3. Visiting counselling centres and understanding coping up strategies of problems
4. Familiarise with problems of elderly through case studies and institutional visits.

**SEMESTER – IV**  
**HSC-404 – NUTRITIONAL BIOCHEMISTRY**

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

**THEORY**

**UNIT Introduction to Biochemistry and Carbohydrates**

- Introduction to Biochemistry - Some aspects of Physical and Organic Chemistry - Acids, Bases, Hydrogen Ion Concentration – PH, Buffers and Chemical Bonds.
- Chemistry of carbohydrates
  - Classification – Monosaccharides - Structural Aspects – isomers, epimers, anomers and mutarotation and reactions of Monosaccharides
  - Disaccharides and Polysaccharides & reactions of Carbohydrates.

**UNIT II Lipids and Proteins**

- Chemistry of Lipids
  - Classification of Fatty Acids
  - Classification and Properties of Lipids, Structural Lipids-Phospholipids, Glycolipids, Lipoproteins and Cholesterol.
- Chemistry of Proteins
  - Definition, Classification, Structures of amino acids and Reactions of amino Acids
  - Definition, Properties and Classification of Proteins.

**UNIT III Enzymes and Co-Enzymes**

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

**UNIT IV Metabolism of Carbohydrates**

- Introduction to Metabolism – Catabolism and anabolism.
- Metabolism of Carbohydrates– Utilization of glucose after absorption, Homeostasis of glucose – Role of liver and Hormones in regulation of blood glucose level, Glucose Tolerance Test.
- Anaerobic and aerobic metabolisms of Carbohydrates - Glycolysis and Kreb's cycle.

**UNIT V Metabolism of Lipids and Proteins**

- Metabolism of Lipids – Role of Adipose tissue and Liver in Lipid metabolism, Beta oxidation and bio synthesis of fatty acids.
- Metabolism of Amino acids – Deamination, Transamination, Decarboxylation of amino acids and Urea cycle.
- Integration of Carbohydrate, protein and Lipid metabolism

**PRACTICALS**

1. Preparation of acids, bases, buffers, measuring pH.
2. Qualitative analysis –Identification of carbohydrates

3. Qualitative analysis –Identification of proteins and amino acids
4. Qualitative analysis of Lipids.
5. Qualitative analysis of food enzymes-plant and animal.

### **REFERENCES**

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

### **CO-CURRICULAR ACTIVITIES**

1. Preparation of charts, models, posters etc. on topics like structures, tests for identification and metabolic cycles of carbohydrates, proteins and lipids.
2. Field survey to collect data on metabolic disorders like diabetes mellitus in the community
3. Visit to hospitals/ private laboratories to observe analysis methods

## SEMESTER - IV

### HSC-405 HOUSING FOR BETTER LIVING

Theory: 4 Hours/Week  
Practicals: 2 Hours/Week

#### **THEORY**

##### **Unit I: Housing**

- Importance and functions of a house; Factors influencing the choice of house.
- Requirements for purchasing land for building a house - Selection of site, soil condition, locality, orientation, sanitary facilities, good neighbourhood, legal characteristics etc.
- Principles of planning a house – aspect, prospect, privacy, flexibility, roominess, grouping, circulation, sanitation, practical considerations etc

##### **Unit II: House Plans**

- Planning of different rooms in the house – veranda, living room, bed room, kitchen etc.
- Kitchen plans – planning of efficient work centres (L shape, U shape, single walled, peninsular shaped kitchens) and storage facilities in kitchen and other rooms.
- House plans for different income groups - High income, Middle income and Low income.
- Advantages and disadvantages of owning and renting a house.

##### **Unit III: Building Materials and Finishes**

- Stone –Different types and properties; Clay products – Types; Cement; Mortar; Concrete; Timber; Plywood & related products; Plastics & related products; Paints & related products; Ferrous & nonferrous metals; Gypsum & related products.
- Finishes –Floor, wall and ceiling Finishes – types and materials- Factors affecting in choosing of finishes.

##### **Unit IV: Building Protection**

- Dampness Protection – Reasons, Preventive and curative methods of dampness
- Termite Protection – Sources, preventive and curative methods of termite attack
- Fire Protection – Causes of fire, preventive measures and fire resisting construction
- Household cleaning and care – General principles to be followed for cleaning rooms and floors, Equipment and reagents for cleaning rooms and floors.

##### **Unit V: Household Equipment**

- Factors to be considered for the selection and purchase of household equipment.
- Construction principles and care of the following equipment
  - Small electrical appliances – mixers, toasters, beaters, iron etc.
  - Large electrical appliances – refrigerator, washing machine, vacuum cleaner, dish washer, electric range etc.
  - Low cost non-electrical appliances for rural areas – hay box, low cost refrigerator, solar cooker etc.
- Points to be considered while operating electrical appliances and safety measures to avoid accidents



## **PRACTICALS**

1. House plan - symbols, site plan, floor plan, elevation, landscape
2. House plans for different income levels - low income, middle income and high income.
3. Kitchen plans- L shape, U shape, broken L, U Shape, peninsular, one walled.
4. Market study on building materials – floor finishes, wall finishes and ceiling finishes.
5. Care and cleaning of objects of different metals and non-metals.
6. Common repairs in the Home – Electrical fuge, Pin plug

## **REFERENCES**

1. PremlataMullick, (2016). Textbook of Home Science, 4<sup>th</sup> edition,, Kalyani Publishers
2. Varghese&Oagle (2005) Home Management, New Age International Publishers.
3. SubasiniMohapatra (2010).Home Management and Household Economics, Kalyani Publishers.
4. PremavathySeetharaman, ParveenPannu (2005), Interior Design and Decoration, 1<sup>st</sup> edition, CBS Publishers.
5. Sushma Gupta, Neeru Garg &Renu Saini (2018), Text book of Family Resource Management, Hygiene and Physiology, 11<sup>th</sup> edition, Kalyani Publishers.
6. Pratap Rao, M. (2012), Interior Design – Principles & Practice, 4<sup>th</sup> edition, Standard Publishers & Distributors.

## **CO-CURRICULAR ACTIVITIES**

1. Study of building materials and equipment which are not included in the syllabus
2. Visiting Places- Building sites/ Construction
3. Drawing layouts
4. Model making- clay, cardboard etc
5. Debates/Seminar/Group discussions/Quiz
6. Charts & Poster Presentations
7. Organizing exhibitions
8. Album making of Layouts, finishes. Household Equipment etc

## SEMESTER IV

### HSC - 406 HOME SCIENCE EXTENSION AND RURAL DEVELOPMENT

Theory: 4Hours/Week  
Practicals: 2 Hours/Week

#### THEORY

##### Unit 1 Program Planning

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

##### Unit-II Teaching Methods/Techniques

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

##### Unit-III Lesson Planning

- Characteristics of good lesson plan - Prerequisite and components of lesson planning.
- Planning lessons for a specific group- Women and Children
- Different topics for lesson plans- SwatchaBharath, Nutrition and health education.

##### Unit-IV Voluntary Organizations

- Role of Voluntary organizations (Government and Voluntary for the development of people)
- International Agencies – WHO, CARE, UNICEF,
- National and Voluntary Agencies – ICDS, RASS, KVK, DWCRA, MEPMA, PASS

##### Unit-V Rural Development

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

#### PRACTICALS

1. Plan an activity to create awareness among women and children of community surveyed according to their needs and interest - Lecture cum group discussion

2. Field Visits- Mandal Office, ICDS, MahilaPranganam, PASS organization
3. Rural development, need based group project work.

### **REFERENCES**

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2. Doshi, S.L. (2007). Rural Sociology. Delhi Rawat Publishers
3. Dahama.O.P. (1981). Extension and Rural welfare, Ram Prasad and Sons Agra Bhopal.
4. Indhubala(1980), Gruhavignasastravistarana , Telugu academy text book publications
5. Adivi Reddy (1985). ExtensionEducation, Sreelakshmi press, Bapla,
6. Dubey,V.K.. (2009). Extension Education & Communication, New Age International Ltd
7. Sanths Govind, G. Tamlielvi And J. Meenainbigai .(2011). Extension Education and Rural Development .Agroblos (India) Chopasani Road Jodhpur- 342002 (Raj.)

### **CO- CURRICULAR ACTIVITIES**

1. Prepare a model lesson plan to create awareness among women and children in the community surveyed.
2. Execute the lessons in the community.
3. Prepare a model/ method demonstration to educate the women on nutritious locally available foods and demonstrate in the community.
4. Visit to the ICDS office to acquaint with the services rendered and submit the report.
5. Visit to PASS organization to know the functions.
6. Visit to KVK ,Mahilapraganam to have awareness on different training programs given by the Government to the needy women.
7. Plan, organize and execute awareness program in the community at the end of the semester on nutrition and health education.