

HOME SCIENCE

Revised courses for B.Sc. Home Science programme as per Fourth Deans' Committee Recommendations

Course/Credit Distribution-

S. No.	Courses	Credits	
		In this proposal	Recommendations of IV Deans' Comm.
1.	Basic Courses	23	20
2.	Home Science Core Courses	60	60
3.	Physical Education	2	2
	NSS	As per the AAI-DU policy	Along with Physical Education 2 credits
4.	Professional courses/skill oriented courses		
	i. Specialization	42-48	40-50
	ii. Supporting	12-17	10-20
5.	Internship/Industrial attachment	20	20
	Total Credits	163-166	162

In the first four semesters all the students will study common courses together, thereafter, they will choose any one package of the professional courses being offered (FN/HDFS/CT/FRM/HSc Ext.), including training

Semesterwise Distribution of Courses

Semester I

Course Code	Courses	Credits
GPT 301	Moral and Value Education	2(2-0-0)
HHD 311	Life Span Development	3(2-0-2)
HFN 311	Food Science and Processing	3(2-0-2)
HCT 311	Fundamentals of Clothing Construction	3(1-0-4)
HRM 311	Management of Family Resources	3(3-0-0)
HEX 311	Home Science Extension and Rural Development	3(3-0-0)
	English & Technical Writing	2(1-0-2)

BCBT 302	Introductory Biochemistry	3(2-0-2)
PED 301	Physical Education – I	1(0-0-2)
CHEM 310	Elementary Chemistry*	3(2-0-2)
	Total Credits	21

*Deficiency course

Semester II

SES 415	Environmental Studies – I	2(2-0-0)
HHD 312	Early Childhood Care and Development	3(2-0-2)
HFN 412	Food Preservation and Storage	3(1-0-4)
HCT 312	Textile Science and Care	3(2-0-2)
HRM 312	Housing and Space Management	3(2-0-2)
HEX 312	Instructional Technology	3(2-0-2)
COMP 308	Computer and its Application	3(2-0-2)
PED 302	Physical Education - II	1(0-0-2)
BIOL 201	Elementary Biology*	2(2-0-0)
	Total Credits	21

*Deficiency course

Semester III

SES 416	Environmental Studies II	2(2-0-0)
MAS 562	Elementary Statistics	3(2-0-2)
HHD 411	Children with Developmental Challenges	3(3-0-0)
HFN 312	Human Nutrition	3(3-0-0)
HCT 411	Apparel Designing and Construction	3(1-0-4)
HRM 411	Fundamentals of Art and Design	3(1-0-4)
HEX 411	Communication and Adoption	3(3-0-0)
	Total Credits	20

Semester IV

BAM 501	Marketing Management	3(3-0-0)
HHD 412	Dynamics of Marriage and Family	3(3-0-0)
HFN 411	Normal and Therapeutic Nutrition	3(2-0-2)
HCT 412	Fundamentals of Textile Designing	3(2-0-2)
HRM 412	Family Economics and Consumer Education	3(2-0-2)
HEX 412	Programme Planning, Implementation and Evaluation	3(2-0-2)
	Women in Agriculture	3(3-0-0)
	Total Credits	21

Professional Courses

Clothing & Textiles- Textile Designing

Semester V

HCT 521	Traditional Indian Textiles	3(2-0-2)
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HCT 522	Computer Aided Textile Designing	3(0-0-6)
HCT 523	Principles of Design Application	3(1-0-4)
HCT 524	Fashion Merchandising	3(2-0-2)
HCT 525	Structural Fabric Design	4(2-0-4)
HEX 524	Public Relations & Social Marketing	4(1-0-6)
	Total Credits	20

Semester VI

HCT 526	Traditional Costumes of India	4(2-0-4)
HCT 527	Computer Aided Designing- Customization	3(0-0-6)
HCT 528	Dyeing and Printing	4(2-0-4)
HCT 627	Design Studio Practices	4(0-0-8)
BAM 333	Entrepreneurship Development	3(3-0-0)
HEX 528	Project Management	3(1-0-4)
	Total Credits	21

Semester VII

HCT 621	Knitting Technology	3(1-0-4)
HCT 622	Fabric Embellishment	3(0-0-6)
HCT 623	Textile Design & Colourways	2(0-0-4)
HCT 624	Textile Finishing	2(2-0-0)
HCT 625	Textile Industry Management	3(3-0-0)
HCT 626	Printed Fabric Design	3(0-0-6)
HHD 400	Personality Development	2(1-0-2)
HCT 680	Seminar	1(0-0-2)
	Total Credits	19

Semester VIII

HCT 500	In-plant/Industrial Attachment-CT	20 Credits
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Professional Courses

Family Resource Management- Interior & Exterior Space Designing

Semester V

HRM 521	Architectural Drawings in Interior	4(1-0-6)
HRM 522	Basics in Building Construction	4(2-0-4)
HRM 523	Computer Aided Interior Designing	4(1-0-6)
HRM 524	Furniture Design and Arrangement	4(2-0-4)
HRM 525	Ornamental Plants & Flower Arrangements	3(1-0-4)
	Total Credits	19

Semester VI

HRM 526	Floor and Floor Treatments	3(1-0-4)
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HRM 527	Walls and Window Treatments	3(1-0-4)
HRM 528	Fitting, Fixtures & Services	3(2-0-2)
HEX 528	Project Management	3(1-0-4)
BAM 333	Entrepreneurship Development	3(3-0-0)
CE 360	Building Materials & Construction	4(2-0-4)
CE 383	Civil Engineering Drawing	2(0-0-4)
	Total Credits	21

Semester VII

HRM 621	Residential Space Designing	3(0-0-6)
HRM 622	Functional Interiors for Special Needs	4(2-0-4)
HRM 623	Accessories for Interior Enrichment	3(0-0-6)
HRM 625	Landscape Designing	3(1-0-4)
HHD 400	Personality Development	2(1-0-2)
HORT 405	Floriculture & Landscape Gardening	2(1-0-2)
HRM 680	Seminar	1(0-0-2)
	Total Credits	18

Semester VIII

HRM 500	In-plant Training/Industrial attachment-RM	20 credits
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Professional Courses

Foods & Nutrition- Nutrition and Dietetics

Semester V

HFN 521	Nutrition for Special Groups	3(3-0-0)
HFN 522	Clinical Nutrition	3(3-0-0)
HFN 524	Community Nutrition	3(1-0-4)
HFN 612	Food Standards and Quality Control	3(2-0-2)
HFN 614	Bakery and Confectionery	4(1-0-6)
MBMT 504	Principles of Food & Dairy Microbiology	3(2-0-2)
	Total Credits	19 Credit

Semester VI

CHEM 512	Nutritional Biochemistry	3(2-0-2)
PH 351	Human Physiology *	3(2-0-2)
HFN 523	Hospital Dietetics	4(2-0-4)
HFN 525	Catering Management	4(0-0-8)
HFN 606	Food Hygiene and Sanitation	3(2-0-1)
BAM 333	Entrepreneurship Development	3(3-0-0)
	Total Credits	20

* Existing title is Human Physiology & Hygiene, which may be modified as Human Physiology (Hygiene part is included in HFN 606)

Semester VII

HFN 611	Food Toxicology	2(2-0-0)
HFN 615	Dietary Counselling	4(0-0-8)
HFN 616	Food Service in Institutions	3(2-0-2)
	Milk and Milk Technology	3(2-0-2)
HHD 400	Personality Development	2(1-0-2)
HFN 608	Product Development	4(1-0-6)
HFN 680	Seminar	1(0-0-2)
	Total Credits	18

Semester VIII

HFN 500	Inplant/Industrial Attachment-FN	20 Credits
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Professional Courses

Human Development - Organization and Management of Early Childhood Care & Development Programme

Semester V

HHD 521	Developmental Assessment of Young Children	5(1-0-8)
HHD 522	Developing play material for children	4(1-0-6)
HHD 523	Creative Experiences for Children	4(1-0-6)
HHD 524	Organization and Management of Dramatic and Rhythmic Activities for Children	4(0-0-8)
	Total Credits	17

Semester VI

HHD 524	Family and Child Welfare	3(3-0-0)
HHD 525	Literature for Young Children	4(1-0-6)
HHD 526	Infant Stimulation Programme	4(0-0-8)
HFN 606	Food Hygiene and Sanitation	3(2-0-2)
HEX 621	Instructional Video Production	4(1-0-6)
HEX 623	Multimedia Production	4(1-0-6)
	Total Credits	22

Semester VII

HHD 621	Family Counseling	4(2-0-4)
HHD 622	Intervention Programmes for Developmentally Challenged Children	4(0-0-8)
HHD 623	Entrepreneurship in child care services	6(2-0-8)
HEX 625	Audio Video Recording and Editing	4(1-0-6)
HHD 400	Personality Development	2(1-0-2)
HHD 680	Seminar	1(0-0-2)
	Total Credits	21

Semester VIII

HHD 500	In-plant /Industrial Attachment-HD	20
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*Professional Courses***Home Science Extension- Information Technology & Communication Management**

Semester V

HEX 521	Entrepreneurship Development for Rural Families	4(1-0-6)
HEX 522	Mass Communication	4(1-0-6)
HEX 523	Print Journalism	4(1-0-6)
HEX 524	Public Relations & Social Marketing	4(1-0-6)
HFN 524	Community Nutrition	3(1-0-4)
	Total Credits	19

Semester VI

HEX 525	Electronic Journalism	4(1-0-6)
HEX 526	Photo Journalism	4(1-0-6)
HEX 527	Designing Information Material	4(1-0-6)
HEX 528	Project Management	3(1-0-4)
HCT 527	Computer Aided Designing -Customization	3(0-0-6)
HHD 624	Family And Child Welfare	3(3-0-0)
	Total Credits	21

Semester VII

HEX 621	Instructional Video Production	4(1-0-6)
HEX 622	Digital Advertising	4(1-0-6)
HEX 623	Multimedia Production	4(1-0-6)
HEX 624	Training and HRD	3(1-0-4)
HHD 400	Personality Development	2(1-0-2)
HFN 606	Food Hygiene & Sanitation	3(2-0-2)
HEX 680	Seminar	1(0-0-2)
	Total Credits	21

Semester VIII

HEX 500	In-plant / Industrial Attachment-HEX	20 credits
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HOME SCIENCE

SYLLABUS

(4th Dean's Committee's Recommendation)

1. BASIC COURSES

1. Human Anatomy and Physiology

3 (3+0)

Human body-composition – cells, tissues, organs, and systems-structure and functions; Physiology of digestion, respiration, circulation, reproduction and excretion; Homeostasis – role of hormones – maintenance of body temperature and acid base balance; Body depend – immunity- infection – prevention and control – sanitation and hygiene.

Practical: Demonstration – animal viscera, identification of systems and organs; Identification of cells, tissues and organs histology – studies; Estimation of hemoglobin - using haemoglobinometer calorimeter; R.B.C. count; W.B.C. count, TLC and DLC.; Estimation of PVC, ESR and clotting time; Measurement of pulse rate and blood temperature and the effect of exercise; sensory test, measurement of body temperature and diurnal variation; Identification of worm infestation.

2. Computer Applications

3 (1+2)

Introduction to Programming: program definition, program life cycle, principles and techniques, characteristics of a good program, algorithm and flowchart. Spread Sheet Package - worksheet basic, data entry of numbers, text, date and time. Moving data in a worksheet, selecting data range, Auto Fill, Editing and Formatting of a worksheet. Doing calculations using formula and functions. Working with graph and charts: Adding and formatting using chart wizard. Adding title, legends and gridlines. Use and E.Xcel-list as a database. Data Base Management System: Concept of database , database terminologies, working with MS-Access.

Practical: Working with Worksheet: editing and formatting, Calculations through formula and functions. Working with Charts and Graphs. Creating Data Bases, Viewing Data Bases, Modifying Data Base Structure, Sorting and Indexing, Querying and generating reports.

3. Marketing Management

3 (2+ 1)

Meaning, significance and importance of markets and marketing. Marketing mix and marketing environment. Marketing Research. Buyer behavior - motives and factors influencing. Demand and sales forecasting. Pricing policies and pricing decisions. Product planning - meaning, product concept and dimension, produce policy. Sales management Sales promotion mix, prerequisites of selling, after sales service, Features of salesmanship, types of salesmen, Entrepreneurship - Meaning and importance, Types and characteristics, Role of entrepreneurial development and relevant acts.

Practical: Study of different markets. Identification of channels of distribution. Study of sales/product promotion techniques. Comparative study on packaging material and packaging techniques. Market survey for learning product related strategies-branding, trade name, warranty and guarantee, Critical analysis of advertisement. Preparation of advertisement. Learning to plan advertisement budget.

4. Women in Agriculture

3 (3+0)

Status of rural women - demographic, sex ratio, nutrition, health, education, works, skill and entitlement of property, social political legal. Feminization of agriculture and its influence on status of farm women. Gender issues in agriculture, multiple role of farm women. Occupational health hazards, drudgery involved. Technological needs of farm women, technologies available, its transfer. Status of women in the rural families, family type, characteristic. Changing pattern of rural family. Empowerment of women - concept, need and ways of empowering women.

5. Environmental Studies (File 2)

3 (2+1)

The Multidisciplinary nature of environment studies: Definition, Scope and importance, need for public awareness. Natural Resources: Renewable and non renewable resources: Natural resources and associated problems- Forest Resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. Water Resources: Use over utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Mineral Resources: Use and exploitation, environmental effects of existing and using mineral resources, case studies. Food Resources: World food problems, changes caused by agriculture and overgrazing effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, case studies. Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification - Role of individual in conservation of natural resources, Equitable use of resources for sustainable lifestyle. Ecosystems: Concept of ecosystem, Structure and function of an ecosystem, Producers consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introductions, types, characteristics features, structure and function of the following ecosystem- Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries). Biodiversity and its conservation: Introduction- Definition: genetic, species and ecosystem diversity, Biogeographical classification of India, Value of

biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Biodiversity at global, national and local levels, India as mega diversity nation, Hot - spots of biodiversity; Threats of biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. Environmental Pollution: Definition, Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards. Solid waste Management- Causes, effects and control measures of urban and industrial wastes, Role of an individual in prevention of pollution, Pollution case studies, Disaster management: floods, earthquake, cyclone and landslides. Social Issue and the Environment: From Unsustainable to Sustainable development. Urban problems related to energy. Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people: its problems and concerns, Case studies. Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust; Case studies. Wasteland reclamation. Consumerism and waste products. Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and Control of Pollution) Act. Wildlife Protection Act Forest Conservation Act. Issues involved in enforcement of environmental legislation. Public awareness. Human Population and the Environment: Population growth, variation among nations. Population explosion- Family Welfare Programme. Environment and human health. Human Rights. Value Education. HIV/AIDS. Women and Child Welfare. Role of information Technology in Environment and human health. Case studies.

Practical: Visit to a local area to document environmental assets-river/forest/ grassland / hill/ mountain. Visit to local polluted site - Urban / Rural/Industrial/Agricultural. Study of common plants, insects, birds. Study of simple ecosystems-pond, river, hills slopes, etc. (Field work equal to 5 Lecture hours). Case studies under different units.

6. Personality Development

2 (1+ 1)

Meaning and definition of personality. Personality patterns, moulding the personality patterns, persistence and change. Personality determinants (physical, intellectual, emotional, social, educational and family). Aspirations and achievements. Personality adjustment.

Practical: Understanding the characteristics and types of personality (introvert and extrovert). Understanding the impact of physique, society, educational institutions, sex and family on personality characteristics.

7. Introductory Biochemistry

3(2+1)

Introduction to bio-chemistry: its importance and relationship to food and nutrition; Carbohydrates: definition, classification general reaction, metabolism; Lipid metabolism: definition classification digestion and absorption; Saturated and unsaturated essential fatty acids, oxidation, rancidity; Proteins: definition, classification, molecular weight, colloidal nature of protein, amino acids classification, chemical properties, amino acid metabolism, digestion and absorption. Protein quality estimation; Enzymes: chemical nature,

mechanism of enzyme action, specificity of enzymes, conditions for enzymes, activities, co-enzymes and prosthetic group; Nucleic acids, - RNA-DNA: their biological functions, basic nucleosides and nucleotides, structure and functions; Vitamins – classification, structure and functions of vitamins; Hormones involved in regulation of metabolism; Water balance, acid base equilibrium.

Practical: Qualitative and quantitative tests for carbohydrates, lipids, proteins, amino – acids and vitamin C; Separation of amino acids by paper – chromatography ascending and descending; Determination of pH, use of pH meter; Determination of starch, sugar; analysis of proximate constituents in food.

8. English and Technical Writing

2(1+1)

Tenses, Agreement of Subject and Verb, Passive Voice, Basic Sentence Patterns, Prepositions, Phrasal verbs, Common Grammatical Errors, Use of Articles, Punctuations, Modals, Gerund, Participle, Infinitive, Word Formation (Affixes, prefixes, suffixes)

Practical: Introduction to sounds - Vowels, Diphthong, Consonants, Phonetics Transcriptions. Word stress and exercises on pronunciation. Group discussion on current topics. Presentation of technical report.

9. Elementary Statistics

3 (2+1)

Definition and application of Statistics. Graphical representation of frequency distribution. (Histogram, frequency curve, polygon ogive). Measures of central Tendency. Measures of dispersion, Karl Pearson's correlation coefficients. Simple linear regression, rank correlation. Test of significance. Null Hypothesis and Alternative Hypothesis, Level of Significance, Degrees of Freedom. Types of error. Students t-test for Single mean and difference between two means. Paired t-test. (chi-square test) for 2x2 contingency table.

Practical: Computation of Arithmetic Mean, Median and Mode for raw data and frequency distribution. Computation of Standard Deviation and Coefficient of variation for raw data and frequency distribution. Computation of simple correlation coefficient. Computation of rank correlation coefficient. Estimation of Regression lines. Practical or sum based on t-test for difference of two means. Question based on paired t-test. Graphical presentation of frequency distribution.

10. Moral And Value Education

2(2

+ 0)

(Core course as prescribed by AAI-DU for all first year students)

My country and my people, the many Indians, Being and becoming an Indian, Nationalism and Internationalism.

Some life issues- Love, Sex and Marriage, Men and money – value of time, Meaning of work, Human Communication, Human Suffering, Addiction, Ecology, Women's Issues.

Understanding one's Neighbour. Neighbourhood groups: their structure and functions. Patterns of social interaction of group dynamics.

Preparation for a career, choice of vocation, Motivation for study and Research. The present Educational system: Curriculum and syllabus, Teaching methods, Examination and work experience.

Definition of Value Education, Moral and Ethics, Laws and Moral based on Ten Commandments and two great commandments.

Discovery of Self, Self- Awareness Growth of Intellect- Man's Spiritual Nature Emotions, Will. Respect the rights of Life, Liberty, Property, Truth Reputation.

Sin, Origin of Sin, Manifestation of sin, The results of Sin, The remedy of Sin, Sin as an act, Sin as a state, Sin as a nature.

Conscience – as defined in Oxford Dictionary and Winston Dictionary, Types of Consciousness (such as Evil, Convicted, Purged, Pure, Weak, Good, Void of Offence)

2. HUMAN DEVELOPMENT AND FAMILY STUDIES

(a) CORE COURSES

1. Life Span Development

3 (2+1)

Biological basis of development. Pregnancy and birth. Physical, cognitive and psycho-social development during infancy, early childhood, middle childhood and adolescence. Stages of personal development during adulthood and ageing.

Practical: Study of physical, motor, social, emotional, intellectual, language, moral and personality development at different ages. Using available measurement tools, techniques

and writing interpretative reports.

2. Early Childhood Care and Development

3 (2+1)

Meaning, characteristics and significance of early childhood years. Early childhood education - significance of early childhood education. History of early childhood education and contribution of western and Indian educators in promoting early childhood education. Programme planning. Importance and types of play. Role and qualities of early childhood personnel. Parental involvement in early childhood education and care programmes.

Practical: Developing and conducting activities to promote all the developments i.e. physical, motor, cognitive, language, socio-emotional and personality. Visit to early childhood education centre and recording observation. Observation of a PTA meeting being conducted.

3. Children with Developmental Challenges

3 (2+ 1)

Definition and classification of children with developmental challenges. Current prevalence, its implications on the quality of life of the population. Multi-disciplinary view of children with developmental challenges. Types of developmental challenges - mental deficiency, sensory disabilities, neurological disorders, physical handicaps, definition, classifications, etiological factors, characteristics, educational and vocational intervention for different disabilities.

4. Dynamics of Marriage and Family

3 (3+0)

Marriage - understanding the institution of marriage. Readiness for marriage. Meaning, definition, purpose, motives, functions and types of marriage. Marriage in different Indian societies. Marital harmony and personal compatibility in marriage. Different life styles. Family- orientation to family studies, origin, evolution, meaning, definition of family institution. Structure and forms of families across different countries. Laws related to marriage and family. Stages of family life cycle; family disorganization, its causes and consequences, marriage and family counseling.

(b) PROFESSIONAL COURSES

I. Organization and Management of ECCD programmes

1. Family Counseling

4 (2+2)

Concept, nature, scope, principles and need of counseling. Types of counseling. Attributes of a counselor (personal and professional). Approaches to counseling. Thrust areas in family counseling - educational, vocational, social, personal, premarital and marital. Problems in family counseling. Approaches to evaluate family counseling. Counsellor's self awareness and growth.

Practical: Visits to the family guidance and counseling institutions. Identifying families with problems and conducting case studies. Visiting and developing resource files on local, state and national organizations working in the area of family guidance and counseling.

2. Developmental Assessment of Young Children

4 (1+3)

Assessment - definition, functions, screening and measurement concepts. Trends and challenges in developmental assessment of young children. Tools and techniques of assessment; Assessment of children from birth to 8 years; Interpretation of assessment information for parents, educators and policy makers. Identification of children with developmental challenges. Ethical issues in assessment of children.

Practical: Screening and diagnostic assessment of young children for various developments through different tools and techniques, physical and motor development; anthropometric measurements and reference standards. Motor and behavioral assessment using Bayley's scale. Intelligence test for children. Social and emotional maturity scale. Case studies. Home, environment scale. Early childhood environmental rating scale, Apgar early screening profile. Recording and interpretation of assessment and report writing. Development of action programme for parents, surrogates, field functionaries and other professionals.

3. Developing Play Material for Children

4 (1+3)

Meaning, significance and value of play. Stages, types of play and play material. Implication of play on development.

Practical: Significance of educational play materials. Preparation of social and fantasy play materials. Mirrors, dolls, puppets, stuffed toys. Exploration and mastery of play materials. Wooden blocks, puzzles, pattern making materials, books, music, art and movement play materials. Art and craft materials, musical instruments, audio visual materials. Gross motor play materials. Push and pull toys. Preparation of flash cards, charts, posters and models, use of indigenous materials.

4. Creative Experiences for Children

4 (1+3)

Concept of creativity - theoretical perspectives on creative expressions among children. Role

of creativity in the overall development of the child. Identification of different types of creative expressions among children. Fostering creativity among children at home and in school. The early childhood creative expression. Use of creative activities in fostering learning in other areas of study - methods and strategies. Developing and using a creative environment for children- use of media.

Practical: Survey of indigenous and modern creative materials for school children. Creating activity - setting ECE programmes for different creative activities. Conducting creative art activities for school children. Developing creative art resource files for children. Training, personnel, working with child welfare institutions (preschool, play centres, day care centres, children's home etc.) in providing creative activities for children.

5. Organization and Management of Dramatic and Rhythmic Activities for Children

4 (0+4)

Practical: Understanding the significance of dramatic and rhythmic activities. Audio visual material used in ECE programmes for dramatization and rhymes. Criteria for preparation of different material for children. Collection of rhymes and stories, dramas and video material. Providing experiences in music. Development and use of material and field experiences for dramatization and rhymes. Role play and dramatization. Audio and visual presentation. Critical evaluation of existing material used for Dramatization and music in different ECCE centres.

6. Intervention Programmes for Developmentally Challenged Children

4 (0+4)

Practical: Identification of needs of developmentally challenged children. Orthopaedically handicapped, mentally challenged and learning disabled. Survey of family and community opinion about developmentally challenged children. Programme development of different categories of developmentally challenged children to enhance different developmental aspects. Programme implementation and evaluation. Development of educational package for parents and teachers.

7. Entrepreneurship in Child Care Services

6 (2+4)

Project planning - characteristics, functions, dimensions of planning. Types, ethics and scope. Format of submission of proposal. Funding agencies. Legal and regulatory processing,

Practical: The student will identify her own area for Entrepreneurship and develop one complete project for execution of the same on the following guidelines - identification of the project, selection of the locale and clientele, input sources - manpower, finance and infrastructure facilities. Scope for implementation (cost benefit analysis). Registration /

licensing. Conducting a feasibility study. Presenting a report.

8. Literature for Young Children

4 (1+3)

Need, importance and types of children's literature. Criteria for the development of children's literature. Selection of theme, plot, illustration, characterization, format and language in children's literature. Principles for developing literature for different developmental domains and age groups. Learning to correspond with publishers.

Practical: Appraisal of available children's literature in the market. Interviewing parents, children and school librarians to find out the reading habits of children. Reviewing the newspapers and magazines, children sections for developing and understanding regarding what is popular with children; Panel discussion on elements of writing for children. Learning to depict visuals on the basis of write ups. Developing a ready reckoner. Developing write up for different age group of children; Cover page designing. Computer aided technology book / literature writing; Learning to correspond with publishers. Visit to designing centers for observation. Visit to press for orientation. Visit to books fairs for updating knowledge.

9. Infant Stimulation Programmes

4 (0+4)

Visit to different day care, infant and toddler centers. Observation and recording of development and behavior in different ecological settings. Study of existing stimulation practices and materials in home and institutional settings (infant, toddler centers, day care centres). Preparation of stimulation programme for physical, motor, cognitive, language, behavior, social and emotional domains. Development of stimulation kit from indigenous low cost materials and evaluation. Implementation of prepared programme in different ecological settings. Modification on the basis of evaluation.

10. Family and Child Welfare

3 (3+0)

Concept and scope of family and child welfare in India and abroad. (Child, Adolescent, Women, Aged etc). Rights and responsibilities of children, parents and society. Historical orientation to family and child welfare services in India. Classification of family and child welfare agencies - organizational classification, government, private, national and international. Classification according to nature of services - supportive and substitutive. Welfare programmes at local, state, national and international level. Principles and policies.

Organizational structure, functional objectives of these programmes and beneficiaries.

3. FOODS AND NUTRITION

(a) CORE COURSES

1. Food Science and processing

3

(2+1)

Functions of foods - energy giving, body building, protecting and regulating. Cooking methods - types, merits and demerits. Cereals and millets - structure, composition, processing techniques, effect of heat and acid, functions of starch in cookery. Legumes, nuts and oil seeds - composition, processing techniques, effect of heat, acid and alkali. Fruits and vegetables - types, composition, pigments, changes caused by heat, acid and alkali. Egg structure, composition, grading of egg, function and changes during cooking. Meat, poultry and fish - kind, structure, composition, pigments, factors affecting tenderness, post-mortem changes and changes during cooking. Sugars - types, composition, manufacturing process, effect of heat and acid, functions in cookery. Fats and oils - kinds, composition, effect of heat, functions in cookery, processing techniques, rancidity of fats. Brief overview of beverages. Introduction to food additives. Condiments and spices; importance in daily life. Processed and convenience foods - precooked, ready to eat foods, frozen foods, dehydrated foods, instant food mixes.

Practical: Kitchen equipments and their uses. Weighing and measuring food items. Cooking methods. Cereal cookery - preparations showing dextrinization and gelatinization, functions of starch in cereals, gluten formation and factors affecting it, identification of the food grains. Legumes, nuts and oils seeds- ways of using, ways of making complete protein. Vegetable cookery- effect of heat and alkali on pigments, use of vegetables with other foods. Preparation of soups, salads and beverages. Milk and milk products- effect of heat, acid and alkali, uses of milk and milk products in various preparations. Egg cookery - preparations showing functions of egg, various ways of using egg. Meat cookery - preparations involving various methods of cooking. Sugars - preparations showing functions of sugar in cookery.

2. Human Nutrition

3 (2+1)

Historical development and the relation of nutrition to health, growth and human welfare. Concept of recommended dietary allowances; recommended allowances for specific nutrients and energy. Concept of balanced diet, basic food groups - characteristics and their contribution to the diet. Energy- units, sources and requirements, fuel value of foods, methods of measuring energy value of food, energy requirement of the body, physical activity and thermogenic effect of food; BMR - methods of measurement, factors affecting. Digestion and absorption of carbohydrates, fats and proteins. Carbohydrates - types, functions, sources, requirement, health conditions affected by carbohydrates, significance of dietary fiber. Lipids - types, functions, sources, requirement, health problems associated with lipids. Proteins - types, functions, sources, requirement, quality evaluation, improvement and protein energy malnutrition. Vitamins - classification, functions, sources, requirement, deficiency and toxicity of the following: fat soluble- A, D, E, K; water soluble - C, B complex (thiamin, riboflavin, niacin, B6, B12 and folic acid). Minerals - classification, functions, sources, requirements, deficiency and toxicity of calcium, phosphorus, iodine, fluorine, iron, sodium, potassium, chloride, copper and zinc; bio availability and factors affecting calcium and iron, electrolyte balance. Water: Functions, sources, distribution in

body and water balance. Assessment of nutritional status.

3. Normal and Therapeutic Nutrition

3 (2+1)

Importance of meal planning and factors to be considered while planning meals. Use of food groups and exchange list in planning meals for a normal adult, calorie consumption unit in planning meals for a family. Maternal nutrition- physiological changes and nutritional requirements during pregnancy and lactation. Infancy- growth, development and nutritional requirement, importance of breast feeding, weaning and supplementary-foods. Pre-school, school age child and adolescent- growth and development, food habits and nutritional requirements. Old age - changes during old age and nutritional requirement. Importance and modification of normal diet to therapeutic diets. Methods of feeding (normal and artificial). Causes, symptoms and dietary management in following disorders - acute and chronic fevers, gastrointestinal disorders: diarrhoea, constipation, liver diseases: hepatitis, cardiovascular diseases: atherosclerosis and hypertension, diabetes; problems of weight control: overweight and obesity.

Practical: Planning and preparation of balanced diet according to sex, preschool age, school age, adolescent, adult, old age. Planning and preparation of diets for different age groups infancy, preschool age, school age, adolescent, adult, old age. Planning and preparation of diets for special conditions - pregnancy and lactation. Planning and preparation for special occasions: birthdays, festivals, packed lunches. Planning and preparation of diets during following disorders-typhoid, diarrhea, constipation, hepatitis, hypertension, diabetes, overweight/obesity.

4. Food Preservation and Storage

3 (1+2)

Importance and scope of food preservation and storage. Food spoilage- causes and effects. Selection and purchase of foods for preservation. Principles and methods of food preservation - drying and dehydration, use of high temperature, use of low temperature, foods as preservatives, use of chemicals, radiation, combination of above methods. Storage of common perishable, semi perishable and non perishable foods. Food standards and quality control. Packaging and packing material, labelling and costing of the product.

Practical: Market survey of raw and preserved foods, process and convenience food. Drying of fruits and vegetables (blanched & un-blanched) - Solar drying, Sun drying, oven drying. Domestic preservation of foods

by freezing. Preparation and storage of the following - squashes and syrups, cordials, jam, jellies, marmalades, preserves and murabbas, ketchup, sauces, chutneys, pickles with and without oil. Preparation of items utilizing cereals and legume flour and their storage. Preparation of sugar candies. Demonstration on canning and bottling of fruits and vegetables. Demonstration on storage of food grains. Visit to a dairy plant. Visit to a preservation centre.

(b) PROFESSIONAL COURSES

II. Nutrition and Dietetics

1. Nutrition for Special Groups

3 (3+0)

An overview of groups with special nutritional needs. Relationship of nutrition with health of an individual with special needs. Current nutrition and health status of women and children in India. Nutritional management of vulnerable sections of the society - pregnant and lactating women, infants, preschoolers, adolescents and elderly. Dietary management of industrial workers, sports persons, astronauts and defense personnel.

2. Clinical Nutrition

3 (3+0)

Pathogenesis of deficiency diseases. Etiology, prevalence, clinical signs and symptoms of common deficiency diseases. Etiology, metabolic changes, clinical manifestations, complications and dietary management of gastrointestinal disorders- vomiting, constipation, peptic ulcer, ulcerative colitis; liver disorders - hepatitis, cirrhosis, hepatic coma; weight management- underweight, overweight; diabetes mellitus; cardiovascular diseases hypertension, atherosclerosis; renal disorders- nephritis, urinary calculi, renal failure.

3. Hospital Dietetics

4 (2+2)

Importance of dietetics. Principles of hospital dietetics. Dietician as a part of medical team and outreach services. Dietetics department - structure, administration and function. Food service in hospital. Clinical information - medical history, assessment of patient profile. Methods of dietary assessment. Therapeutic adaptation to normal diet for- consistency, temperature, nutrients and amount. Modes of feeding - Enteral and Parenteral feeding, composition of tube feeding. Aesthetic attributes of diets.

Practical: Layout of a dietetics department. Modification and preparation of diets for therapeutic purposes in terms of consistency, nutrients, temperature and quantity. Preparation of list of foods need to be avoided and/or included in different diseases. Planning, preparation and serving of diets low/high in the following nutrients- energy, fibre, protein, lipids, carbohydrates, sodium, potassium, vitamin A and iron in reference to common diseases. Planning and preparation of diets for patients suffering from more than one diseases. Visit to dietary department of a hospital. Observation of clinical signs and diet served/consumed by patient. Market survey for dietetic foods.

4. Community Nutrition

3 (1+2)

Malnutrition - definition causes and prevention. Assessment of nutritional status. Growth monitoring. Major nutritional problems prevalent in India and the state. National programmes and role of national and international agencies in improving nutritional status of the community. Nutrition education.

Practical: Assessment of nutritional status of an individual I community using anthropometry and dietary survey. Visit to local health centers to identify clinical signs and symptoms of nutritional problems. Visit to an ICDS block. Development of audio visual aids. Planning, implementation and evaluation of nutrition education for a target group.

5. Food Hygiene and Sanitation

3 (3+0)

Principles of hygiene and its relation to food preparation; personal hygiene; Food handling habits; Sanitation in and outside food handling plants; Water supply sources, impurities and purification of water; Food poisoning and food – borne infections; Control methods and regulations for maintaining sanitation and quality of foods and water.

Practical: Food and water sampling and testing for physical, chemical and bacteriological quality; Case study in organization related to food hygiene sanitation.

6. Food Toxicology

2 (2+0)

Introduction and significance of food toxicology. Food poisoning -types, causative factors, signs and symptoms, preventive measures. Natural food toxins - anti-nutritional factors, other food toxins, their harmful effects and methods of removal. Microbial toxins and food intoxication - source of contamination, effect on health, preventive measures, methods of inactivation / destruction. Chemical toxins - pesticides, insecticides, metallic and others, residual effects, preventive measures, methods of removal. Food packaging material - potential contaminants from food packaging material.

8. Food Standards and Quality Control

3 (2+1)

Importance of quality control and assurance; food laws and regulations; Sampling procedure. Application of food standards and their specifications for raw foods and food products for its constituents and additives. Various methods for the assessment of quality of different foods, selection of sensory panel and sensory evaluation of food products, grading and marking standards, specification of finished products, food toxins, food poisoning, identification of preventive measures, food adulteration - assessment and prevention.

Practical: :examination of agriculture, horticulture and animal foods and food products in relation to different standards - PFA, FPO, Agmark, BIS, Codex alimentarius, HACCP*. Visit to quality control laboratory and food processing industries. Market survey of processed foods for quality assurance; development of score cards and evaluation of different foods.

* Identification of adulterants in common foods

9. Product Development

4 (1+3)

Importance and scope of product development. Selection and storage of raw material. Sensory evaluation and standardization. Packaging requirements of food products. Economics of products.

Practical: Market survey of available processed products in view of cost, label and quality assurance mark. Panel selection and training on sensory evaluation. Standardization of products- soups and beverages, chapaties, vegetables, snacks, continental dishes. Pricing, packaging, labeling and shelf life studies.

10. Bakery and Confectionary

4 (1+3)

Selection, properties and functions of ingredients used in bakery and confectionary. Flours and flour mixtures- role of gluten and starch, doughs and batters, their rheological properties. Emulsifiers used in bakery. Balancing the formula for bakery products. Tools and techniques used in bakery. Quality control of bakery products.

Practical: Use of different bakery equipments. Balancing the formula for bakery products. Standard methods of making different types of biscuits, cookies, cakes, pastries, cream rolls, swiss rolls, bread, buns, pizzas, puddings, tarts. Icings and cake decoration. Standard methods of making toffees and chocolates. Use of crystalline and non crystalline sugars in different preparations.

11. Dietary Counselling

4 (0+4)

Practical: Diet counselling - counselling process and its significance. Assessment of needs of patients. Establishing rapport. Communication process. Patient education. Case studies - selection of 2-3 patients, clinical, nutritional and biochemical profile, therapeutic modification of diets, report writing. Pre requisites and preparation for setting up a counselling center. Preparation of audio - visual aids for diet counselling. Organizing counselling camps for specific diseases like GIT disorders, renal disorders, liver diseases, cardio-vascular diseases, hormonal- metabolic disorders, protein energy malnutrition, iodine deficiency disorders. Physical fitness in relation to chronic diseases.

12. Catering Management

4 (1+3)

Menu planning for various catering institutions. Micro-planning of a proposed project to be undertaken for running a food service institution.

Practical: Quantity food production and cost calculation. Preparation and service of Hi teas/ lunches for special occasions and a formal lunch. Organization, management and administration in institutions such as canteen, cafeteria, nursery school! hostel mess. Micro planning of a proposed project to be undertaken for running a food service institution.

13. Entrepreneurship Development

4 (1+3)

Concept, need and process of entrepreneurship development. Government policies and schemes for entrepreneurship development. Developing entrepreneurial competencies. Setting up an enterprise - enterprise selection, market analysis, SWOT analysis, resource mobilization, finance, technology, raw material, site and man power. Identification of marketing strategies, packaging, quality control, advertisement, costing and" taxation.

Practical: Visit to small scale industries. Study of pertinent enterprises in detail. Interaction with successful entrepreneurs. Preparation of project proposal for funding by different agencies.

14. Traditional Indian Food Products

3 (0+3)

Practical: Exploring and enlisting traditional recipes of different states of the country. Standardization of common recipes of North, East, South, West and Central zone of country. Preparation of meals of different state.. Value addition of traditional recipes and meals. Nutrient composition of traditional vis value added meals.

15. Food Services in Institutions

3 (2+1)

Types of food service institutions. Styles of food services. Floor planning and layout. Principles, functions and tools of management. Personnel management - selection and training, desirable qualities, personnel appearance. Financial management - terms used, budgeting and account keeping. Selection, care and use of equipments. Food and personal hygiene. Types of menu and menu planning.

Practical: Development of recipe book. Preparation of various types of menu cards. Table setting, maintenance of accounts and record keeping, visit to different food service institutions.

4. TEXTILES AND APPAREL DESIGNING

(a) CORE COURSES

1. Fundamentals of Clothing Construction

3 (1+2)

Equipment and accessories used in clothing construction: their care and use with special reference to sewing machine, common defects, general repair; clothing construction terminology; construction process: their suitability for different fabrics and clothing articles;

Unit construction method-advantages and disadvantages; preparation of fabrics for layout and cutting; importance and functions of clothes; clothing requirement of infants and toddlers, pre-schoolers and elementary school children.

Practical: Use of sewing equipment, preparation of samples of basic hand and machine stitches, seams and scan finishes, edge finishing, disposal of fullness, finishing of necklines, placket openings, fasteners and mending, preparation and layout of different fabrics; taking body measures, Drafting, cutting and stitching of laundry bag, apron, panties/bloomer and frock, jhabla, bib and diaper.

2. Textile Science and Care

3 (2+1)

Introduction of textiles; textile fibres- classification; terminology used in textiles; processing and manufacturing method, properties and use of different textile fibres - cotton, silk, wool, rayon, polyester, acrylic, nylon, acetate and other minor fibres; labels and tags used in textiles; spinning methods -mechanical & chemical; yarn classification, characteristics and their use; method of fabric construction - weaving, knitting, lace making, felting, non-woven; consumer application, use and care of textiles; laundry equipment, their use and care; principles and methods of washing and finishing; stain removal - principles, classification and techniques; cleansing agents - water, detergent, soaps and others; laundry reagents - acidic, alkaline reagents and bleaching agent; additives used in laundry- stiffening agents and blueing; principles of dry cleaning- use of absorbents and solvents; introduction to textile finishes; common finishes used in textiles; disinfecting and storage of clothes.

Practical: Identification of textile fibres- visual test, microscopic test, burning test, chemical test; Study of yarns- types, yarn size; thread count, bow, skewness; Removal of common stains from different fabrics; Demonstration of laundry equipment; Washing, finishing and storage of following textile articles - cotton, silk, wool, synthetics and other special articles- zari, embroidered fabric, lace etc.; visit to a textile mill and reporting.

3. Apparel Designing and Construction

3 (1+2)

Study on different types of fabrics available in the market for apparel; Methods of clothing construction; purposes; design elements and principles as applied to clothing and apparel designing; factors affecting clothing selection; clothing requirements of adolescents, adults and senior citizens; clothing awareness; symbolism; socialization and self concept; clothing budget; wardrobe planning; consumer behaviour and motivation.

Practical: Survey on different types of materials available; taking body measurements - children and adults; drafting child's bodice and sleeve blocks; frock- designing, pattern alteration, estimation of fabric, drafting, cutting of frock; petticoat, blouses, lady's shirt, churidar payjama / salwar, night suit, creation of new dress designs, stitching and finishing of articles; display of articles.

4. Fundamentals of Textile Designing

3 (2+ 1)

Introduction - techniques of textile designing - weaving, knitting, braiding, crocheting and lace making; weaving-history of weaving, weaving principles, weaving accessories, loom and its parts; Weave calculations- estimation of warp and weft yarn for weaving, preparation of

warp and weft yarns for weaving; basic weaves- plain-rib & basket, twill, satin and sateen weaves - lifting and drafting plans, mode of interlacement, characteristics, applications; knitting-terminology, principles of knitting and classification; knitting machines and their nomenclature; types of knits - warp knits and weft knits and their applications; performance of knits; introduction to basic hand embroidery stitches; dyeing and printing- brief study of the types of dyes; dyeing methods - fibre, yarn and piece dyeing, advantages and disadvantages, Printing - introduction and brief study of different methods of printing.

Practical: Preparation of fabric for dyeing, textile designing through tie and dye, batik and block printing; stencil printing, spray printing; yarn calculation, preparation of yarn for weaving-preparing the warp and setting the warp and on the loom, plain weave-preparing lifting and drafting plans, weaving samples of plain weave, graphical representation of colour and weave effects in weaving; knitting machine - parts and accessories, setting of the machine, making patterns, preparing samples with different stitches and multi coloured knitting samples; hand knitting - basic skills, basic stitches, shaping stitches, casting off and selvages, textured patterns, preparing samples using various techniques; hand embroidery - various types and method of stitching; preparing sample with embroidery stitches.

(b) PROFESSIONAL COURSES

III. Apparel Production Management*/ Textile Designing**

1. Traditional Indian Textiles

3 (2+1)

Traditional textiles-study of woven textiles - Patola, Kullu shawls, Maheswari, Chanderi, Kosa silks, Baluchari Buttidar, Brocades of Banaras - Madhanpura, Aliapura, Mulmuls of Bihar, Ikat from Orissa, Sambalpuri sarees, Dacca muslin, Paithani and pitamber, Himroos, Amroos*, Sholapur durries, karalakudi sarees, Irlkal sarees, Mysore silks, Sutada durries, Kanchipuram sarees, Tribhuvanam sarees, Arni sarees, Salem, Coimbatore sarees, Madurai sarees, Pochampally, Arani, Venkatagiri, Guntur sarees, Chirala & Jandrapet, Gadwal, Uppada, Mangalgi, Dharmavaram, Madhanapalli, Narayanapet sarees etc traditionally dyed and printed textiles - Bhandinis; Madhubani; Ajark; Khadi, Kalamkari and embroideries Kashida,; Mochibarat, Kantha, Kasuthi, Kutch, Banjara work present in different states of India. Their importance and present scenario in textiles and apparel. Factors affecting diversity of

textiles.

Practical: Sample preparation of traditional Indian embroideries and textiles; documentation of Indian Textiles and embroideries; preparation of two articles using combination of few of the following traditional textile crafts- Kalamkari; Madhubani; Sangneri; Indian miniatures; Patola; Ikat; Bandhani; visit to Museum & Art Galleries.

* Kim khwab and Ab-i-rawan, bafta or patthan

2. Principles of Design Application

3 (1+2)

Basic designing, classification of textile design (woven & printed), traditional motifs in relation to textiles, symmetry of motif design, development and adjustment, effect of yarn, weave, colour and finishing process of textiles on fashion, colour; various theories and scheme, general role of the design. Other methods of producing designs on textiles and comparison; selection of textile designs for apparel, home furnishings and other household articles.

Practical: Colour-wheel, primary, secondary and tertiary, tints and shades. Creative projects in sketching and preparing geometrical, abstract, stylized, natural, ethnic & traditional motifs; Application of various colour schemes in a dress/textile materials/furnishings, fabrics, design arrangement and development; overall border corner and central; Field visit to printing and textile design centre.

3. Traditional Costumes of India

3(2+1)

Traditional costumes prevalent in different states of India- women, men, children, dance and tribal -Northern & west regions - Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Madhya Pradesh; Eastern region - West Bengal, Orissa, Sikkim, Assam, Meghalaya, Tripura, Mizoram, Manipur, Nagaland, Arunachal Pradesh; Southern region- Andhra Pradesh, Karnataka, Tamilnadu and Kerala, Maharashtra, Goa, Pondichery, Andaman & Nicobar , Lakshadweep; Kutch and sararashtra their importance in present scenario for textiles and apparel industry; factors affecting diversity of costumes in India.

Practical: Visit to museum and art gallery and reporting; developing designs for women based on the traditional costumes of different states - planning for casual wear, party wear, executive wear; developing designs for men-planning casual wear, party wear, executive wear; documentation of women's and men's wear.

4. Fashion Merchandising

3 (2+ 1)

Fashion retailing and merchandising terminology; fashion cycle, theories of fashion

adoption, factors affecting fashion, fashion analysis, channels of distribution, retailing- types of retailing; store retailing departmental stores, chain stores, discount stores, niche stores, boutiques - organizational structure of the stores, non-store retailing - mail order, electronic and other forms of retailing; merchandising- role and responsibilities of a merchandiser; trends in retailing and merchandising, fashion forecasting and its significance in product plan and retailing merchandising for buying houses, export houses, sale promotion techniques - advertisement, types of advertisement, advantages, limitations, planning and executing advertisement; visual merchandising- importance, types of displays, planning for exterior and interior displays window displays; export and import procedure, role of organization for export promotion.

Practical: Market analysis through visit to retail and wholesale textile market, show rooms, chain stores, factory outlets, niche stores, boutiques and reporting; developing display techniques for visual merchandising of apparel and textiles and presentation. Sourcing for fashion.

5. Dyeing and Printing

3 (1+2)

Introduction to dyeing; history of dyeing and printing, theory of dyeing, Dyes classification, natural and synthetic - direct, acid, basic, vat, naphthol, fibre reactive, pigment; sulphur and disease; selection of suitable dyes, dyeing methods - fibre, yarn, fabric - advantages, disadvantages; printing-methods, types-stencil, block, flock, heat transfer, roller and its various screen, resist dyeing-tie and dye and batik, ikat printing combination techniques, Ecological aspects of environmental protection in dyeing and printing units*, ISO 14000.

* Recent developments in dyeing and printing, environment management system.

Practical: Preparation of yarn and fabric for dyeing; techniques of tie and dye - sample preparation; designing garments with tie and dye techniques - tying and dyeing and finishing; Batik - tools and techniques of batik - designing garments with batik designs, washing dyeing dewaxing and finishing; stencil printing - preparation of stencil, printing and finishing; screen printing - preparation of screen, printing samples; visit to dyeing and printing units and reporting; visit to a ISO 14000 unit, observation of ecological factors, report writing.

6. Fabric Embellishment

3 (0+3)

Practical: Introduction to fabric embellishment, survey of embellishments available in the market, Introduction about the embroidery tools and supplies - Yarns, threads, fabrics, frames, hoops, needles, design transfer material; designing and selection for hand embroidery - sources and interpretation, choosing, colors, enlarging and reducing designs ;transferring the design-hot iron, dress makers carbon, pricking, using embroidery frame; open workdrawn thread work - preparation of the fabric - stem, simple, knotted., grouping, laced stitches; metal thread embroidery; demonstration - Ari, Zardosi; Macrame - materials required, basic macrame knots, square, double, half hitch; Bead work - one needle method, couching, tambour beading; mirror work- round, square, oval mirrors, sample preparation; quilting: assembling the material, sample preparation; tatting - basic stitches, abbreviations, making motifs and lace; applique -types and sample preparation; patch

work- mosaic-one shaped, block/unit, overlapping, crazy; crochet - materials required, method of crocheting - chain, single crochet, half double crochet, treble crochet, slipstitch, gauge, shaping-increasing, decreasing and abbreviations; preparation of motifs and edges; preparation of any commercially viable article; Mood board preparation for article with above embroidery stitches; cost estimation of prepared article; evaluation and display.

7. Computer Aided Textile Designing

3 (0+3)

Practical: Introduction to software (Basic of corel draw, version, objects vs. bitmap, interface and controls) ; Working with toolbars and menus commands; Drawing basic shapes (lines, circles, arcs, solid objects); Creating movements in drawing;; select, move, copy, size and mirror, rotate etc. Drawing basic motives, natural/floral, stylized, abstract and geometrical,; Pendering with colours, patterns and textures; Practicing exercises to create new drawings; Creating designs logo; Drawing weaves (plain, twill, satin & sateen); Drawing croquis figures using free hand drawing commands-front, back and side views, following the basic theories of drawing, drawing fashion figures; Developing lattice and designs for border patterns; Developing lattice for all over pattern-brick diamond, diaper, ogee, spot; Creation of pattern for upholstery, apparels, sarees, bed sheets and curtains.

8. Design Studio Practices

4 (0+4)

Practical: Creation of designs for commercialization; designing and construction of 5 garments on a given theme; projection of work through fashion shows and exhibition, making a portfolio with 5 lines.

9. Structural Fabric Design**

3 (1+2)

Introduction to fabric structures: Woven structures, knitted structures and non woven structures. Introduction and history of weaving, study of various types of handlooms, financial assistance for development of handlooms and khadi industry and organisations related to handlooms and khadi industries. Basic weaves and variations: Study of basic weaves - plain, twill, satin and its variations. Loom and its part; weaving accessories; preparation of yarn for weaving, drafting and lifting plan; characteristics of woven fabrics; warp and filling, fabric count, grain balance, selvedge, fabric width and fabric weight; environmental impact of weaving.

Practical: Demonstration on loom and its part, weaving accessories; preparation of yarn for weaving; preparation of warp, setting the warp on the loom; threading, preparing the weft; drafting and lifting plan; weaving samples on loom- Plain weave, basket weave, rib weave ,twill and satin weave. Project work on frame loom- preparing a small rug; Visit to weaving centres, mills, etc.

10. Printed Fabric Designing**

3 (0+3)

Practical: Creation of art work to actualize the imagination on any fabric surface with following suggested exercises. Children's wear: Theme- All over pattern with colour, for-evening wear, fabric- cots wool, method- Batik effect through screen printing, colour scheme- own choice. Theme: Toys and alphabets (all over); for- night wear; fabric- rubia voile method- block printing; colour scheme- maximum four colour. Theme: Flower heads; For- Day wear (winter); Fabric silk, method- hand painting, colour scheme- Maximum three colours. Teen age wear (girls): Theme- Flower with leaves, For- dresses, fabric- cambric, colour scheme- Three colours. Theme- shells, For- beach wear, fabric- knitted method- screen printing, colour scheme of your own choice. Boys wear: Theme- decorative motifs, for boys shirts fabric cambric, method- block printing, colour scheme of your own choice. Theme- Animal skin texture, for- T-shirts, fabric- knitted, method- screen printing, colour scheme of your own choice. Ladies wear: Theme- jewelry design, for- evening wear in winter, fabric, silk, method, screen printing, colour scheme, precious stone colours. Theme: Japanese art, for- night wear fabric- of your own choice, method - batik, colour scheme according to the theme. Gents wear: Theme- Graph weave effect with tie and dye, for - shirts, fabric- poplin, method- screen printing, colour scheme minimum three colour. Theme: Geometrical and floral, for- bush shirts, fabric- khadi- screen printing, colour scheme of your own choice.

11. Knitting Technology

3 (1+2)

Introduction to knitting; History, structure of weft knitting industry, Principles of knitting; Terms of knitting, comparison between knitting & weaving; Knitting machine: parts and their functions; Knitting of yarns: their classified, properties & use, count and size; Classification of knitting machines: their nomenclature and uses (warp knitting * weft knitting); Mechanisms and adaptability of knitting machine for various purposes; Principle stitches in weft knitting & warp knitting; Basic structures * notations in weft knitting; Hand knitting needles: their types and uses; Loop formation with latch and bearded needles; Machine gauge and its estimation; Methods of selection of yarn of right count for different gauges of knitting machines; Recent advancement in knitting.

Practical: Sketching of chief functional parts of knitting machines and needles; Method of knitting of basic stitches (with two and more yarns) i.e. plain, rib and pure & combination); Adjustment of knitting machine; Feeding & functioning of various parts of different kinds of knitting machines; Designing & knitting of different samples and patterns on flat and circular machines; Calculation of machine gauge and count; Methods of repair of various types of defects in knitted fabrics.

12. Textile Design and Colourways**

3 (0+3)

Practical: Design analysis- Structural and applied design variation in fibre, yam and fabric construction, embroidery, dyeing, printing and finishes. Sources of inspiration for basic sketching and painting- Nature, religion, mythology and achieving textural effects. Process

of designing- motif development, geometrical, simplified, naturalized, stylized, abstract and ornamental, big and small motifs, colour consideration and colour harmonies. Creation of patterns and designs combining motifs and placement and repeats for all over patterns. Introduction to related computer software- creating design (6-8) of different fabrics through variation in fibre and yarn construction techniques by employing traditional and

contemporary motifs for decorating fabrics. Colour- meaning terminology, classification of colour, theories of colour, colour schemes, effects of colors.

13. Textile Industry Management**

3 (3+0)

Textile Industry Management: definition and importance; terminology used; planning of textile business; capital management; support system-banks, govt. agencies and institutions; working capital; costing and pricing of products - costing, methods of costing, advantages of each method; industrial organizations and management practices, management aids, modernization of textile industry; Computer Integrated

Management; quality aspects of management - ISO 9001-2000, ISO- 14,000; personnel management - roles and responsibility of various cadres, basic amenities provided; factory and labour laws; trade globalization and its effect on Indian textile industry, status of textile industry in India, recent trends in textile industry.

Note: Courses without asterisk are common for both professional courses in TAD.

5. FAMILY RESOURCE MANAGEMENT

(a) CORE COURSES

1. Management of Family Resources

3 (3+0)

Definition, scope and significance of management. Family- definitions, characteristics and types. Managerial functions of families. Systems approach to FRM. Values - definition, importance, classification and characteristics. Goals definition, characteristics and types. Standards-definition, classification and criteria of selecting standards. Resources- definition, classification, characteristics, increasing satisfaction, objectives and principles of use of resources. Communication- definition, process, classification and barriers. Decision making process- types of decisions, steps in decision making and factors affecting decision-making. Management process- definition, Planning- importance, types, characteristics and techniques, Organizing; Controlling definition, phases and factors, Evaluation. Management process applied to time - philosophy of time, tools of time management, process of time management. Management process applied to energy - concept, fatigue, measures to relieve fatigue, process of energy management and effective use of body. Work simplification - concept, techniques and classes of change.

2. Housing and Space Management

3 (2+1)

Housing and its importance, housing needs at different stages of family life cycle. Selection of site, orientation and zoning. Factors considered while planning a house. Building bye-laws. Economy in constructing a house – Buying/ building a house, building materials-rural and urban, government/ semi government housing. Housing problems in India. Housing finance. Ergonomics in housing.

Practical: Learning architectural symbols. Drawing of house plans for different income levels and activity groups. Drawing elevations of different house plans. House plan for renovation according to needs of residents.

3. Fundamentals of Art and Design

3 (1+2)

Elements of art and principles of design - their application in rural and urban houses. Colour and its importance in interior decoration. Selection, care and maintenance of furniture and furnishings. Home lighting. Accessories. Table setting and table etiquettes.

Practical: Developments of motif and designs through art principles. Colour - obtaining standard colours, tints and shades, drawing of colour wheel and developing colour schemes.

Care and arrangements of furniture for different purposes. Care of furnishings. Mounting of picture and hangings. Preparation and placements of accessories for interior enrichment. Table setting. Drawing of lighting plan.

4. Family Economics and Consumer Education

3 (3+0)

Meaning and scope of family finance management. Income management. Factors affecting family income and expenditure. Budgeting - steps and types of family budget, Engel's law of consumption. Account keeping and record keeping. Credit need, types, use and credit institutions. Planning for family's financial security - savings, investments, insurance, taxation and will. Consumer - definition and role. Consumer problems in rural and urban areas. Consumerism - its growth, consumers right and responsibilities. Unfair trade practices - adulteration, faulty weights and measures etc., Sources of consumer information - advertisements, labels, packages etc. Consumer protection and welfare. Consumer protection laws.

(b) PROFESSIONAL COURSES

IV. Interior and Exterior Space Designing*! Institutional House Keeping**

1. Furniture Design and Arrangement

3 (1+2)

Furniture style in different periods. Types of furniture and their selection. Arrangements and care of different types of furniture. Cost estimation of furniture for different income groups and areas.

Practical: Designing comfortable furniture for various activities and space saving multipurpose furniture. Arrangement of furniture for various occasions and different income group on scale drawing with contents. Market survey for latest trends. Designing comfortable furniture used for work, rest, relaxation, sleep, physically handicapped and elderly persons. Functional design of furniture, furniture design based on anthropometry functional design of comfortable furniture for work, rest, relations. Furniture for people with special needs.

2. Floor and Floor Treatments

3 (1+2)

Floor – definition components of floor, importance and types. Floor and floor treatment - types, care and maintenance. Carpet and rugs - its type and selection. Indoor and outdoor carpeting. Storage of floor covering, pretreatment and storage techniques.

Practical: Market survey for various types of floors and floor covering. Traditional and contemporary floor treatments. Care of floor coverings. Designing and construction of floor covering and their cost estimation.

3. Walls and Window Treatments

3(1+2)

Walls its types and importance; Exterior and interior wall materials. Finishes and surfacing - wall paper, paints, wood paneling, laminator, ceramic tiles, linoleum and fabrics, their care and maintenance. Wall elements -windows, doors and fire places - their types and styles. Windows treatments suspension methods, factors influencing choice of window treatment.

Practical: Study of latest wall finishes and method of use; Market survey for various types of drapery and curtain materials and costs. Planning window dressings for different types of windows, problem windows and their treatment, element and principles of design in window treatments.

4. Ornamental Plants & Flower Arrangement

3 (1+2)

Seasonal flowers - identification, characteristics, storage of seeds and bulbs, maintenance of lawns, identification and maintenance of potted plants.

Practical: Bonsai - important species and maintenance. Flower making from different materials. Flower collection, storage and arrangement. Care of flowers and foliage. Selection and preparation of plant materials. Drying and preservation of flowers and foliage. Application of flower arrangements for different areas and occasions. Preparation of permanent arrangement. Preparation of bouquets, garlands etc.

5. Architectural Drawings in Interior*

4 (1+3)

Lines, types of lines, lettering, drawing methods. The theory of projections - Introduction. Types of axonometric drawings. Perspective drawings (one point, two point). Oblique drawings. Orthographic projection (Parallel projection). Isometric drawing. Different rendering techniques and rendering symbols used in architectural drawings. Introduction to CAD.

Practical: To know about different projections and views - Orthographic projections and views. Isometric projection and view. Axonometric views. Oblique projection. Perspective drawings. Learning to draw isometric views from orthographic projections.

6. Computer Aided Interior Designing*

4 (0+4)

Introduction to CAD, various software's used in CAD, Basic application of CAD, Tools in CAD, and their use.

Practical: Preparation of house plans, room layouts and home lighting arrangements with the help of software packages. Making of colour schemes for various rooms including placement of wall hangings and other accessories. Designing and cost estimation of material for furniture, upholstery and draperies.

7. Basics in Building Construction *

4 (2+2)

Foundations - definition, purpose of foundation, causes of failure of foundation. Damp proofing and water proofing. Walls and types. Wall treatments. Masonry - stone masonry, brick masonry. Stairs, lintels and arches. Roof and roof coverings. Structural steel work. Specification for low cost buildings. Causes and prevention of cracks in buildings. Plastering and pointing, preliminary estimates for building / projects. Project management through PERT / CPM.

Practical: Types of foundations, Site inspection and preliminary investigation, Materials used for damp proofing. Treatment for damp proofing and water proofing. A visit to stone masonry and brick masonry sites. Drawing of different types of stairs. A visit to site for roof coverings. Preliminary estimates for a residential building. Drawing of any one network building. Analysis and scheduling of network.

8. Accessories for Interior Enrichment*

3 (0+3)

Practical: Importance of accessories in home interiors. Types of accessories - functional and decorative, selection and placement in different areas of the house. Market survey on latest trends in accessories. Preparation of any ten accessories. Organizing an exhibition on accessories.

9. Fitting, Fixtures and Services*

3 (1+2)

Interior and exterior fitting designs and styles. Wall, floor, window and cupboard fittings, kitchen and bathroom fittings and built in units. Wood paneling. Interior and exterior fixtures. Safety fittings - Locking system and remote control. Lighting fixtures and fittings for different rooms / areas and light control. Water supply system, drainage system, drainage bye-laws. Electrical layout and wiring system, bye - laws related to electricity. Special services, acoustics, garbage disposal, intercommunication system and anti termite treatment.

Practical: Market survey of latest fitting designs and fixtures. Bathroom fittings and fixture plan. Sanitary ware and fixtures plan. Kitchen fittings and fixtures plan. Walls, floors, work surface units, cabinets and storage plan. Exterior fittings and fixtures. Market study of lighting equipment - traditional and modern. Planning architectural luminaries. Schemes for exterior and interior environment. Visits to residential and commercial areas to study lighting fixtures and fittings. Study of water supply system drainage system and electrical layouts. Preparation and maintenance of compost pit for garbage disposal - vermiculture. Layout for inter - communication system.

10. Space Designing (Residential Buildings)*

3 (0+3)

Practical: Plans of various residential buildings - single story, multi story, bungalow, flats, apartments, duplex, detached and semi detached. Planning various spaces - drawing room, dining room, bedroom, storage, kitchens, toilets, dressing and pooja room. Ergonomic designing of storage and cabinets. Elevations of residential building. Sections of residential building and different spaces. Perspective drawing of residential buildings and different spaces. Visits of residential building sites.

11. Landscape Designing*

3 (1+2)

Introduction of landscaping from interior space design point of view. Historical references of landscape. Location and orientation. Climatic condition. Land profile. Soil types. Availability of water sources. Understanding of various materials for paving, walk ways etc (Stone masonry and brick masonry).

Practical: Fencing to entrance gate and other gates. Plan tree guards, sit-outs, open ground sheds for semi-shady plants, green house, gazebo, pedestals, monuments, statues, abstract etc. Study of indoor and outdoor plant species (natural/Artificial). Variety of

shrubs, creepers, grass etc. (natural/artificial). Drainage - water drains through potted plants, rain water from terrace. Waterproofing and checking the strength of terrace slab for terrace garden. Water bodies - natural and artificial. Garden furniture. Designing of terrace garden. Designing of party outdoor and indoor landscaping.

12. Functional Interiors for Special Needs*

4 (2+2)

Housing environments - Interior types based on functional needs, environment for specific purposes - interiors for elderly and other special needs. Planning, programming, designing and evaluating interiors for elderly and special needs; Functional interior options for specific purposes and special needs including independent living, congregate living, shared living, continuing care environment and nursing care environments.

Practical: Simulating interior environments for specific purposes. Making master plan concepts through drawings of interior representations for special needs. Arranging simulated interiors for special needs specific purposes. Oral presentations and written reports of any functional master plan.

13. Entrepreneurship Development*

4 (1+3)

Concept, need and process of entrepreneurship development. Government policies and schemes for entrepreneurship development. Developing entrepreneurial competencies. Setting up an enterprise - enterprise selection, market analysis, SWOT analysis, resource mobilization, finance, technology, raw material, site and man power. Identification of marketing strategies, packaging, quality control, advertisement, costing and taxation.

Practical: Visit to small scale industries. Study of pertinent enterprises in detail. Interaction with successful entrepreneurs. Preparation of project proposal for funding by different agencies.

14. Institutional House Keeping Concepts**

4 (2+2)

Different types of institutions - meaning of organization, organizational structure, authority and delegation. Theories of organization - appraisal on the organizational set up of different institutions. Design and facilities in institutions. Communication techniques and skills - types of communication. Handling complaints and emergencies. Hostess training - image projection, grooming, hygiene, appearance, etiquette, poise, manner, duties and job descriptions of hostess. Hostess desk and management. Handling of room service - receiving guests and art of conversation.

Practical: Study of different institutions such as hospitals, hotels, guest houses, etc. on the

organizational set up, functioning and facilities available. Review and evaluation reports on the institutions and submissions of reports. Practicing different techniques of communications and developing appropriate skill in hospitality. Mock sessions in handling complaints and emergencies. Practical exercises on etiquette, manners and art of conversation. Visits to institutions to observe the characteristics, duties and responsibilities of hostess. Submission of report.

15. Institutional Maintenance** **4(2+2)**

Importance of periodical and regular maintenance of hardware and software used in institutions. Materials used in the maintenance of hardware and software- polishes, cleaning agents, stain removals etc. Room services. Treatment of water and waste. Public health regulations related to food handlings. Insect and pest control measures.

Practical: Visits to small, medium and large scale institutions to observe maintenance practices of hard and soft wares. Use of audio-visual aids to enrich students on institutional maintenance. Use of different cleaning agents for routine maintenance of institutional facilities.

16. Services: Residences and Establishments** **4 (2+2)**

Water supply system - water supply system to commercial and residential building, water tanks, water pipes, traps used in water supply system, taps, stop cocks (dimensions, sizes, material etc). Laying and fixing of water supply pipes,-water supply to bathroom, toilet, WC and kitchen. Bye- laws related to water supply. Drainage system - types of drainage system. Drainage system with municipal drain lines, drainage system using septic tank and soak pit. Types of drain pipes - dimensions, material etc., types of traps used in drainage system, drainage bye- laws. Electrical layout and wiring system, types of wire and conduits. Wiring system - wiring for fans, tube lights, television, telephone and domestic appliances. Types of lamps and light fixture, Bye laws related to electricity. Special service - types of air conditioning, air conditioning ducting layout. Fire fighting - fixtures and fittings, fire fighting layouts, fire fighting bye-laws. Acoustics - acoustic materials, techniques of implementing acoustic treatment. Garbage disposal - Vermi composting, garbage disposal for multi storied building. Inter communication system - technique of inter - communication system. Anti-termite treatment.

Practical: Study of water supply system, drainage system and electrical layouts. Preparation and maintenance of compost pit for garbage disposal - vermiculture. Layout for inter communication system.

17. Table Service Management** **4 (2+2)**

Menu planning for different occasions. Delivery and service of food. Cost control factor Table etiquette. Trends in table setting, Table appointment. Table ware and maintenance.

Practical: Table appointment.-cover flatware, hollow ware, dinnerware and beverage ware. Materials used for table appointments- china, porcelain, earthenware, pottery, stainless

stet stoneware, plastic, glassware and silverware. Setting the table-linens, table decoration, layir flatware, placing beverage ware, placing dinnerware, placing service dishes of food, settit the auxiliary service table, waiting on table, cleaning the table, serving at table, left hand al right hand service, serving the dessert course, serving of hot beverages. Setting the table f different occasions.

18. Hospitality and Hostess Training**

4 (2+2)

Communication techniques and skills - types of communications, handling complaints aJ emergencies. Hostess training - image projection, grooming, hygiene, appearance, etiquetl poise, manners. Duties and job description of hostess, hostess desk and managemel handling of room service. Receiving guests, art of conversation.

Practical: Practicing different techniques of communication and developing appropri, skills in hospitality. Mock sessions in handling complaints and emergencies. Practi, exercises on etiquette, manners, art of conversation. Visits to institutions to observe t characteristics, duties and responsibilities of a hostess. Submission of reports.

19. Storage Designing**

4 (1+3)

Plan and layout of storage structure for various rooms/ areas/ different establishments as l the requirement. Factors influencing the need of storage space- climate, composition family activities and interest.

Practical: Ergonomically designing of built in storage space, other storage structure j various rooms; Market survey.,

20. Interior Designing and Decoration**

4 (2+2)

Objective of interior decoration. Elements of Art and principles design in interior decorati(Colour - theories, characteristics and application of colour in interiors. Lighting- types a effect of architectural and decorative lighting, lighting requirements for various activities a areas, optical illusion, outdoor lighting. Texture- types and effects in interior designing a decoration.

Practical: Application of elements of art and principles of design in interior decorati, Planning of various areas and rooms of residential and institutional buildings. Plann colour schemes and lighting for various areas. Creating optical illusion. Estimating furnish cost for different rooms/ areas.

21. Front Office Management**

4 (2+2)

Importance of front office management and basic terminology used. Front Office coordination with other departments. Planning furniture and equipment for front reception handling front office/ reception. Accommodation, reservation, activities, systems and documents, checking in and out. Maintenance of cash and account - maintenance of front office records. Guest relations, services and problems. Lobby arrangement.

Practical: Planning furniture and equipment for front office of different institutions. Observing and assisting the staff of front office in institutions. Preparing reports and reviews on the experiences and visits. Hands on experience in using front office systems.

22. Use and Care of Institutional Equipment**

4 (2+2)

Types, use and care of institutional equipment - food related equipment, laundry equipment, cleaning equipment, recreational equipment, communication equipment, heating and cooling equipment, waste disposal equipment, safety equipment.

Practical: Handling and maintenance of different materials used in institutional equipment, appliances and tools.

23. Communication Skills**

2 (0+2)

Practical: Impression management using verbal communication, using presentation skills that get results, using negotiation skills, motivating teams and raising accountability, using verbal communication to communicate vision strategy and goals clearly. Learning electronic and non electronic presentations.

Note: Courses without asterisk are common for both professional courses in FRM

6. HOME SCIENCE EXTENSION AND COMMUNICATION MANAGEMENT

(a) CORE COURSES

1. Home Science Extension and Rural Development

3 (3+0)

Extension education - concept, need and importance with special reference to Home Science, philosophy, principles and objectives. Concept and need of rural development, meaning aim and functions of extension education for rural development. Constraints in rural development. Changing scenario of rural India. Historical development of extension education - glimpses of evolution of extension during pre-independence era. Community development programme - concept, objectives organization, activities, achievement and

failures. Panchayati Raj Institutions - concept, structure and function. Recent developmental programmes for rural families - WDP, SJSY, KVKs. Role of ICAR, SAUs and NGOs in rural development.

2. Instructional Technology

3 (2+1)

Concept meaning and principles of teaching and learning **in** Home Science Extension. Classification of extension teaching methods. Communication approaches - individual, group and mass. Concept, use, importance and limitations of following extension teaching methods: Home visits; Discussion and meetings; Field trips; Campaign; Exhibition; Printed material; Demonstration and Dramatization. Selection of extension teaching methods. Audiovisual aids-meaning, importance, classification and functions. Graphic communication media charts, posters, flash cards, bulletin board display, leaflet, folder and pamphlet. Projected aids-transparencies and slides. Electronic media - Radio, T.V., Internet, E-mail. Three dimensional communication aids - specimen, objects and models. Folk media-importance and types.

Practical: Familiarization with accessories for preparing instructional materials. Preparation and use of following audio visual aids - charts /posters /flash cards, bulletin board display, transparencies, Puppets. Handling of slide projector and overhead projector. Planning and use of selected extension teaching methods.

3. Communication and Adoption

3 (3+0)

Communication - concept, importance, elements. Communication barriers and ways to overcome them. Diffusion - concept and elements. Meaning of related terms - innovation, adoption, innovation-decision process, rate of adoption, discontinuance, over adoption, social change, change agent and opinion leaders, change proneness. Characteristics of innovation with special reference to homestead technologies. Communication channels for technology transfer. Stages of adoption process (Innovation Decision Process). Adopter categories. Rate of adoption and factors affecting adoption. Consequences of adoption. Constraints in adoption of technologies.

4. Programme Planning, Implementation and Evaluation

3 (2+1)

Programme planning - Concept and importance; objectives and principles. Steps in programme planning. Involvement of local people **in** planning programme, Leader and Leadership - meaning, qualities and roles. Types of leaders - identification and training of leaders, Execution of programme - Environment building; Involvement of local leaders, local bodies, organizations and extension agencies; Constraints **in** implementation of programme at grass root level and ways to overcome them. Monitoring and evaluation of Extension programme - concept, importance types and techniques. Concept of five year plans and rural development. Participatory Rural Appraisal - Concept and techniques.

Practical: Establishing rapport with rural families. Conducting village and household survey.

Development of small need based programme, its implementation and evaluation. Writing report and its presentation.

(b) PROFESSIONAL COURSES

V. Information Technology and Communication Management

1. Print Journalism

4 (1+3)

Journalism Concepts. Concepts related with print journalism. Role of press in development. Trends in print media. Principles of print media. Press laws, ethics and issues. Rural press and its importance in development. News gathering and interviewing techniques. News agencies and their working. Writing, editing, proof reading and reporting news, news stories, press release.

Practical: Developing, designing and layout of various types of print materials-handout, leaflet, newspaper, newsletter and announcement. Working on a lab journal by application of writing, editing, and proof reading skills and final production. Testing the readability of prepared material. Visit to press.

2. Electronic Journalism

4 (1+3)

Introduction to electronic media - Expansion of radio and TV network. Role of TV and radio network in development. Writing and editing script for TV and radio programme. Media policies, laws and ethics for electronic journalism.

Practical: Learning about basics of radio and TV production techniques. Gathering Radio and TV news, visualizing news, field reporting of specialized news-cultural, political, sports, developmental etc. compiling, editing, news reading, anchoring, and presenting radio and TV news. Planning and production of radio and TV programmes.

3. Photojournalism

4 (1+3)

Concept of photo journalism, Principles of photojournalism. Qualities of photojournalists. Understanding different types of camera and their handling. Techniques and processing of photography.

Practical: Handling and use of photographic equipment. Techniques of photography using different types of camera and computer. Exposing, developing, printing, caption writing, photo editing, writing and reporting for photo features, exhibitions and displays etc.

4. Mass Communication

4 (1+3)

Meaning, nature, importance and characteristics of mass communication. Different mass media - their characteristics and use in communication. Trends in media and technology. Application of computer based instruction in extension.

Practical: Preparation of instructional modules for different mass media.

5. Designing Information Material

4 (1+3)

Principles of designing, Different software for print media and presentation material. Field testing - concept and importance.

Practical: Operation and use of applied software like M.S. Office, Power Point, Corel Draw/Illustrator, PhotoShop, Page Maker, Graphics, Animation, DTP, etc., Preparing Computer aided aids - Leaflet/Handout/Poster, Booklet/flipbook, Slides. Field testing of any one developed aid. Web page for computer advertisement.

6. Instructional Video Production

4 (1+3)

Use of video in mass communication. Understanding video camera and its parts. Different video formats and its accessories. Steps in video production - planning for scripting, recording and editing.

Practical: Familiarization and handling of video camera - changing and loading battery pack, inserting video cassette, focusing, zooming and shooting. Script writing, recording, editing and evaluating the prepared programme.

7. Digital Advertising

4 (1+3)

Advertising-concept, importance, role, types, elements, principles and techniques. Principles and types of designing. Planning of advertisements for different media-print, radio, television, (folders, banners, posters, wall writings, cartoons etc.)

Practical: Familiarization and handling of the digital camera, capturing on computer, editing and presentation.

8. Multimedia Production

4 (1+3)

Multimedia - Concept, importance and application. Process of developing multimedia. Software for producing multimedia and interface elements. Hardware for multimedia - video capture card and CD-writer. Understanding the use of LCD panel and projector for multimedia presentation.

Practical: Multimedia applications. Operational handling of CD-Writer and multimedia kit. Multimedia development process. Designing the interface elements, Production and preparation of output of developed one multimedia package in the form of C.D. Use of LCD panel and projector.

9. Training and HRD

3 (1+2)

Training-concept, need and importance of training for HRD in Home Science. Concept, dimension, need and strategic intervention in HRD. Facilitation skills in training and different training methods. Designing, conducting and evaluation of training programmes.

Practical: Planning and practicing different training methods. Conducting case studies of selected ongoing training programme. Designing and conducting training programmes for HRD of 3-5 days duration. Developing and use of evaluation tools for measuring learning out comes.

10. Project Management

3 (1+2)

An overview of project management. Project initiation and resource allocation. Market and demand analysis. Environmental appraisal of projects. Cost benefit analysis. Project planning formulation, budgeting, scheduling, monitoring and control.

Practical: Identification of clientele. Planning and development of a viable project. Visit to different banks and other financing institutions. Studying new schemes for financing home related projects.

11. Entrepreneurship Development for Rural Families

4 (1+3)

Concept, need and importance of entrepreneurship development for farm families. Process of initiating enterprise. Type of enterprises - their merits and demerits. Government policies and schemes for entrepreneurship development among farm women. Entrepreneurial motivation. Competencies required in women entrepreneurs - management of financial resources, launching and organizing enterprise, marketing management.

Practical: Visit to a small scale and cottage industry. Study of one enterprise in detail. Preparing a project proposal for submitting to a funding agency. Interaction with successful women entrepreneurs.

12. Public Relations and Social Marketing

4 (1+3)

Relevance of public relations in changing scenario including public, private and governmental sector. Public relation - laws and ethics. Concept and philosophy of social marketing. Marketing V /S sale. Principles of social marketing. Importance of social marketing in development. Social marketing requirements and changing Indian marketing situations. Marketing oriented strategic planning, scanning the marketing environment, analyzing the consumer market and buyer behaviour, managing marketing channels etc.

Practical: Practical exercise on designing and pricing social products. Role of social marketing in change in public behaviour. Scanning Social market situations - strategies and constraints. Controlling and evaluating social marketing strategy.