



CMS COLLEGE KOTTAYAM

(AUTONOMOUS)

**Affiliated to the Mahatma Gandhi University, Kottayam,
Kerala**

CURRICULUM FOR UNDERGRADUATE PROGRAMME

FAMILY AND COMMUNITY SCIENCE(HOME SCIENCE)

UNDER CHOICE BASED CREDIT SYSTEM 2016
(With effect from 2016)

SYLLABI OF CORE COURSE

**Bachelor Programme in
Family and Community Science**

(Home Science)

SEMESTER I

METHODOLOGY OF HOME SCIENCE AND FOOD SCIENCE

Course Code: HS1711101

**CORE
THEORY-1**

Total Lecture hours: 2 hrs/week (36 hrs./Sem.)

Credit: 2

Objectives: Enable the student to

- Obtain knowledge of different food groups, nutritive value and importance in diet.
- Study the different methods of cooking, its merits and demerits
- Understand the composition, chemistry of foods and their applications in food preparations
- Study principles and methods of food preservation
- To acquaint with the recent advances in the field of food science and to enable to plan diet for healthy life style

Course Content

Module 1: Methodology of Home Science

(6 hrs)

(a) Concept and Scope of Home Science

Brief introduction on scope of each specialisation in home science – Human Development, Family Resource Management, Nutrition and Dietetics, Textile Science and Fashion Designing and Extension Education

(b) Basic of research in Home Science .

- Types of research designs - survey and experimental.
- Tools for data collection- check list, rating scale, questionnaire, and Interview schedule.
- Sampling techniques – definition, types –Random sampling- simple & systemic random sampling .
- Non- random sampling- Purposive, Stratified, Convenience and snow ball sampling.
- Tabulation – definition, parts of a table

- Graphic presentation- line, bar, pie, pictograph
- Components of a project report – Introduction, Review, Methodology, Results and Discussion, Summary and Conclusion, References

Module 2:

Food groups and Food preparation

(6 hrs)

- a) Food groups: Functions of foods, food groups (Basic food group system – (ICMR)
- (b) Food preparation: Objectives, Methods of cooking- moist heat, dry heat and combination methods, merits and demerits of each methods.
- (c) Food preservation –Principles and Methods
- (d) Developments in the field of food science, Basic concepts of Genetically modified foods, Organic foods, Functional foods.

Module 3: Study of Macro Nutrients in Foods

(6 hrs)

Carbohydrates

Definition, composition and classification. Starch – Structure, Effect of cooking. Stages of sugar cookery and its applications. Role of carbohydrates in food preparation

Proteins

Structure, nutritional classification of (complete, partially complete, incomplete) proteins and classification of amino acids (essential and nonessential), Denaturation of protein, Food sources of proteins- plant, animal sources and Non-traditional proteins- single cell (yeast), leaf proteins, whey protein, textured vegetable protein.

Lipids

Definition, composition, classification. Lipids in foods (visible and invisible), fatty acids (saturated, unsaturated; essential fatty acids) Rancidity- types, factors leading to rancidity, prevention. Hydrogenation of fats, Applications of lipids in food preparation.

Module 4: Study of Plant Foods

(9 hrs)

Cereals

Basic structure of a cereal grain, nutritive value and cereal –pulse combination; common cereals and millets in India. Gluten formation, factors affecting gluten formation, Parboiling merits and demerits.

Pulses

Nutritive value, Germination, Fermentation, advantages, Anti nutritional factors (trypsin inhibitors, lathyrism). Common pulses used in India.

Fruits and Vegetables

Classification, Nutritive value, Pigments, effect of acid and alkali. Enzymatic browning- methods of prevention.

Flavour components, organic acids and enzymes, Changes in fruits during ripening, Antioxidant role of fruits and vegetables.

Nuts and oil seeds:

Nutritive value, Common nuts and oil seeds. Aflatoxins

Spices

Health benefit of spices. Major spices of India

Module 5: Study of Animal Foods

(9 hrs)

Milk and milk products

Composition and nutritive value, pasteurisation, and homogenisation, Types of milk and milk products.

Egg

Structure, composition and nutritive value, Deterioration in egg quality, Evaluation of egg quality .White foaming-stages, factors affecting foaming. Culinary role of eggs, Designer eggs.

Meat and poultry

Structure of meat ,composition and nutritive value. Rigor mortis, Effect of cooking on meat. Types of meat and products.

Fish

Classification, Nutritive value, Fish spoilage. Fish products

Core Readings:

- Benion M (1995) Introductory Foods, 10th Ed, USA.: Prentice Hall.
- Gopalan. C. , Ramasastry, S.V. And Balasubramaniam. S.C. (2008).Nutritive Value Of Indian Foods, Hyderabad.:National Institute Of Nutrition,
- Shakuntala Manay, N. Shadaksharaswamy M. (2001). Food Facts and Principles, 2nd Edition. New Age International.
- Srilakshmi, B(2002). Food Science, New Delhi .:New Age International p Ltd,
- Swaminathan .M. (2003). Advanced Textbook on Food and Nutrition, The Bangalore Printing and Publishing Co., Ltd., 2ndEd,
- Usha Chandrasekhar (2002), Food Science and its Applications in Indian Cookery, New Delhi .: Phoenix Publishing House.

FOOD SCIENCE - PRACTICAL

Course Code : HSICRP01

Teaching Hours: 2hrs/Week(36 hrs/week)

Credit: 1

CORE PRACTICAL 1

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|--|---------|
| 1. Gelatinization temperatures of various types of starches | (6 hrs) |
| 2. Stages of sugar cookery | (3 hrs) |
| 3. Evaluation of gluten content in a cereal flour | (2 hrs) |
| 4. Components of an egg | (2 hrs) |
| 5. Stages of egg white foam formation | (5 hrs) |
| 6. Effect of cooking on vegetable pigments | (2 hrs) |
| 7. Enzymatic browning, Methods to prevent browning in fruits | (6 hrs) |
| 8. Non enzymatic browning | (2 hrs) |
| 9. Food preservation techniques | (8 hrs) |

A record of the entire practical should be maintained

SEMESTER 2

HUMAN PHYSIOLOGY AND MICROBIOLOGY

Course Code: HS1712102

Teaching hours: 2 hrs/week (Hrs./Sem.36)

Credit: 2

**CORE
THEORY-2**

Objectives to

- Understand the integrated functions of the various systems of the human body.
- Understand the economic importance of microorganisms.
- Understand the principles of various methods used in the prevention and control of micro-organisms.
- Study the food standards and role of various agencies in maintaining quality control

Course Content

Module 1: Respiratory and Cardiovascular System

(7 hrs)

Structure of respiratory system, hypoxia, lung volume and capacities

Composition and functions of blood, Haemoglobin, Coagulation of blood, Blood groups

Structure of heart, Circulation (Systemic, pulmonary, coronary and portal system) Cardiac cycle, Cardiac output, Blood pressure, Myocardial infarction.

Module 2: Digestive and Excretory System

(7 hrs)

Structure and functions of stomach. Digestion and absorption of CHO, protein and fats . Liver, Gallbladder, Pancreas, function and regulation of gastric intestinal secretion.

Structure and function of kidney, Nephron, Mechanism of Urine formation

Module 3: Endocrine and Reproductive System

(7 hrs)

Endocrine glands and hormones in brief, Action and disorder of pituitary, thyroid, Adrenal and pancreatic hormones.

Structure of uterus, ovary, ovary gland (hormones) and their functions

Module 4: Basic concepts of Microbiology

(8 hrs)

Classification of microorganisms, important microorganisms- Structure and economic importance of microorganism-bacteria, yeast. Factors affecting the growth of microorganisms, Culture media and culture techniques, Isolation and identification, Gram staining.

Sterilization and disinfection- definition and methods

Module 5: Infection and Immunity

(7 hrs)

Sources of microorganisms, Transmission of infection, bacterial infections in man- typhoid, Pneumonia. Viral infections – Hepatitis, AIDS.

Natural defences of the body—primary and secondary defence mechanisms. Immunity types,

Immunization followed for various diseases, allergy. Hypersensitivity.

Core Readings:

- Jain, A.K., (2003), Textbook of Physiology, Volume I, New Delhi. Avichal Publishing Company Vidya Rattan., (2004), Handbook of Human Physiology, 7th edition, New Delhi.: Jaypee Brothers Medical Publishers (P) Ltd.,
- Ross and Wilson. (2006). Anatomy and Physiology in Health and Illness, 10th edition. London. Elsevier limited,
- Joshua A.K., (1994), Microbiology, Popular Book Depot Publishers.
- Anathanarayan, R and Panicker, C.K.J. (2009). Text book of Microbiology, 8th edition New Delhi.: Universities Press (India) Pvt. Ltd.,

Advanced References:

- Guyton: Medical Physiology
- C.C. Chatterjee: Human Physiology, Vol I and II.

HUMAN PHYSIOLOGY AND MICROBIOLOGY- PRACTICAL

Core Code : HS2CRP02

CORE PRACTICAL-2

Teaching hours: 2 hrs/ week (Hrs./Sem.36)

Credit: 1

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|----|--|---------|
| 1. | Determination of Blood groups and Rh factor, Haemoglobin. | (4hrs) |
| 2. | Preparation of wine and curd (Economic importance of micro organisms). | (8 hrs) |
| 3. | Identification of micro organisms by gram staining. | (8hrs) |
| 4. | Report of visit to a diagnostic laboratory/Microbiology lab(ST). | (8hrs) |
| 5. | Assessment of Blood pressure. | (8hrs) |

(A record of the entire practical should be maintained)

SEMESTER III

HUMAN DEVELOPMENT

Course Code: HS1713103

CORE THEORY-3

Teaching Hours: 3hrs/Week (Per Sem :54hrs)

Credit: 3

Objectives :

- To impart knowledge on the principles & pattern of growth & development of children from conception to old age .
- To create an awareness on the factors that stimulate growth and development
- To expose the students on the different aspects of personality development .
- To create an awareness on the different concerns and issues during adolescence.

Course Content

Module 1 : Introduction to Human development

(8 hrs)

Human development- significance & Scope, Methods of child study – Anthropometry, observation , interview , questionnaire , case study , projective techniques, psychological tests, sociometry, longitudinal & cross sectional approach.

Growth & development – Definition, principles, stages, areas, factors influencing, heredity – environment interaction.

Personality development – definition, types, determinants of personality

Module 2: Pre - natal development & Neonate

(15hrs)

A) Prenatal development – conception, stages, factors influencing, complications / hazards during pregnancy, Prenatal care, child birth.

B) Neonate- definition, physical characteristics, abilities, adjustments, New born care – Feeding, immunization, Health Assessment using Growth Chart. Baby friendly Hospitals. APGAR test, At risk babies. Needs & Rights of children.

Module 3: Development during childhood years.**(15 hrs)**

Physical, motor, intellectual, emotional, social & language development during infancy, babyhood, early childhood and late childhood. Factors influencing.

Module 4: Development During Adolescence**(8hrs)**

Definition, characteristics, developments during adolescence-Physical. Cognitive, emotional and social development. Identity formation and Identity crisis. Different issues and concerns during adolescence- anorexia nervosa, Bulimia, obesity, depression, suicidal behavior, substance abuse, adolescent stress, peer pressure, Adolescent pregnancy, personal problems. Causes, consequences & management of each.

Module 5: Discipline & guidance for children,**(8 hrs)**

Discipline – essentials, techniques and its effects on children.

Play – importance, types, selection of toys, indigenous toys.

Habit formation- definition, principles.

Core Readings:

- Berk, L.E. (2000) child development (8th Edn) PHI learning Pvt Ltd, New Delhi. Devadas ,R and Jaya,N. (2005) , A Text book on Child development.
- Hurlock, E.B. (2008), Developmental Psychology – A life span approach,5th Edn. Marshall ,J and Stuart S (2001) Child Development, Heinemann Educational Pub.
- Sandrock,J.W (2010) Child development – An Introduction ,12th Int. Edn,New York, McGraw Hill.
- Minett ,P.(2005) . Child Care & Development, 5th Edn. John Murray Pub. Ltd.
- Shaffer,D.R. and Kipp ,K.(2007) Developmental Psychology: childhood and adolescence, 7th Edn, Thomson Wadsworth. Australia.
- Suriakanthi,A.(2009). Child Development – An Introduction,4th Edn. Kavitha Publications

HUMAN DEVELOPMENT – PRACTICAL

Course Code: HS3CRP03

CORE PRACTICAL-3

Teaching Hours: 2hrs/Week (Per Sem 36)

Credit: 1

1. Study of physical & motor, Intellectual, emotional and social(Any one) development of a Pre-school child. (10 hrs)
2. Preparation of growth enhancing material/ play materials/ toys for infants / toddlers/ Pre-school children. (10 hrs)
3. Growth monitoring of a child below 5 years using growth chart. (6 hrs)
4. Preparation of a brochure/ leaflet /folder/chart on any related topic in Human development.

OR

5. Preparation of an illustrated album / a power point presentation on any topic related to Human development. (10 hrs)

A record of the entire practical should be maintained

SEMESTER IV

FAMILY DYNAMICS

Course Code: HS1714104

**CORE
THEORY-4**

Teaching Hours: 3hrs/Week (Per Sem: 54hrs)

Credit: 3

Objectives:

- To orient the students about the different aspects of marriage and the factors leading to Successful marriage.
- To create an awareness on the different aspects of family , family interactions and the current issues affecting family.
- To help the students to develop a positive attitude towards the critical family situations and to equip them with the coping strategies.
- To create an awareness in the youth about the Needs & problems of the elderly and to develop in them a positive attitude towards the care of the aged.

Course Content :

Module 1. Marriage

(8 hrs)

Definition, Functions, types .Marital adjustment -Areas of Adjustment. Factors leading to successful married life.

Module 2. Family

(12 hrs)

- a) **Family**- the basic social institution, functions of family. Types-Joint, Nuclear, extended, lone-parent, reconstituted families. Family Interactions (Husband –wife & parent – child) and its influence on child development. Responsible parenthood. (Marshall & Stewart (2001)
- b) **Contemporary issues affecting family**- maternal employment, Lone parenthood,

reconstituted families, electronic media.

Module 3: Critical family situations and the coping strategies (20 hrs)

- a) Family Crisis - Meaning, and types - Death, divorce, desertion, suicide, prolonged illness, imprisonment, unemployment, dowry, alcoholism, drug addiction, war separation, economic depression. Consequences & coping strategies
- b) Children with special needs -Definition, general classification, characteristics, general causes, role of family towards children with special needs.
- c) Children with Behaviour problems- definition, causes , methods of handling

Module 4. Population education (7hrs)

Definition. Overpopulation – definition & its problems. Methods of family, planning. Sex education.

Module 5: Old age (7 Hrs)

Physical & psychological changes during old age. Needs, problems of the elderly. Care of the aged.

Core Readings :-

- Devadas, R and Jaya, N. (2005), A Text book on Child development.
- Hurlock, E.B. (2008), Developmental Psychology – A life span approach, 5th Edn. Marshall, J and Stuart S (2001) Child Development, Heinemann Educational Pub.
- Minett, P. (2005). Child Care & Development, 5th Edn. John Murray, Pub. Ltd.
Suriakanthi, A. (2009). Child Development – An Introduction, 4th Edn. Kavitha Pub

FAMILY DYNAMICS- PRACTICAL

Course Code: HS1714602

Teaching Hours: 2hrs/Week (Per Sem: 36hrs)

CORE PRACTICAL -4

Credit: 1

- 1) Visit to an Old age Home/ Pakal Veedu and interact with the inmates to assess their
(problems / interests/ desires) and report(ST) . (8hrs)
- 2) Study on the characteristics of a child with any behaviour problem. (8hrs)
- 3) Preparation of a brochure/ leaflet /folder/chart on any topic related to family Dynamics
(10 hrs)
- 4) Preparation of a power point presentation on any related topic of your study.
(10hrs)

A record of the entire practical should be maintained

SEMESTER V

INTERIOR DECORATION

Course Code:HS1715105

Teaching hrs:4hrs / week(per sem:72 hrs)

Credit : 4

CORE THEORY-5

Objectives:

To enable the students :

- To use and understand the elements and principles of design
- To develop basic skills for a career option in interior Designing
- Select appropriate colours for home decor.
- Choose appropriate furniture and lighting for homes

Module 1 : Fundamentals of Interior Decoration

(10 hrs)

Introduction to interior design, importance of good taste in interior decoration. Design-definition, sources, types, requirements of a good structural and decorative design, Elements – line, form, shape , colour, texture, light, pattern, and space; Principles of design-proportion, balance, rhythm, emphasis, harmony; Objectives of aesthetic planning-beauty, expressiveness, functionalism.

Module 2: Colour and Home lighting

(18 hrs)

Qualities of colour, Prang colour system, Colour harmonies and schemes, Use and Effects of various colours, Colour scheme for different rooms. Lights and lighting- Importance, Sources of light, Types of lightings and lighting requirement for various rooms; Physical and psychological aspects of lighting.

Module 3: Furniture and furnishing

(16 hrs)

Furniture- importance, types, requirement for various rooms, guidelines for selection and arrangement of furniture; Soft furnishing- classification and selection; types of windows and window treatment- curtain style: Rugs and Carpets-selection, care and maintenance.

Module 4: Accessories**(10hrs)**

Classification, selection, placement, and role of accessories in interiors ; Flower arrangement –principles, different styles and basic shapes; dry flower arrangement, drying technique.

Module 5:Interior and Exterior Space Organization**(18 hrs)**

Space requirement for various activities in various rooms; storage for living, dining and bed room, Principles of space planning, space saving technique; kitchen- types of kitchen, modular kitchen, working areas and work triangle. Gardening-components and routine duties. Landscaping-objectives , principles, types -formal, informal. Indoor gardens –selection of indoor plants, care and maintenance, benefits, Bonsai – styles, and techniques. Trends in gardening- Terrarium, bottle garden, dish garden, vertical, water gardens, kitchen garden and aquaponics.

Core Reading:

- Rutt, A.H. (1963) Home furnishing. John Wiley & Sons, Inc.;
- Teresa, P. Lanker. (1960). Flower Arranging: Step-by-step Instructions for Everyday Designs. Florist Review
- Craig, H.T. and Rush, O.D. (1966). Homes With Character. Heath, 1966
- Goldstein. H & Goldstein V. (1954). Art in Everyday Life Macmillan Publishers.
- Faulkner, R. & Faulkner,S. (1961) Inside Today's Home. Rev. ed. © Holt, Rinehart & Winston, Inc.
- Supriya, K.B.(2004). Landscape gardening and designing with plants. Pointer Publishers,

SEMESTER V

INTERIOR DECORATION -PRACTICAL

Course Code:HS1716603

Teaching hrs:2hrs / week(per sem :36 hrs)

Credit : 1

**CORE
PRACTICAL-5**

Module :1 Design and colour (12 hrs)

- Application of various types of design, elements of design and principles of design
- Application of motif in a design suitable for furnishing / accessories.
- Preparation of colour chart and application of colour schemes in a design/ room

Module :2 Flower arrangement Table settings and napkin folding (8 hrs)

- Table settings and napkin folding
- Flower arrangement-Demonstration of basic shapes in flower arrangement, dry flower arrangement, Ikebana, Artificial flower making and arrangement, Bouquet making

Module :3 Furnishing (6hrs)

- Curtain Styles : Illustration of various curtain styles

Module :4 Evaluation of interiors (2hrs)

- Photographic evaluation of two rooms (living room, Dinning room, Bed room,
- Bath room, Kitchen etc)

Module :5 Creative arts (8hrs)

- Creation of any decorative / functional accessory.

A record of the entire practical should be maintained

HUMAN NUTRITION AND BIOCHEMISTRY

Course Code: HS1715106

Teaching hours: 3hrs/week (Per sem: 54)

CORE THEORY- 6

Credit: 3

Objectives

- To obtain an insight into the chemistry of major nutrients and pH important compounds
- Understand the role of nutrition in different stages of life cycle
- Enable the students to plan menus in accordance with basic concepts for nutrition

Course Content

Module I. Introduction to Nutrition Science

(5 hrs)

Definition of nutrition, RDA, Factors affecting RDA, RDA for different nutrients(ICMR2010), Indian reference man and woman.

Module 2. Human Energy Requirements

(6 hrs)

Definition of energy, Measurement of BMR, factors affecting BMR, Thermic effect of food. Measurement of basal metabolism -Direct calorimetric- Bomb calorimeter, indirect calorimetric method- benedict's oxy calorimeter. Energy requirements.

Module 3. Macronutrients and their metabolism

(15hrs)

- 1) Carbohydrates- Metabolism of CHO ,Glycolysis ,TCA cycle and its energetics. Types of dietary fibre, physiological and metabolic effects of dietary fibre and potential health benefits.
- 2) Proteins – Classification of proteins and amino acids, functions-to physiology . Metabolism – Transamination, Deamination, Decarboxylation) Protein turnover, methods of evaluating protein quality-Biological value, net protein utilisation, digestibility coefficient.
- 3) Lipids – Composition, function, Metabolism–(Beta-oxidation, ketone body formation).
- 4) Water: Functions, Distribution of body water, Factors influencing water distribution, Regulation of water balance, requirements of water, dehydration, oedema.

Module 4. Vitamins and Minerals

(15 hrs)

Fat soluble vitamins A, D, E and K

- a) Fat soluble vitamins- Classification, Food sources, functions, deficiency/toxicity
- b) Water soluble vitamins(Vitamin B complex and C) Classification, food sources, functions, deficiency/toxicity.
- c) Macro minerals –Functions, food sources, deficiency/toxicity of calcium, phosphorus, sodium, potassium.
- d) Micro minerals –Factors affecting absorption of minerals, functions, food sources, deficiency of iron, iodine, fluorine and zinc.

Module 5: Principles of Human Nutrition

(13hrs)

a) Assessment of nutritional status

- a)Anthropometry – measurements of height, weight, head and chest. Circumference, mid arm circumference, skin fold thickness, interpretation of measurements and comparison with standards (NCHS, ICMR), classification according to grades of malnutrition.
- b)Clinical signs and symptoms of Vitamins and Minerals deficiencies
- c)Biochemical parameters for assessing the nutritional status
- d)Dietary Assessment – oral questionnaire (24 hour recall method), weighment method

b) Nutrition in Infancy

Nutritional requirement, breast feeding- advantages, Weaning and types of supplementary Foods.

c) Nutrition in Preschool Age

Nutritional requirements , nutrition related problems, feeding patterns, Diet plan.

d) Nutrition in school children

Nutritional requirement, dietary guidelines, packed lunches, school lunch programme – mid day meal programme, diet planning.

e) Nutrition in Adolescence

Nutritional requirements, factors influencing dietary habits, Eating disorders.

f) Nutrition in adulthood –

Nutritional requirements, Dietary Recommendations for Adults, factors affecting diet planning.

g) Nutrition in Pregnancy

Physiological changes during pregnancy, nutritional requirements, complications in pregnancy-gestational diabetes, toxemia, infections, effect of maternal malnutrition on foetus.

h) Nutrition in Lactation

Nutritional requirements, human milk composition and importance, lactagogues, diet planning.

i) Nutrition in old age

Factors affecting food intake and nutrient use, nutrient needs, diet planning.

Core Readings:

- Srilakshmi, B. (2008). Nutrition Science, 3rd edn, New Delhi.: New Age International (p) Ltd. Publishers
- Bamji M.S., Krishnaswamy, K., and Brahman G.N.V.(2009). Textbook of Human Nutrition, 3rd edn. New Delhi.: Oxford and IBH Publishing Co. Pvt. Ltd.
- Park, K. (2005). Park's Textbook of Preventive and Social Medicine, 18th edn. India: M/s Banarsidas Bhanot Publishers, Jabalpur.
- Swaminathan, M. (2001). Principles of Nutrition and Dietetics. Bangalore.: The Bangalore Printing and Pub, Co, Ltd.
- C. Gopalan, B.V. Ramasastri and S.C. Balasubramanian. (2007). Nutritive value of Indian Foods. Hyderabad.: NIN, ICMR, Nutrient Requirements and Recommended Dietary Allowances for Indians –I.C.M.R. Publication 1999.

HUMAN NUTRITION AND BIOCHEMISTRY-PRACTICAL

Course Code: HS1715106

Teaching Hours: 2hrs/Week (Per Sem: 36)

**CORE
PRACTICAL-6**

Credit: 1

Course Outline

I. Food Analysis

(18hrs)

1. Qualitative tests for carbohydrates, protein, calcium, phosphorus and iron
2. Quantitative tests for
 - a. Lactose in milk
 - b. Vitamin C in food tuffs
 - c. Calcium in foods

II. Planning, preparing and serving normal diets for

(18hrs)

1. Infancy
2. Preschool age
3. School going age
4. Adolescence
5. Adult/Labourer
6. Pregnancy
7. Lactation
8. Old age

A record of the entire practical should be maintained

TEXTILE SCIENCE

Course Code: HS1715107

Teaching Hours: 3 hours/week (Per Sem: 54)

Credit:3

**CORE
THEORY-7**

Objectives To:

- Gain knowledge about Textile fibres and their uses.
- Develop an understanding about various kinds of traditional and modern fabrics, their structure and the utility.
- Impart knowledge about Textile dyeing and printing.
- Develop skill in understanding textiles available in the market.

Course Content:

Module I: Study of Fibres

(14hrs)

Definition, properties of textiles fibers –primary and secondary classification. Production, properties and uses of Textile fibres- cotton linen, wool, silk, rayon, nylon, and polyester. A brief introduction to jute, bamboo, spandex and organic cotton. Methods of identification of textile fibres- visual test, microscopic test and burning test.

Module 2:Study of yarns

(10hrs)

Definition, process of making fibre in to yarn. Hand spinning ,Mechanical Spinning,(Ring spinning and Open end spinning)and chemical spinning .Classification of yarns-based on type , number of parts, count and twist. Textured yarns, bi-components yarns, Blends and mixtures

Module 3: Fabric structure

(12hrs)

Weaving- parts of a Loom and basic weaving operations, a brief introduction to shuttle less looms-projectile, rapier, air jet and water jet looms. Basic weaves- plain, twill and satin. Fancy

Weaves pile , jacquard, dobby, lappet, clip spot, crepe and double cloth. Characteristics of woven fabrics –warp and weft, grain, selvedge, thread count and balance. Other methods of fabric construction-knitting, felting, lace making, bonding, and braiding.

Module 4: Dyeing, Printing

(10hrs)

Classification of dyes: Natural, artificial- acid, basic, disperse, vat, naphthol, pigment, sulphur, and mordant. Methods of dyeing-stock, yarn, piece, product, cross and union dyeing-Printing:- Direct- roller, block, screen and stencil . Resist- tie & dye, batik and Discharge.

Module 5: Fabric Finishes and new trend in textiles

(8hrs)

Definition, purpose, classification, and types-singeing, bleaching, mercerization, calendaring, shrinkage control, sanforizing, crabbing, beetling, sizing, weighting, shearing, fulling, schrienerizing, crepe, Special finishes-water proofing, flame proofing ,and anti bacterial finish.

New Trends in Textiles-Brief introduction to Technical textiles, medicinal Textiles , nano textiles and geo textiles.

Core Readings:

- Corbman.B.P. (2005). Fibre to Fabric.Singapore.:Mc.Graw Hills book.co. Kadolf S.J (2008) Textiles, Anne Langford, Prentice Hall
- Gokarneshan U (2005) Fabric Sturcture and Design, New Age International Publishers
Well's K (2002) Fabric Dyeing And Printing, Conran Octopus
- Smith J.L (2006) Textile Processing, Chandigarh , Abhishek Publications Wingate
(1978) Textile Science and their Selection, Prentice Hall.
- Dantysi S (2008) Fundamentals of Textiles And Their care, Orient Longman.

TEXTILE SCIENCE- PRACTICAL

Core Course: HS1716605

**CORE
PRACTICAL-7**

Teaching Hours: 2 hrs/ week (Per Sem: 36 hrs)

Credit: 1

Course Content

1. Collection of different fibres (Cotton, Polyester, Nylon, Wool and Rayon)
Testing of fibers- Visual Inspection, Burning and Microscopic (10 hrs)
2. Fabric structure: Basic Weaves- Collect samples for all the Basic weave and their variations.
Fancy weaves- Collect Sample for (Pile, Dobby, Jacquard, Leno, Clip spot, Lapet and Double Cloth) (12 hrs)
3. Thread Count- Collect samples for low , medium and high count fabric. (4hrs)
4. Prepare sample for Block, Batik and Tie& Die (any two variations). (5hrs)
5. Visit to Mills/ Shop (ST) (5hrs)

A record of the entire practical should be maintained

ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

Course Code: HS1715108

Teaching hrs: 4hrs /week (Total hrs :72hrs)

Credit :3

Objectives

To enable the students

- To create awareness of consumer rights and the need for consumer education
- To recognize the importance of waste management.

CORE THEORY-8

Module 1: Basic concepts of Environment

(12hrs)

Environment-definition, components. Ecosystem- definition, structure, types-terrestrial ecosystem , fresh water ecosystem , marine ecosystem; Energy flow in the eco system, Food chain and Ecological pyramids-pyramid of numbers, pyramid of biomass , pyramid of energy.

Module 2 : Biodiversity and its conservation

(12hrs)

Introduction, genetics, species and ecosystem diversity; Values of biodiversity , threats of biodiversity- habitat loss, poaching of wildlife, man-wildlife conflict. Loss of bio diversity- endangered and endemic species of India. Conservation of biodiversity- ex-situ and in-situ conservation.

Module 3 : Environmental problems - causes, effects and management

(12hrs)

Environmental pollution- air, water, soil, marine, noise, thermal and nuclear hazards. Environmental issues- climate change, global warming, carbon footprint acid rain, ozone layer depletion , deforestation, drought, scarcity of water, solid waste- sources, types, effects and management techniques, Green protocol; water management techniques- water harvesting, drip irrigation, watershed management, water- wise habits.

Module 4: Conservation of natural resources

(18hrs)

Meaning, types-renewable and non- renewable resources. Use and exploitation of forest resources, water resources, mineral resources, food resources, land resources and energy resources. Growing energy needs, energy consumption. Renewable energy sources and devices- Solar energy- solar cooker, photovoltaic water pump, and photovoltaic water heater, photovoltaic domestic and street lights; Wind energy- wind mill; Hydro energy; Bio- energy- bio-gas plant; Geothermal energy and Tidal energy.

Module 5: Human Rights

(18 hrs)

Unit:1 - Human Rights-An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR,ICCPR,ICESCR.- Value dimensions of Human Rights

Unit :2 - Human Rights and United Nations -Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Unit: 3- Human Rights National Perspective-Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights-directive Principles of State Policy and Human Rights- Human Rights of Women-children –minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

Core reading :

- Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published:2016 (TB)
- Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
- Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (Ref)
- Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Stadards, Vol I and II, Enviro Media (Ref)
- Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
- Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref) (M) Magazine (R) Reference (TB) Textbook
- Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.

- Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: IndianInstitute of Advanced Studies, 1998)
- Law Relating to Human Rights, Asia Law House,2001.
- Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
- S.K.Khanna, Children And The Human Rights, Common Wealth Publishers,1998. 2011.
- Sudhir Kapoor, Human Rights in 21st Century,Mangal Deep Publications, Jaipur,2001.
- United Nations Development Programme, Human Development Report 2004.

ENVIRONMENTAL STUDIES AND HUMAN RIGHTS-PRACTICAL

Course Code: HS1716606

Teaching hrs: 2hrs /week (Per Sem :36hrs)

Credit: 1

CORE PRACTICAL-8

Course Content

1 Energy Conservation

(10 hrs)

- Visits to organizations/institutions involved with Alternate energy programmes,
- Study of Devices/ Techniques for Conservation of Energy / Renewable Energy Devices (Solar Devices and Biogas)

2 Waste Management

(10 hrs)

- Study of waste management practices in your house/locality, Development of wealth from waste

3 Create a beneficial product from used/old clothes

(8hrs)

4.Survey of organic foods available in the market/Visit to an organic farm(4hrs)

5.Make an illustrated chart on rights of women and children in India.

(4hrs)

A record of the entire practical should be maintained

INTERIOR DECORATION AND RELATED ARTS

Course Code: HS5OP1

Teaching Hours :3 hrs / week (Per sem: 54)

Credit: 3

OPEN COURSE-1

Interior decoration is one area of specialization which focuses attention on the functional and aesthetic aspects of residences, commercial establishments and work spaces. This subject has grown so much in scope and career and is attracting students for pursuing a lifelong career.

Objectives

- To enable students to-
- Learn to appreciate art
- Understand elements and principles of art and design
- Develop skill in creating designs and making art objects
- Gain knowledge in principles of planning different residential spaces
- Develop skills in selection of furnishings fabrics, art objects, accessories
- Understand the principles of furniture arrangement and lighting.

Course Outline

Module 1: Interior decoration

(4hrs)

Introduction to Interior decoration, Definition, Sources, importance and need of Interior Decoration.

Module 2:Design Basics

(14hrs)

Design-definition and types: structural and decorative, Elements of design-line form, shape, texture, space pattern, light. Principles of design-proportion, balance, harmony, emphasis, rhythm.

Module 3: Colour and Lighting in the home

(12hrs)

Prang color system. Qualities of colour, colour harmonies, use and effects of various colour in interior. Importance of lighting for interiors, Types of lighting- natural and artificial, lighting requirements for different room.

Module 4 : Furniture and furnishing**(12hrs)**

Fundamentals of furniture arrangement- guidelines for selection of furniture, types-dual , multipurpose, furniture requirements for various rooms. Furnishings -selection, classification, use of furnishings in a house (curtains and draperies, upholstery, floor, bed and table linen and others),planning curtain styles for different types of rooms.

Module 5 :Accessories**(12hrs)**

Types and their role in interiors. Flower arrangement-principles of flower arrangement, different styles, basic shapes. Indoor gardening-selection types and care, suitability of plants.

Core Readings:

- Anna H Rutt- Home furnishing, John Wiley Eastern Pvt. Ltd New York, 1961
- Faulkner.R and Faulkner.S.- Inside Today's Home, Holt Rinehart and Winstons Inc , New York. 1974.
- Goldstein .H. and Goldstein .V. Art in Everyday Life, Macmillan Company, New York, 1976
- Craig H.T. and Rush.C.D.- Homes with character, Doc. Heath and company Boston 1962
- Remavathy S and Parveen P. Interior design and Decoration, CBS publishers, New Delhi, 2010 Premlatha Mulick- text Book of Home Science, Kalyani Publishers, Ludhiana.
- Sally. A. –Enjoy flower arranging, Faber and Faber, 24 Runcorn square, London

LIFE SKILL STRATEGIES AND TECHNIQUES

Course Code: HS5OP2

Teaching hours: 3hrs/week (Per sem: 54)

OPEN COURSE-2

Credit: 3

Objectives:

- To empower young people to effectively meet the challenges of everyday life
- To enable learners to acquire knowledge and to develop attitudes and skills which lead to healthy behaviour patterns.
- To lay the foundation for a responsible lifestyle, sound relationships and safe habits

Course Content

Module-1: Communication and Interpersonal Relationships (12 hrs)

Verbal and Non-verbal Communication, Active Listening, Negotiation and assertiveness

Advocacy skills

Module 2: Adolescent Health and Nutrition (12 hrs)

Physiological Aspects of growth and development during adolescence Nutrient needs and recommended dietary intakes. Problems of adolescent nutrition-Obesity, Anorexia Nervosa, Bulimia, Binge eating disorder, under nutrition. Food guide pyramid and dietary guidelines for adolescents.Changing trends in \food habits-Fast foods, junk foods.

Module 3: Enhancing Personality Through Clothing and Grooming (12hrs)

Essentials in good grooming, Expressing individuality through costume selection

Design elements of good costume, Selection of costumes for various occasions, wardrobe smartness.

Module4: Personal and Community Resource Management**(12 hrs)**

Time Management for adolescents- Significance and techniques, Work simplification for energy management. Income management through supplementation and savings. Environmental pollution-causes and consequences. Waste management techniques .Rain water harvesting.Role of individuals in conserving environmental resources

Module5: Career Enhancement**(6hrs)**

Goal setting, Job Application process, Interview and Group discussion, Presentation skills

Core Readings:

- Varghese, M. A, Ogale, N. N and Srinivasan, K. Home Management (2001). New Age International (P) Ltd. New Delhi.
- Nickel, P and Dorsey, J. M. 1997. Management in family living. Wiley Eastern Ltd. Nambiar, R. K. Text book of Environmental Studies. SCITECH Publication, New Delhi.
- Newman, H and Newman, R. Development through life. US. Wadsworth Publishing company.
- Sigelman, C. K and Rider, E. A. Life Span Human Development. US. Thomas Wadsworth Publishing Company.
- Krause, M. V and Mahan. (2005). Food Nutrition and Diet Therapy. WS Saunders Co.,Philadelphia. Srilakshmi, B. (2010) Dietetics. New Age International (P) Ltd, Chennai

NUTRITION FOR WELLNESS

Course Code: HS5OP3

**OPEN
COURSE-3**

Teaching hours: 3hrs/week (Per sem: 54 hrs)

Credit: 3

Objectives

To enable students to:

- Understand the relationship between nutrition and health.
- Modify diets in order to promote health and reduce the risk of deficiency and chronic Diseases.
- Assess the nutritional status of individuals in different stages of life.

Course Outline

Module1: Introduction to Nutrition

(12hrs)

Introduction, Classification of foods (based on origin, chemical composition predominant function, nutritive value, ICMR Food Groups) Relation of food and health, food and its functions, Digestion, absorption and utilization of food.

Module2: Food Choices and Nourishment

(10hrs)

Nutrients and their function: Proteins, fats, carbohydrates, Energy, Vitamins, Minerals and Trace element:-sources, functions, Recommended dietary allowances, deficiency, prevention and treatment.

Module 3:Planning a healthy diet

(12hrs)

Factors affecting meal planning, balanced diet, steps in planning balanced diet. Life cycle nutrition-Nutritional requirements and planning diets during pregnancy, lactation, infancy, preschool, school age, adolescents, adults and old age

Module 4: Modified Diets**(10hrs)**

Introduction- Purpose of diet therapy, classification of modified diets, Diets for selected disorders: Diabetes Mellitus, cardiovascular diseases-Atherosclerosis, hypertension; cancer and weight management (Obesity and Underweight).

Module5:Assessment of Nutritional Status**(10hrs)**

The methods of assessment of nutritional status - Anthropometry, Biochemical changes, Clinical examination of signs, Dietary Analysis.

Core Readings:

- Insel P, Turner E.R and Ross D, Discovering Nutrition, American Dietetic Association, Jones and Bartlett Publishers, London, 2003
- Smolin L.A and Grosvenor M.B, Nutrition Science and its Applications, Second edition, Saunders College Publishing, New York, 1997
- Park K, Park's Textbook of Preventive and Social Medicine, 20th Edition, Banarsidas Bhanot Publishers, Jabalpur, India, 2009
- Joshi S.A, Nutrition and Dietetics, third Edition, Tata McGraw Hill Education Pvt.Ltd, New Delhi, 2010.
- Srilakshmi B, Dietetics , New Age International (p) Ltd, Publishers, New Delhi, 2010
- Gopalan C, Ramasastri, B.V and Balasubramanian S.C, Nutritive value of Indian Foods, NIN, Hyderabad 2007
- Sreelakshmi B. Nutrition Science , New Age International (p) Ltd, Publishers, New Delhi, 2010.

SELF EMPOWERMENT SKILL

Course Code: HS5OP4

Teaching Hours :3 hrs / week (Per sem: 54)

Credit: 3

**OPEN
COURSE-4**

Objectives

- To develop pleasing personalities and to make them efficient in life.
- To develop Resource Management skills.
- To develop effective communicative skills.
- To enhance self empowerment.
- To moulds students as sociable person.
- To transform students graceful to the family and society.

Course outline

Module1 :Personality Development

(10 hrs)

Personality -Definition, Determinants.

Types based on temperament & body build and Type A & B.

Tips to develop a positive personality,

Self esteem – definition, types , importance , steps to improve self esteem

Module2: Resource Management skills.

(10 hrs)

Resources – definition, Types

Management- definition, Steps in management process, Decision making

Time management- Time Schedule, techniques for time management

Money Management – Steps in making Budget . Account keeping.

Energy management – Types of fatigue, Causes of fatigue, Work simplification.

Module3: Soft Skills

(12 hrs)

Intelligent Listening

Effective speaking

Impressive writing skills- letters, note taking.

Facing Interviews, Participating in group discussions.

Importance of interpersonal skills in relationship (Husband-wife, parent-child, Teacher student and sibling relationship.

Module 4: Learning Skills

(10 hrs)

Intelligence – definition, areas of intelligence , Memory techniques.

Scientific learning. Tips for writing examinations.

Social skills- Definition . Different social skills. Qualities that make a person successful.

Family life skills- Marriage – definition, Areas of Marital adjustment. Factors influencing

Reproductive health – diet , personal hygiene. Stress management

Module 5: Aesthetic & Income generating skills.

(12 hrs)

Interior decoration- Types, Elements & principles of design , Colour combinations

Flower Arrangement – materials needed, styles.

Meal planning- principles -Table Etiquettes.

Waste management - Wealth from waste

Core Readings:

- Mitter, S. & Aggarwal ,S.C. (2002). How to develop Your Personality & Potentialities. Sultan Chand & sons , New Delhi.
- Khera Shiv (2002). You Can Win .Macmillan Pub. New Delhi.

SEMESTER VI

FAMILY RESOUCCE MANAGEMENT

Course Code:HS1716109

Teaching hours: 3hrs / week (Per Sem :54 hrs)

Credit : 4

CORE THEORY -9

Objectives :

- To acquire scientific skills in the management of resources
- To recognize the significance of resource management and thereby improve the quality of life.
- To understand the principles of management and their application in family context.
- To create an awareness and need for consumer education.

Module 1: Introduction to Home Management (10 hrs)

Definition, theory of management, steps involved in management-planning, organizing, controlling, evaluation. Decision making- role of decision making in management, steps in decision making. Methods of resolving conflict, Concepts in management-Values, goals, standard. Qualities of a good home maker.

Module 2: Management of Family Resources (12 hrs)

Meaning, Definition, Classification and Characteristics of resources. Factors affecting use of resources. Management of Time-Steps in making time plan, tools and aids in time management-time norm, time cost, peak load, work curve. Time management matrix; Leisure time and its utilization

Module 3: Management of Money (12hrs)

Types of family income, guidelines in money management. Family budget- types and steps in family budget, Engel's law of consumption. Accounting, financial recording- types, purpose, advantages. Savings and Investment-meaning, saving institution and scheme, supplementing family income. Family credit-types, sources, use and misuse.

Module 4:Management of Energy**(12 hrs)**

Significance, energy requirement for various house hold activities-work curve or production curve. Fatigue – classification, causative factors and alleviating techniques, work simplification-meaning and technique, Mundell's classes of change. Labour saving equipment-importance, principle, use, and care of equipment such as cooker, microwave oven, OTG, mixers and grinders, refrigerator, washing machine, and dish washers

Module 5: Consumer Education**(8hrs)**

Meaning, consumer problems, rights and responsibilities of a consumer, Consumer Aids, Consumer Protection Act, consumer redressal procedure and better buying practices, Green consumerism.

Core Reading

- Nicklle. P. Dorsey , J. M Management of family living, Sterling Publishers, New Delhi
- Gross. I. M and Grandall . Dd, Management for modern families.
- M.A Varghese, N Ogale, Home Management.
- M.A. Household Equipment Manual , S.N.D.T women university
- Premalata Mullick- text book of Home Science, Kalyani publishers, Ludhiana

FAMILY RESOURCE MANAGEMENT

Course Code :HS6CRP09

Teaching hours : 2hrs/ week (Per Sem: 36 hrs)

Credit: 2

CORE PRACTICAL-9

Course Content

Module1: Management of Time and Energy (10 hrs)

- Time schedule: Preparation of time plan for college girl / homemaker and its evaluation, Work study:
- Determination of working height in vertical and horizontal planes.

Module 2: Management of money and material resources (8 hrs)

- Budget Planning - preparation of a model family budget for your family / budget suitable for various categories

Module 3: Event Management (8 hrs)

- Planning, organizing, implementing and evaluating a group activity (Party/Exhibition/ tour) Or Residence stay for a week incorporating principles of management

Module 4: Consumer Education (4 hrs)

- Development and evaluation of Labels / Advertisements for consumer products, Preparation of a consumer complaint for any consumer product.

Module 5: Market survey (6 hrs)

- Compare available energy saving devices and make appropriate choices for usage in homes.

(A record of the entire practical should be maintained)

CLINICAL NUTRITION AND DIETETICS

Course Code: HS1716110

Teaching hours: 3hrs/week (Per sem: 54hrs)

Credit: 3

CORE THEORY-10

Objectives To:

- Impart knowledge in the clinical nutrition.
- Prevention, dietary management and diet counselling in common degenerative disorders.
- Understand the consequences of nutritional problems in the society.

Course Content

Module 1: Concept of Dietetics

(10 hrs)

- a) Purpose and Principles of Therapeutic diets.
- b) Definition of Nutrition care Process and Team Approach to nutritional care.
- c) Role of Dietician
- d) Classification of Therapeutics diets.

- 1. Progressive diets – clear fluid, full fluid, soft and regular
- 2. Special feeding methods – Enteral and parenteral feeding.

Module2:Nutritional Management of common disorders

(12 hrs)

Aetiology, Clinical features and Nutritional Management of the following:

- a) Fevers-Classification of fevers –Acute and chronic (Typhoid and Tuberculosis Infections-HIV/AIDS)
- b) Gastrointestinal disorders: Peptic Ulcer, Constipation, Diarrhoea

Module 3: Nutritional Care in Weight Management, Diabetes Mellitus and Coronary heart diseases

(12 hrs)

Aetiology, Clinical features, Diagnosis, Complications and Nutritional life style modifications and management in:

- a) Weight Management: 1) Overweight and obesity2) Underweight.
- b) Diabetes Mellitus: Type 1 and Type 11.

- c) Coronary Heart Diseases: Atherosclerosis and Hypertension.

Module 4: Dietary Management of Liver, Renal disorders and Cancer. (10 hrs)

Aetiology, Clinical features ,Symptoms and dietary Management of:

- a) Liver Diseases: Infective Hepatitis, Cirrhosis.
- b) Renal Disorders: Acute and Chronic Nephritis, Nephrotic Syndrome.
- c) Cancer.

Module 5: Nutritional Problems of the community. (10hrs)

Prevalence, Causes, Consequences, Prevention and Control of:

- a) PEM
- b) Iodine Deficiency Disorders
- c) Iron deficiency Anaemia
- d) Vitamin A deficiency

Core Readings:

- Bamji MS, Krishnaswamy K and Brahman GNV (2009). Textbook of Human Nutrition, 3rd Edition, Oxford & IBH Publishing Co Pvt Ltd.
- Joshi SA.(2010). Nutrition & Dietetics. 3rd Edition.: Tata McGraw- Hill Education Pvt. Ltd. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S. (1997). Textbook of Nutrition and Dietetics. Phoenix Publishing House Pvt. Ltd.
- Mahan L K and Escott-Stump S. (2008). Krause's Food & Nutrition Therapy, 12th ed. Saunders-Elsevier. Stacy Nix. (2009). William's Basic Nutrition and Diet Therapy, 13th Edition.: Elsevier Mosby.

CLINICAL NUTRITION AND DIETETICS-PRACTICAL

Course code: HS6CRP10

Teaching hours : 3hours/week (Per sem : 54hrs)

Credit : 2

CORE PRACTICAL-10

Course Content

1. Calculation of BMI using height – weight measurement (4hrs)
2. Preparation of Therapeutic Recipes (22hrs)
Types of Therapeutic Diet- Normal, Soft and Fluid – Full Fluid and Clear Fluid Diets
3. Diet plan for (22hrs)
 - Fever patient(Typhoid/Tuberculosis)
 - Cancer- breast cancer
 - Diabetic Mellitus
 - CHD (Atherosclerosis)
 - Peptic Ulcer
 - Hepatitis
 - Cirrhosis
 - Nephritis
 - Obesity
 - Under weight
 - PEM (Kwashiorkor)
 - Iron Deficiency Anaemia
4. Visit to a feeding programme / Diet clinic. (6hrs)

(A record of the entire practical should be maintained)

FASHION DESIGNING AND APPAREL PRODUCTION

Course Code: HS1716111

Teaching hours : 3hours/week(Per Sem : 54hrs)

Credit : 3

CORE THEORY-11

Objectives

- To gain knowledge in fundamentals of fashion designing.
- Understand the pattern making process.
- Gain practical knowledge in designing garments for different figure types.
- Understand the organisation of garment industry.

Module I: Introduction to Fashion

(10hrs)

Fashion Terminologies, Fashion evolution – Fashion cycles, consumer groups in fashion cycles –fashion innovators, adopters, laggards. Adoption of Fashion – trickle down , trickle up and trickle across theory. Fashion forecasting .Principles and factors influencing fashion. Seasons of Fashion.

Module 2: Fundamentals of Fashion Designing

(12hrs)

8 -head theory. Basic body shapes. Design- definition and types – structural and decorative design, requirements of a good structural and decorative design. Elements of design – line, shape or form, colour , size and texture. Principles of design- balance – formal and informal, rhythm- through repetition, radiation and gradation, emphasis, harmony and proportion. Designs suitable for various figure types.

Module 3: Introduction to Pattern Making

(12hrs)

Body measurement –importance, guidelines for measuring, ladies and children's measurements. Pattern making –method of pattern making – (Drafting and Draping -merits and demerits. Principles of Pattern drafting , pattern alteration-lengthening and shortening of bodice block, skirt and sleeve block.

Module 4: Garment Construction.

(10hrs)

Preparation of fabric for cutting. pattern layout, marking, cutting, stitching and finishing of garments. Parts and functions of a single needle machine, tools and equipments used for sewing.

Module 5: Introduction to Garment industry

(10hrs)

Brief introduction to functions of various departments in garment industry- design department, marketing department, finance department, purchasing department, production department and operation department. Marketing - definition, marketing mix, Merchandising- definition, role of merchandiser.

Core Reading:

- Mathews, M., (2008) Practical Clothing Construction, Part II, Bhattaram's Reprographics (P Ltd, Chennai. Mullick. P.,(2002) Garment Construction Skills, Kalyani Publishers, New Delhi.
- Sumathy, G.H (2002) Elements of fashion and Apparel Design New Age International (p) Ltd, New Delhi Heannette. A., Jarnow et-al., Inside the Fashion Business-, macimilan Publishing Company, New York.
- Frings, G.S., Fashion –From concept to consumer –, 6th edition, prentice Hall (1999). 3. Inside the fashion business –Bennett, Coleman & o ,Mumbai(1998).
- Cooklin, G., Garment Technology for Fashion Designers, Blackwell Science Ltd
- Armstrong, H. J (1997) Pattern making for Fashion Design, Harper& Row publication
- Riter. J. (1998) Hand book for Fashion Designing, Best Drafting Techniques, Mital publication.
- Cooklin .G.,(1988) Introduction to Clothing Manufacture, Blackwell Science, New Delhi Ireland P.J. (2007) New fashion Figure Templates, Anova Books Co. Ltd, London
- Narang. M(2007). Fashion Technology Hand Book, Asia Pacific Business Press, New Delhi Zarapkar K.R.(2008)
- Zarapkar System of Cutting, Navaneet Publications India Ltd., Gujarat. Dickerson. K.G (2009) Inside the fashion Business.

FASHION DESIGNING AND APPAREL PRODUCTION-PRACTICAL

Course Code: HS6CRP11

Teaching hours: 3hrs/week (Per sem: 54hrs)

CORE PRACTICAL-11

Credit: 2

Course Content

Module 1: Garment Designing

(10hrs)

- a. Illustrating fashion figure - 8 heads female
- b. Sketching of party wear suitable for children and adolescents using croquies (two styles each)

Module 2: Sewing Techniques

(20hrs)

- a) Hand and embroidery stitches – Basting, Hemming , overcasting and minimum 5 embroidery stitches.
- b) Seams and finishes – Plain seam, French seam, flat fell seam, top stitched seam, piped seam., double stitch finish.
- c) Fullness by gathers, pleats(knife, box, inverted), darts, tucks.
- d) Placket – One piece placket, two piece placket
- e) Bias and its application - joining bias, bias facing, bias binding, shaped facing
- f) Hems – Narrow machine stitched hem, stitched and turned hem
- g) Fasteners – Button and button hole, press buttons , hook and eye

Module 3: Garment Construction

(24hrs)

- a) Preparation of paper pattern and construction of A-line frock with any type of sleeve and collar for a preschool child.
- b) Preparation of paper pattern and construction of churidhar/salwar and kameez for an adolescent girl.

EXTENSION EDUCATION AND DEVELOPMENT COMMUNICATION

Course code: HS1716112

Teaching hours : 3 hrs /week(per sem: 54hrs)

Credit : 3

**CORE
THEORY-**

Objectives

To enable the students to

- Understand the widening concept of extension
- Appreciate the role of extension, especially home science in community development
- Orient
- students to the social cultural and economic environment of rural, urban tribal communities.
- Develop skill in planning, implementing and evaluating an extension programme.

Course content

Module 1 : Extension Education

(10 hrs)

Meaning, definition, need, importance, concepts, scope objectives and principles ,of extension education, Difference between formal and informal and extension education. Role and qualities of an extension worker., Concepts of extension education process ,Home Science Extension Education. Role of Home Science Extension Education in Community development.

Module 2:Community Development set up

(12hrs)

Definition ,Objectives and principles of community development programme in India. Community development set up-at the national,state, district, block and village levels Types of communities in India and its special features-Rural , Urban, and Tribal. Basic rural institutions- Panchayat, Schools, Cooperatives.On going community development programme for woman and children in India; governmental organization- DWCRA, ICDS,IMY,STEP,SGSY, non governmental organization-CSWB, SSWB, CAPART,SHG

Module 3: Leader and leadership

(10hrs)

Leadership -Concept and definitions, types of community leaders-Professional leader and lay leaders; autocratic, democratic and laissez-faire leaders. Methods of identifying community leaders. Importance of rural Leadership for community development.

Module 4: Programme planning ,implementation and evaluation in extension (10hrs)

Objectives, principles and steps involved, calendar of work, Plan of work-components, developing a plan of work, factors to be considered. Implementation and evaluation. Methods and tools for evaluation.

Module 5: Communication and Methods of approaching people. (12 hrs)

Definition, functions, importance, elements - leagen's model, process, levels of communication. Problems in communication. Extension teaching methods- Individual methods- personal visits, letters. Group methods-meetings, discussions, demonstrations, folk songs, drama, role play, seminar, field trips, exhibitions. Mass methods-Print and electronic media. Modern methods-computer based technologies-email, blogs, podcast, social net working, video sharing, Teleconferencing. Advantages and limitations of each methods. Recent trends in communication – ICT tools and Audio-Visual aid- definition, importance, classification, selection and use cone of experience.

Core Reading:

- Reddy,A.[1987] .Extension Education. Bapatha, Andra Pradesh, India.: Sreelekshmi Press.
- Dahama, O.P., & Bhatnagar, O.P. [1988]. Education and Communication for Development. New Delhi. : Oxford and IBH Publishing Co. Pvt .Ltd.
- Patnayak, R. [1990]. Rural Development in India. New Delhi.: Vikas Publishing House. Jain Gopal, I.[1997].Rural Develoment. Jaipur.: Mangal Deep Publications.
- Waghmare, S.K .[1980]. Teaching Extension Education. Vallabha, Vidhya Nagar.: PrasantPublication .
- Supe,A.N.(1983).An introduction to Extension Education. Delhi.: Oxford IBH Publishing Company.
- Maimun, N. (2006).Understanding Extension Education .Delhi.: Kalpaz Publications

Journals

- The Indian Journal of Extension Education .The Indian Society of Extension Education. Division of Agricultural Extension, IARI, New Delhi.
- Journal of rural development(JRD) , National Institute of Rural Development, Rajendranagar,Hyderabad.Kurukshetra.Ministry of Rural Development. New Delhi
- Dubey, V.K and Bishnoi I (2009). “Extension Education and Communication”, Delhi. New Age InternationalPvt Ltd Publishers,
- Dahama.O.P and Bhatnagar .O.P [1988].Education and Communication for Development,New Delhi. Oxford and IBH Publishing Co.Pvt .Ltd

- Aggarwal, R. (2008). “Communication- today and tomorrow”, New Delhi.: Sublime Publications,.
- Kumar, K,J. (2008). “Mass Communication in India”. New Delhi.:Jaico Publishing House.

Journals

- Social Welfare, Central Social Welfare Board, SamajKalyanBhavan, B-12 Tana Crescent, Institutional Area, South of IIT, New delhi-110016
- Indian Journal of extension, The Indian Extension Education, Division of Agricultural Extension IARI,New Delhi-110012.
- Journal of Educational Research and Extension, Sri Ramakrishna Mission Vidyalaya College of Education, Coimbatore, Tamil Nadu, India.

EXTENSION EDUCATION AND DEVELOPMENT COMMUNICATION

Course code: HSSCRP12

Teaching hours : 2hrs /week(per sem: 36 hrs)

Credit :2

CORE PRACTICAL-12

Course content

Module :1 Extension Education (8hrs)

- Interact with extension workers and understand their nature of work and their commitment towards the society.

Module :2 Community Development (8hrs)

- Visit any one community organization (Panchayat/Cooperatives /School / Krishy Vigyan Kendra) to find out its role in community development and record the services rendered.
- Observe the working of any one community development programme in your community and record its features.

Module :3Community Development Programme Planning (6hrs)

- Prepare a plan of work for any one community development programme related to home science ,with tools or evaluation

Module :4 Communication Method (6hrs)

- Write a report of an exhibition /fairs/street drama you observed.
- Develop a script forstreet drama/ puppet show/ street play

Module :5 Recent trends in communication (8hrs)

- Prepare visual aids for conveying messages related to the betterment of lively hood of the general public.
- Analyze news articles or media content and assess their credibility.
- Designing visual aids; leaflets / pamphlets / posters and charts (different types of charts)
- (Standard size for all the aids should be followed: leaflet =10*5”(on each fold); pamphlet =12*7”; flashcards =30*20 cms; poster and ordinary chart in record sheet size; no specific size for flip chart and other types of charts.)

A record of the entire practical should be maintained

CHOICE BASED CORE COURSE (ELECTIVES)

FOOD SAFETY

Course

code:HS1716301

Teaching hours: 3hrs/ week (Per Sem :54hrs)

Credit : 3

**ELECTIVE
THEORY-**

Objectives

The course will enable the students to:

- Know the importance of quality assurance in food industries.
- Know the various tests and standards for quality assessment and food safety.
- Know various tests used to detect food adulterants.
- Be familiar with the fundamentals that should be considered for successful quality.
- Control programme developments in food safety and quality systems.

Course Content

Module 1: Introduction to quality assurance and food safety assurance (8 hrs)

Current concepts of quality control Food quality, Quality control- parameters followed in quality control, important considerations, principles of quality control

Module 2: Food safety (10 hrs)

Food Sanitation and Hygiene-

- Water- potable water, sources of contamination, treatment of water
- Food – Food handling and the sources of contamination, safe food practices (buying food, storing food, preparing food, cooking food, serving food)
- Practical rules for food sanitation

Module 3: Food Toxins/Contamination of food (12 hrs)

Main Groups of Food Toxins – prevention/control

Classification of toxic chemicals in foods-

Natural toxicants in foods – (i)Toxic amino acids , (ii) Toxic alkaloids, (iii) Cyanogenic glycosides,(iv) Trypsin inhibitors, (v) Haemagglutinins, (vi) Flatulence factors

Natural toxicants entering through contaminants:- (i) Plant origin, (ii) Microbial Origin, (iii) Biological origin

Chemical toxicants of external origin:- (i) Toxic metals, (ii) Residues of pesticides and Agrochemicals, (iii) Contamination from processing practices, (iv) Contamination from packaging materials (v) Accidental contaminants, (vi) Contaminants from Environment.

Module 4: Food borne diseases /illness : (10 hours)

Causes, symptoms and control,

Food borne infections:- (i) Bacterial Diseases- Typhoid fever, Salmonellosis (ii) Viral diseases:- Viral hepatitis, Gastroenteritis and (iii) Infections due to parasites;- Taeniasis, Amoebiasis, People risk of food borne illness

Module 5:- Food Adulteration and Labelling, Food Laws and Food standards: (14 hours)

a) Food Adulteration and Labelling

Common Adulterants, Effects of Food Adulteration, simple tests to detect adulterants in foods, prevention of food adulteration, Nutritional Labelling (Importance, effective labelling)

b) Food Laws and Food standards

(i) International food laws and standards:-Codex Alimentarius, Food, Drug and Cosmetic Act
(ii) Indian Food laws and standards: - (a) Compulsory standards-Prevention of Food Adulteration Act, 1954 (PFA), Essential commodities Act, 1954 – brief listing of the Control Orders under this Act Viz. The Fruit Products Order, 1955(FPO), Meat Products Control Order, 1973, Milk and Milk Products Order, 1992, Solvent extracted oils, De-oiled meal and Edible Flour Control Order 1967 and Vegetables Products Control Order, 1976; and Standards on weights and measures (Packaged Commodities) Rules, 1977. (b) Voluntary Standards- Bureau of Indian Standards (BIS), The Agricultural Products (Grading and marking) Act, 1937, FSSAI, HACCP

Core Readings:

- Kalia M. (2002), Food Analysis and Quality Control, Kalyani Publishers, New Delhi.
- Frazier, W.C. and Westhoff, D.C., (2008), Food Microbiology, Fourth Edn., Tata McGraw-Hill Publishing Co. Ltd, New Delhi
- Joshi, S.A. (2010), Nutrition and Dietetics, Third Edn, Tata McGraw-Hill Publishing Co. Ltd, New Delhi
- Paul Insel, Don R, Kimberley Mc and Melissa B., (2014), Nutrition, Fifth Edn, Jones & Bartlett Learning Company, Burlington.

- Sari E., (2006), Nutrition in Public Health, a handbook for developing programs and services, Second edn, Jones and Bartlett publishers, Sudbury.
- Potter, N.N and Hotchkiss, J.H., (1996), Food Science, Fifth Edn, CBS Publishers, New Delhi. Mudambi, S.R and Rajagopal, M.V. (2001), Fundamentals of Foods and Nutrition, New Age, International Publishers, New Delhi
- Srilakshmi B. (2008), Food Science, New Age International Publishers, New Delhi
Marwaha, K (2007), Food Hygiene, Gene-Tech Books, New Delhi.
- Journal of Food Science and Technology, Association of Food Scientists and Technologists CFTRI, Mysore.

EARLY CHILDHOOD CARE AND EDUCATION

Course Code: HSCBT02

Teaching hours: 3hrs/week (Per sem: 54)

**ELECTIVE
THEORY-2**

Credit: 3

Objectives :

- To become aware about the role of environmental stimulation for the all round development of children.
- To know the different early stimulation programmes.
- To create a positive attitude about the Care of children with special needs.
- To make the youth aware about the safety issues of children.
- To inspire the students with the pros and cons of pre-school education.

Course Content

Module 1: Early stimulation for children

(14 hrs)

Definition, Environmental stimulation for physical & motor, intellectual, emotional, social & language development. (Marshall & Stewart (2001). Role of environmental stimulation for the all round development of children.

Module 2. Looked after children

(10 hrs)

Residential care for children. foster care. Adoption. day care provisions. Care of children with special needs (deaf & dumb, blind , mentally challenged , learning disabled) (Marshall & Stewart (2001),Minet(2005)

Module 3. Child safety

(10 hrs)

Common accidents during childhood years. Safety measures inside & outside the home. Safety issues -safety of child related products, toy safety, safety of children's nightwear, personal safety.

Module 4: Early childhood education.

(20 hrs)

Preschool education- definition, objectives, importance, types.

Pre-school programme – definition, principles in programme planning, short & long term planning, daily programme.

Pre school organization- physical arrangement, equipment needed, maintenance of records, preschool personals, home –school relationships.

Core Readings:

- Marshall, J and Stuart S (2001) Child Development, Heinemann Educational Pub. Minett ,P.(2005) . Child Care & Development, 5th Edn. John Murray Pub. Ltd.
- Suriakanthi,A.(2009). Child Development – An Introduction,4th Edn. Kavitha Pub.

NEW TRENDS IN FAMILY AND COMMUNITY SCIENCE

Course Code: HSCBT03

**ELECTIVE
THEORY-3**

Teaching hours: 3hrs/week (Per sem: 54)

Credit: 3

Objectives

- To make students aware about the new developments in Family and Community Science.
- To know the new research results in Human Development.
- To give an awareness on recent developments in textiles and clothing.
- To enlighten the students with new communication techniques and Nutritional advancement
- To inspire the students with the new trends in housing and interior decorations

Course Content:

Module – 1 New trends in Human development

(12hrs)

Management of differently abled children, Life skill education, guidance and counseling in schools. career clinics, school counselors, special and innovative approaches with children, Transactional analysis, play therapy, music therapy, art therapy, biblio therapy, horticultural therapy, yoga and meditation, stress management techniques, aptitude test, performance test, advancement in detection and assessment of problems, stem cell and therapy ,baby detection friendly hospitals, neonatal clinic, mental health clinics, adolescent clubs, RCH, adolescent health, youth, adult and geriatric care.

Module 2: New Trends in Textiles

(10 hrs)

Textile fibres- coolmax, thermostat, lycra, oasis fibre, tactel, lyocell, lencell. An introduction to Nano Textiles, micro textiles, technical textiles, smart textiles, agro textile, geo textiles and medical textiles. Eco-friendly production and processing to textiles with special reference to organic and naturally coloured cotton, natural dyes and detergents etc. Indian and International environmental legislations. Eco labelling.

Module 3: New trends in Communication**(10 hrs)**

Information kiosks, interactive video and teleconferencing, tele text, virtual learning, tech talks, pod cast, multimedia presentations, smart classes, e-learning and e-resources. Cyber Extension— definition, advantages and limitations.

Module 4: Nutritional Advances**(10 hrs)**

Nano foods, Zero calorie foods, GM foods, Fortified foods, Nutrigenomics, Nutrigenetics, Nutraceuticals. Defence, High altitude nutrition, Space and sports nutrition.

Module 5: New Trends in Resource Management**(12hrs)**

Modular kitchen, ergonomic furniture's for home, school, institutions and community. Modern trends in landscaping, window decorations and furnishings and accessories. Recent trends in housing – green housing, geriatric housing. Eco concerns and Management: Pollution-soil, land, air, water, noise. Waste-Unscientific Agricultural practices- Green house effect, global warming, major health hazard. Water management, Environmental protection- practices and programmes, Organic farming, safe food, environmental protection programmes.

Core Readings/References

All the relevant Resources from periodicals, Journals, Website, News papers etc.