

REVISED COURSE STRUCTURE FOR HOME SCIENCE AS PER CBCS

FIRST SEMESTER

HS – 101: INTRODUCTION TO FAMILY RESOURCE MANAGEMENT

- UNIT- I** Definition, functions and types of family. Home Management – Definition, concept and importance. Management Processes – Planning, importance and its types. Controlling Phases – Energizing, checking, adjusting, evaluating. Decision Making – Definition, types and steps involved in decision making.
- UNIT- II** Factors Motivating Management – Goals, concept and classification. Values – Concept, classification, changing values. Standards – Concept, classification; conventional, non-conventional, qualitative, quantitative. Attitude Concept.
- UNIT- III** Resources – Definition, classification, characteristics, factors affecting the use of resources, guides to increasing satisfaction from the use of resources.
- UNIT- IV** Time- as a resource. Tools in time management – Peak load, work curve, work units. Time plans – definition, advantages, steps in making time plans. Energy – as a resource, energy cost, efforts used in home making activities. Fatigue – definition, types, measures to overcome fatigue, rest periods to relieve physiological fatigue.
- UNIT- V** Non-Human Resources – Community resources; concept, role of citizen/home science in maintaining community resources. Money – as a resource. Family income – Types, sources, methods of handling income, supplementing family income. Budgeting – Definition, types and its importance, steps in making budget. Account keeping – Importance, systems. Savings and Investment – Meaning, objective, types, criteria for judging sound investment, credit-merits and demerits

RECOMMENDED BOOKS :

1. Reddy PN, Tripathi PC, Appannaiah HR (2009), 'Essentials of Management,' Himalaya Publishing House.
2. Shivalingam T (2005), 'Fundamentals of Management,' Vrinda Publication Ltd., New Delhi.
3. Nickell&Dossey JM, 'Management in Family Living,' Wiley Eastern Private Ltd., 1986.
4. Varghese, M.A, 'Home Management' Wiley Eastern Ltd., 1989.
5. Educational Planning Group, 'Home Management,' Arya Publishing House, New Delhi, 1993.
6. Gross G.C. and Grandall, 'Management for Modern Family,' Prentice Hall Inc., New

HS 102 :PRACTICALS FOR HS-101

1. Identify a problem using decision tree how you solve it.
2. Plan a group event and explain the management process.
3. Plan time and activity chart for 3 days and evaluate.
4. Plan family budget for small unit family
5. Calculate energy cost for :
 - a) Any 2 activities
 - b) Measure your minimum, normal and maximum reaches in Horizontal and Vertical plane.

HS -103: CHEMISTRY

- UNIT-I** An introduction to Organic Chemistry. Definition of atom, molecule, valency, normality, molarity, equivalent weight, molecular weight, empirical formula, molecular formula, chemical equation, diffusion, pH and buffer solution. Oxidation, reduction, oxidizing and reducing agents.
- UNIT- II** Detection of carbon, hydrogen, nitrogen, sulphur and phosphorus in organic compounds; Hydrocarbon – Definition, type, general properties of saturated and unsaturated hydrocarbons; Definition, structural formula, preparation, properties and uses of methane and Ethane.
- UNIT-III** Alkyl halide – definition, structural formula, preparation, properties and uses of Methyl Iodide and Ethyl Iodide.
Alcohol – definition, structural formula, preparation, properties and uses of Methyl alcohol and Ethyl alcohol.
- UNIT-IV** Ketone and Aldehyde – Definition, structural formula, preparation, properties and uses of Acetone and Formaldehyde.
- UNIT –V** Carboxylic acid- Definition, structural formula, preparation, properties and uses of Acetic acid, Oxalic acid. Hydroxy acid – Definition, structural formula, preparation, properties and uses of Tartaric acid and Citric acid.

RECOMMENDED BOOKS :

1. Bahl, B.S. &Bahl,A. (1995). Advanced Organic Chemistry (Fourth Edition). S.Chand& Company Limited. Ram Nagar, New Delhi
2. Pine, S.H.(1987). Organic Chemistry (Fifth Edition), McGraw Hill International Editions, Printed at Singapore.
3. Finar, I.L (1995). Organic Chemistry (Fifth Edition). ELBS Edition. Produced by Longman, Singapore Publishers (Pvt) Ltd: Singapore
4. Kapoor, K.L.(2001). Text Book of Physical Chemistry(Third Edition). Mc Milan India Limited, Ansari Road, Daryaganj, New Delhi.
5. Pandey, O.P., &Bajpai, D.N (2003). Practical Chemistry, S,Chand& Company Limited. Ram and S.Giri and S.Giri Nagar, New Delhi

HS- 104: PRACTICALS FOR HS 103

1. Preparation of Standard solution
2. Titration of acid and base
3. Preparation of buffer solution

HS -105: TEXTILES

- UNIT- I** Definition and classification of fibers; Primary and secondary properties of fibers. Manufacture and properties of cotton, linen, silk, wool, viscose; acetate, polyester (Dacron) and acrylic.
- UNIT- II** Introduction to yarns. Yarn making - Filament and staple yarns, Classification of yarns: Simple, Novelty/Fancy/Complex, Textured yarns.
- UNIT- III** Construction of fabric. Weaving- terminology, description and working of loom. Different types of weaves - Plain (rib and basket), Twill, Satin, Sateen, Decorative (Pile, Leno, Swivel, Jacquard, Lappet, Dobby). Count of cloth; its importance in the balance construction of cloth. Knitting: definition – warp and weft knitting. Other methods of fabric construction: felting, bonding, braiding, lace making.
- UNIT- IV** Textile finishes- Definition, objectives, classification of finishes-Mechanical and Chemical; Singeing, Bleaching, Mercerizing, Sanforizing, Calendering, Tentering, Crabbing, Fulling, Schreinerizing, Moireing, Embossing, Napping, Brushing, Shearing, Weighting, Sizing, Beetling, Glazing, Crease resistance, Crepe, Water proofing, Flame proofing, Moth proofing, Mildew proofing.
- UNIT- V** Care and maintenance of fabric- Cleansing materials and other reagents. Blueing, Bleaching, Stiffening agents. Method of cleaning- Stain removal, General rules for stain removal, classification of stains, animal, vegetable, grease, dye and mineral stain.

RECOMMENDED BOOKS:

1. Gupta Sushma, Neeru Garg & Renu Saini. Text Book of Clothing, Textiles and Laundry. Delhi: Kalyani Publishers. 2005.
2. Dantiyagi Susheela. Fundamentals of Textiles and their Care. New Delhi: Orient Longman Limited. 1987.
3. Singh K.V.P. Introduction to Textiles. New Delhi: Kalyani Publishers 2006
4. Deulkar, D. Household textiles and their care. New Delhi: Atmaran and Sons 1967.
5. Hollen Norma & Jan Saddler. Textiles New York: Mac Millan Publishing Company 1986.

6. Gupta Sushma, NeeruGarg&RenuSaini. Text Book of Clothing and Textiles. Delhi: Kalyani Publishers 2004.

HS- 106: PRACTICALS FOR HS- 105

1. Identification of fibers: physical, chemical, burning, and microscope test
2. Study of basic weaves
3. Removal of stains
4. Thread count and balance .
5. Visit to Handloom Industry/Sericulture

SECOND SEMESTER

HS-201: INTRODUCTION TO NUTRITION

- UNIT- I** Definition of food, nutrients, nutrition, malnutrition, optimal nutrition. Functions of food-Physiological, psychological and social functions. Basic food groups and their main nutrients composition. Food selection, purchase and storage. Criteria for wise selection and purchase of food, different storage of food.
- UNIT- II** Enhancing nutritional quality of food – Fermentation, fortification, germination and combination of food. Food preparation-Principles of cooking, reasons for cooking, methods of food preparation. Food Spoilage and Food Preservation.
- UNIT- III** Carbohydrates – function, food sources and RDA. Protein –function, sources and RDA, essential and non essential amino acids, quality of proteins, deficiency of proteins. Lipids –function, sources and RDA, essential fatty acids; Protein – Classification, composition, function, sources and RDA.
- UNIT- IV** Energy metabolism – Energy yielding food, BMR, factors affecting BMR, RDA of energy for different categories of individual; Macro-minerals – Function, sources, RDA and deficiency of calcium and phosphorus.
- UNIT- V** Fat soluble vitamins – Function, sources, RDA and deficiency of vitamin A and vitamin D; Water soluble vitamins – Function, sources, RDA and deficiency of thiamine, riboflavin, niacin and vitamin C.

RECOMMENDED BOOKS:

1. Educational Planning Group (1993). Food and Nutrition: A text Book of Home Science, Arya Publishing Home, New Delhi.
2. Sumati, H.R., and Rajagopal, M.V (2001). Fundamentals of Food and Nutrition. New Age International (pvt)Ltd, New Delhi
3. Srilaksmi, B.(2007). Food Science, New Age International(pvt)Ltd, New Delhi
4. Srilaksmi, B.Nutrition Science, , New Age International(pvt)Ltd, New Delhi
5. M Swaminaathan, Hand book of Food and Nutrition: The Bangalore Printing and Publishing Co Ltd.
6. Sumati R Mudambi, Shalini M Rao, Food Science: New Age International(pvt)Ltd, New Delhi

7. M Swaminathan, Food and Nutrition Vol I and II: The Bangalore Printing and Publishing Co Ltd.

HS- 202: PRACTICALS FOR HS-201

1. Preparation and calculation of nutritive value of the following dishes:
2. Cereal preparation – chapatti, poori, noodles, macaroni
3. Pulse preparation – pulse with leafy vegetables, pulse with other vegetables
4. Vegetable preparation – leafy vegetables, other vegetables, root vegetables.
5. Meat/ fish/ egg
6. Nutritious snacks
7. Salads and desert
8. Cakes and cookies

HS-203: BIOCHEMISTRY

- UNIT- I** Historical background, definition and scope of Biochemistry. Carbohydrates – Definition, classification, structure, properties and biological significances of carbohydrates.
- UNIT- II** Lipids – Definition, classification and properties of lipids; saturated and unsaturated fatty acids; essential fatty acids; biological importance of lipids.
- UNIT- III** Proteins – Definition, classification, structure, properties and functions of proteins; Classification of amino acids; essential and non-essential amino acids
- UNIT- IV** Enzymes – Definition, types and classification of enzymes; definition and types of coenzyme; specificity of enzyme; isozyme; factors affecting enzyme action; enzyme inhibition.
- UNIT- V** Intermediary metabolism – TCA cycle. Gluconeogenesis; glycogenesis; glycolysis; glycogenolysis; Elementary knowledge of protein biosynthesis; Nucleic acids – Types, composition, structure, properties, replication of DNA; different types of RNA and their significances.

RECOMMENDED BOOKS :

1. Rao, A.R(1984). Text Book of Biochemistry; Fourth Edition, L.K & S. Publishers, Tanuku
2. Trehan, K. (1990). Biochemistry: second Edition, Wiley Eastern Limited, New Delhi
3. Sastry, K.Y. (2003). Animal Physiology and Biochemistry. First Edition, Rastogi Publications, Shivaji Road, Meerut, India
4. Lehninger, A.L. (1984). Biochemistry, Second Edition, Reprinted, Kalyani Publishers, New Delhi- Ludhiana.

5. Singh, H.R.(1993). Animal Physiology and Related Biochemistry. Fifth Edition, Published by ShobanLalNagin Chand & Co, Jalandar, Punjab, India.
6. Jain, J.L.(2002). Fundamentals of Biochemistry. Fifth Revised & Enlarge Edition, S.Chand& Company Limited, Ram Nagar, New Delhi.

HS- 204: PRACTICALS FOR HS- 203

1. Carbohydrates – Identification test for monosaccharides, disaccharides and polysaccharides
2. Proteins – Identification test for different amino acids.
3. Lipids – General test for lipids.
4. Separation of amino acids by paper chromatography

HS- 205: EXTENSION EDUCATION

- UNIT- I** Extension Education: Definition, meaning, importance and scope; Principles of Extension Education; Qualities of Extension Education workers.
- UNIT- II** Role of Home Science in Extension Education; History and development of Home Science extension and its scope; Role of Home Science extension in rural development.
- UNIT- III** Extension programme planning: Meaning and principles; Steps in Extension programme planning; University Extension programmes; Basic principles used in programme planning.
- UNIT-IV** Leadership in Extension Education; Meaning, types of leadership; Characteristics; Role and functions of local leaders in Extension work.
- UNIT-V** Teaching learning process: Concepts and characteristics of learning; Steps in Extension Teaching; Learning situation in Extension Education; Power of adults to learn.

Recommended Books:

1. Directorate of Extension. Extension Education in Community Development, New Delhi; KrishiBhavan GDI, 1979
2. Dahama, O.P. Extension and Rural Welfare. Agra 282003: Ram Prasad and Sons, 1989
3. Reddy,AA.Extension Education. Bapatla AP 522101: Sri Laxman, 2000
4. Nisha, M. Understanding Extension Education. Delhi : Kalpaz Publication, 2006
5. Supe, SV.An Introduction to Extension Education, New Delhi: Oxford & Publishing Co.Pvt Ltd 1983

6. Khandai, Hemant & Kalika Yadav. Extension Education. New Delhi: APH Publishing Corporation 2011

HS- 206: PRACTICALS FOR HS- 205

- 1) Planning and evaluating a particular programme concerning any Home Science extension programme.
- 2) To study and learn the role and function of any two leaders of an NGO in your locality.

THIRD SEMESTER

HS- 301: EXTENSION EDUCATION AND COMMUNICATION

- UNIT- I** Communication: Concept and meaning of communication; Channels of communication; Essentials of communication; Types of communication; Importance of communication in Extension work.
- UNIT- II** Communication and Extension methods: Individual approach; group approach; mass approach.
- UNIT- III** Audio visual aids: Planning, classification and use of audio visual aids; Audio Aids; Non-projected visual aids; projected visual aids: slides, film-strips, opaque projectors, movie projectors.
- UNIT- IV** Indigenous communication channels: Introduction, special features of Indigenous communication channels; types of Indigenous channels: folk media, social gatherings, puppets, drama.
- UNIT- V** New communication technologies: Introduction; Kinds of new communication technologies: micro-computers, video text, electronic Email, interactive video, teleconferencing, multi-media strategies; computer in extension education.

Recommended Books:

1. Dahama, O.P. Extension and Rural Welfare, Agra: Ram Prasad and Sons, 1989
2. G.L.Ray. Extension Communication and Management. Kolkotta: Kalyani Publishers 1991
3. Kumar, Birendra & B.S Hanora. Extension Education for Human Resource Development. New Delhi: Concept Publishing Company.
4. Dahama, O.P and Bhatnagar, O.P. Education and Communication for Development, New Delhi: Oxford & IBH Publishing Co. (1987)
5. Dubey, V.K and Indira Boshnoi. Extension Education and Communication. New Delhi: New Age International Publishers 2009
6. Pankajam, G. Extension Education Third Dimension of Education. New Delhi: Gyan Publishing House. 2000

HS – 302: PRACTICALS FOR HS- 301

- 1) Planning, preparing and evaluating visual aids of any two of the following: posters, charts, flip books, flash cards, puppets.
- 2) To visit and educate one family on any one Home Science topic.

HS- 303: PHYSIOLOGY

- UNIT- I** Cardio-vascular system -Blood and its composition; blood groups; coagulation of blood; Structure and functions of heart; heart rate; cardiac cycle; blood pressure and its regulation; circulation of blood; blood transfusion.
- UNIT- II** Gastro-intestinal system - Anatomy of gastrointestinal tract; digestion and absorption of foods; role of saliva, gastric juice and pancreatic juice in digestion.
- UNIT- III** Respiratory system - Structure of lungs; mechanism of respiration and its regulations; oxygen and carbon dioxide transport in blood; respiratory quotient. Reproductive system - Structure and functions of male and female reproductive organs; menstrual cycle; parturition; lactation; menopause.
Excretory system- Structure and functions of kidney; formation of Urine.
- UNIT- IV** Nervous system- Structure of nerve cells,transmission of nerve impulse through the synapse; central and peripheral nervous system.
Muscular system- Structure of skeletal, cardiac and smooth muscles; mechanism of muscle contraction; chemical change during muscle contraction.
- UNIT- V** Endocrine system -Various endocrine glands and their secretion in man; Biological role of hormones of different endocrine glands.
Pheromones- definition, type and functions of pheromones.

RECOMMENDED BOOKS :

1. Verma, P.S and Agarwal, V.K (1989) . Animal Physiology and Ecology. Fourth Edition, B.S.Tyagi. S.Chand& Company Limited, Ram Nagar, New Delhi.
2. Sastry, K.V (2003). Animal Physiology and Biochemistry (First Edition, Rastogi Publications, Shivaji Road, Meerut, India
3. Rastogi, S.C (2001) Essentials of Animal Physiology, Third Edition, New Age International(P) Limited Publishers, New Delhi

4. Burger, H.G., et al (2001) Endocrinology. Fourth Edition, Vol III. W.B Saunders Company Philadelphia London, New York.
5. Rastogi, S,C (2001) Cell and Molecular Biology, Reprint, New Age International(P) Limited Publishers, Ansari Road, Daryaganj, New Delh
6. Singh, H.R (1993). Animal Physiology and Related Biochemistry. Fifth Edition. Published by ShobanLalNagin Chand & Co, Jalandhar, Punjab, India.

HS- 304: PRACTICAL FOR HS- 303

1. Estimation of haemoglobin
2. Blood group typing
3. Preparation of Haemin crystals

HS : 305 – HOUSEHOLD EQUIPMENT & CONSUMER EDUCATION

- UNIT- I** Electric – fuses, meter, circuits – series and parallel, conductors, semi-conductor, insulator.
- UNIT- II** Appliances – selection of household equipment, materials used for equipment; aluminum, stainless steel, brass, copper, plastic, glass. Classification of equipments; motorized, heating, electronic, low voltage appliances. Care and maintenance of household equipments.
- UNIT- III** Consumer education – definition, meaning, needs, objectives and role of consumer in the market. Consumer rights & responsibilities. Consumer problems – types of problems; product, services. Guidelines for wise buying practices.
- UNIT- IV** Consumer protection – needs and importance of consumer protection. Basic legislative framework for Consumer Protection in India – quality control, weights & measures, standardization; FPO, ISI, AGMARK, Wool Mark, Cotton Mark, Silk Mark, Star Labeling. Redressal Mechanism.
- UNIT- V** Markets – definition, functions, type of markets, E. Marketing. Buying Aids – labels, packaging, advertising, printed materials, audio communication.

RECOMMENDED BOOKS :

1. Khanna SR HannspalKapoor S &Anaswathi KH, 2007, ‘Consumer Affairs Universities Press, India Pvt. Ltd
2. Lawhney HK &Mital M, (2007), ‘Family Finance and Consumers Studies, ‘Elite Publishing House Pvt. Ltd.
3. Nickell&Dossey JM, ‘Management in Family Living,’ Wiley Eastern Private Ltd., 1986
4. Educational Planning Group, ‘Home Management,’ Arya Publishing House, New Delhi.

HS – 306: PRACTICALS FOR HS- 305

1. Demonstration to Meter reading.
2. Food Adulteration Test.
3. Analysis of label, brand of consumer product and standardised mark.
4. Presentation of seminar paper.

FOURTH SEMESTER

HS- 401: HUMAN DEVELOPMENT – CHILDHOOD

- UNIT- I** Introduction to human development- Meaning and Principles; factors affecting growth and development; influences of heredity and environment.
- UNIT- II** Prenatal Period : Courses of pre-natal development; overview of birth process and complications; conditions affecting pre-natal development.
- UNIT- III** Infancy : Physical, social, emotional and personality development.
- UNIT- IV** Early childhood : Physical, social, emotional and personality development.
- UNIT -V** Late childhood : Physical, social, emotional and personality development.

RECOMMENDED BOOKS:

1. Berk, L.E.(2006) : Child Development, New Delhi: Prentice Hall
2. Hurlock, Elizabeth. B. (2004) : Developmental Psychology: A life-Span approach : Tata McGraw Hill Publication Com.Ltd.New Delhi.
3. Hurlock, Elizabeth. B. (2001). Child Development. Tata McGraw Hill Publication Com.Ltd.New Delhi
4. Kuppuswamy. B.D : House. Textbook of Child Behaviour and Development, New Delhi .Vikas Publishing
5. Papalia, Olds and Feldman. (2004). Human Development. Tata McGraw Hill Edition, New Delhi
6. RajammalP.Devedas and N.Jaya(1994): A textbook on Child Development. Mac Millan India Limited. Delhi
7. Santrock, John W.(2008). Child development-. Tata McGraw-Hill Publishing Company.

HS- 402:PRACTICAL FOR HS- 401

1. Sociometry test
2. Intelligent Test

HS-403: CLOTHING AND TEXTILES

- UNIT- I** Fabric preparation: Sewing:Preparation of fabric before cutting; Pattern layout, pinning, marking and cutting; Equipment and tools for measuring, drafting, pinning, marking, cutting, and sewing; Sewing machine: parts and functions, common defects in sewing machine and their remedies, care and maintenance.
- UNIT- II** Methods of taking body measurements: Bodice, arm and skirt; Fitting of garments: Factors which would help to judge a good fit; Reasons for good fitting; Steps in solving a fitting problem.
- UNIT- III** Developing a Design: Introduction; Drafting, advantages and disadvantages; The pattern making:- principles, pattern making terminology, advantages and disadvantages; Draping – advantages and disadvantages.
- UNIT- IV** Dyeing of Textiles: Classification of dyes: - Natural (vegetable, animal, mineral); Synthetic (direct, basic acid, sulphur, mordant, developed, disperse, reactive, pigment); Methods of dyeing- stock, yarn, piece, cross, solution, or dope and product dyeing; Printing - Hand printing; block, screen, stencil, tie and dye; Machine printing: (direct, roller, discharge, resist, pigment, duplex, transfer, photo, flocking).
- UNIT- V** An introduction to Indian Textiles; Different textiles of India and Indian Embroideries.

RECOMMENDED BOOKS :

1. Gupta Sushma, NeeruGarg&RenuSaini. Text Book of Clothing Textiles and Laundry. New Delhi: Kalyani Publishers 2005
2. Lewis Virginia Stolpe. Comparative Clothing Construction Techniques. Delhi: Surjeet Publications 1984.
3. YadlaVijaya Lakshmi. Home Science- reference Book for UGC. New Delhi: Kalyani Publishers 2000
4. DantyagiSusheela. Fundamentals of Textiles and their care. New Delhi: Orient Longman Limited 1987.
5. Hollen Norma & Jane Saddler. Textiles. New York : Mac Millan Publishing Company. 1986.
6. DoongajiSherie&RoushiniDeshpande. Basic processes and Clothing construction. Delhi: RaajPrakashan 1991
7. Gupta Sushma, NeeruGarg&RenuSaini. Text Book of Clothing and Textile. Delhi: Kalyani Publishers 2004.

HS- 404: PRACTICAL FOR HS- 403

1. Study and preparing samples of: embroidery stitches, basic hand stitches, seams, fullness and darts, fasteners.
2. Adaptation of child bodice block, drafting and construction of: baby feeders/baby dress.
3. Adaptation of adult basic bodice block and skirt.
4. Stencil printing.

HS-405: NUTRITION FOR THE FAMILY

- UNIT – 1** Nutrition for adults – reference man and woman, nutritional requirement, meal planning, factors to be considered while planning a balanced diet. Nutrition for expectant mothers - dietary problems, complications of pregnancy, dietary guidelines.
- UNIT- 2** Nutrition for nursing mother – volume and composition of breast milk, factors affecting, nutritional requirement, dietary guidelines. Nutrition for infants - breast feeding, weaning, supplementary feeding, nutritional requirement for normal infants;
- UNIT- 3** Nutrition for preschool children (1 – 6 years)- Nutritional requirement, food habits and factors affecting nutritional requirements. Nutrition for school going children (7 – 13 years)- Nutritional requirement, packed lunch.
- UNIT- 4** Nutrition for adolescents –nutritional problems, nutritional requirement
Geriatric nutrition- nutritional requirement, nutrition related problems of old age, modification of diet for the elderly, dietary guidelines. Nutrition for sports and athletes.
- UNIT-5** Water and electrolyte balance – Functions of water, water balance, distribution of water, composition of body fluid, sodium and potassium as an electrolyte. Food spoilage- Factors contributing to food spoilage, micro organisms responsible for food spoilage. Food preservation- Importance, principles and methods of food preservation (household and commercial method)

RECOMMENDED BOOKS:

1. Educational Planning Group (1993). Food and Nutrition: A text Book of Home Science, Arya Publishing Home, New Delhi.
2. Sumati, H.R., and Rajagopal, M.V (2001). Fundamentals of Food and Nutrition. New Age International (pvt)Ltd, New Delhi
3. Srilaksmi, B.(2007). Food Science, New Age International(pvt)Ltd, New Delhi
4. Srilaksmi, B.Nutrition Science, , New Age International(pvt)Ltd, New Delhi

5. M Swaminathan, Hand book of Food and Nutrition: The Bangalore Printing and Publishing Co Ltd.
6. Sumati R Mudambi, Shalini M Rao, Food Science: New Age International(pvt)Ltd, New Delhi
7. M Swaminathan, Food and Nutrition Vol I and II: The Bangalore Printing and Publishing Co Ltd. Frazier W.C, Food Microbiology: Tata McGraw-Hill Publishing Co Ltd, New Delhi
8. Subbulakshmi.G, Food Processing and Preservation: New Age International(pvt)Ltd, New Delhi

HS-406: PRACTICAL BASED FOR HS-405

Planning, preparation and calculation of nutritive values of balanced diet for different age groups:

1. Adult man and woman
2. Expecting and nursing mother
3. Elderly person
4. Pre-school child
5. School going child
6. Adolescent
7. Preparation of weaning food.
8. Preparation of pickles and jams

FIFTH SEMESTER

HS – 501: FAMILY AND CHILD WELFARE

- UNIT – I** Meaning and importance of Family and Child Welfare. Central Social Welfare Board meaning and programmes undertaken by Central Social Welfare Board. Profile of Women and Children in India with focus on Health and Education.
- UNIT – II** Family welfare -National Rural Health Mission ; Nature and objectives and programmes. Family counseling centre : Objectives, importance and junctions. Elderly; Definition, status, services and National policies.
- UNIT – III** Women welfare : Reproductive Child Health Care Nature and Programmes. Women Empowerment – Native, Reasons and Policy, National Women Commission.
- UNIT – IV** Child Welfare : Juvenile Justice Act 2000, National Plan of action for Children 2005. Agencies rendering services to children UNICEF, NIPCCD Childline, ICDS.
- UNIT – V** Laws relating to protection of women and children. Women’s Legal Rights; Divorce, property, domestic violence, child labour, child abuse. Services for the

physically handicapped, orthopedically blind, heard of hearing and speech defect.

RECOMMENDED BOOKS:

1. ICSSR – Status of women in India, Report of the National Committee, Allied Publishers, Delhi.
2. Profile of Social Welfare – Chowdry, D.P (1993) Jaipur :Mangal Deep Publication.
- 3.Social Legislation in India, New Delhi –Gangrade, K.D (1978)
4. Legal right for women and families, New Delhi – Verma, U.S and Singh, M (1998)

HS- 502: PRACTICALS FOR HS 501

1. Visit to an institution or centre (Anganwadi/ Orphanage).
2. Visit to observation (Home/ Disabled institution).

HS 503: EARLY CHILDHOOD EDUCATION

- UNIT – I** Introduction to Early Childhood Education- Meaning, aims and objectives of early childhood education; Significance of early childhood education; Importance of early childhood years in individual's development.
- UNIT – II** Play- Meaning and values of play; Types of play; Factors affecting play. Creativity- Meaning and characteristics of creativity; The creative process; Expressions of creativity in early childhood; Developing creativity in children.
- UNIT – III** Language development-Language skills – pre-reading and pre-writing skills; Factors influencing language development; Fostering language development; Speech defects.
Child rearing practices-Parenting styles,Ways of disciplining.
- UNIT – IV** Organisation of pre-school centres - Building and other physical facilities, Staff, Size of the class, Equipments, Curriculum. Pre- school programme; Home-school relations.
- UNIT – V** Contributions of Educational philosophers towards early childhood education- Rousseau; Froebel; Maria Montessori; Rabindranath Tagore; Mahatma Gandhi.

RECOMMENDED BOOKS:

1. Aggarwal, J.C. (2000). History & philosophy of Pre-primary and Nursery Education. Doaba House, New Delhi.
2. Choudhury, A &Choudhury, R. (2002) Pre-school Children-Development, Care and Education. New Age International (P) Limited, Publishers, New Delhi.

3. Hurlock, Elizabeth. B.(2001). Child development. Tata McGraw Hill Publishing Company Limited. New Delhi.
4. Mohanty, J. and Mohanty, B. (2002). Early Childhood Care and Education (ECCE). Deep & Deep Publications, New Delhi.
5. Singh, B. (2011). Pre- school Education, APH Publishing Corporation, 5, Ansari Road, New Delhi.
6. Sen Gupta, M. (2009). Early Childhood Care and Education. PHI Learning Private Limited, New Delhi.

HS- 504: PRACTICAL FOR HS- 503

1. Observation of a pre-school child in relation to his/her all round development- physical, mental, social, emotional and personality development.
2. Observation of a pre-school centre/nursery school.

HS- 505: GARMENT DESIGN

- UNIT –I** Importance of clothing. Sociological and psychological aspects of clothing.
- UNIT –II** Selection of suitable clothing- Introduction, Factors affecting selection of clothing. Clothing for different age groups- Infant, creeper, toddler, pre-school, school going children, pre-adolescent, adolescent, adults, elderly.
- UNIT –III** Elements and principles of design and its application to garment design- Introduction to Fashion Design, Elements of Fashion design, Principles of design.
- UNIT -IV** Fashion Basics- Fashion and fashion cycle, Terminology of fashion, Components of fashion, Principles of fashion, Factors affecting fashion, Theories of fashion adaptation.
- UNIT –V** Different sewing crafts- Couching, Threads, plain couching. Openwork - Pulled thread work, withdrawn thread work, cut work; Faggoting; Needlepoint; Patchwork.

RECOMMENDED BOOKS:

1. Frings Stephen Gini. Fashion- From concept to consumer, Delhi: Pearson Education, 2002
2. Armstrong Helen Joseph. Pattern making for Fashion Design, Delhi: Pearson Education 2005
3. G.J. Sumathi. Elements of Fashion and Apparel Design. New Delhi: New Age International(P) Limited 2002

HS- 506 PRACTICAL FOR HS- 505

1. Colours: colourwheel, value chart, intensity chart, gray scale.
2. To design and construct:
 - a) Child's A line frock
 - b) Adult blouse
3. Preparing samples of the following: couching, openwork, faggoting, needlepoint, patchwork.

OPTIONAL COURSES

(A): HS- 507: DIETETICS

- UNIT-1** Diet therapy- factors to be considered in planning therapeutic diets, different ways of diet modification, routine hospital diets; Special feeding methods – tube feeding and parenteral feeding, pre and post operative diet; Diet management in fever and infection- Types of fever, effect of fever on metabolism, diet modification, effect of infection on body mechanism. , effects of infection on nutrients.
- UNIT- 2** Diet in obesity and underweight – causes and dietetic management of obesity and underweight, assessment and complication of obesity;
Diet in disease of cardiovascular system- atherosclerosis, hypertension;
Diet in gastrointestinal disease- peptic ulcer, diarrhea, constipation.
- UNIT-3** Diet in disease of liver- jaundice, cirrhosis of liver, hepatic coma; Diet in diabetes mellitus- classification, causes, symptoms, diagnosis, complication and dietetic management; Diet in diseases of kidneys- acute and chronic glomerulonephritis, acute and chronic renal failure, renal calculi.
- UNIT-4** Diet in cancer- risk factors, changes in metabolism, nutritional problems of cancer therapy, dietary management; Role of Dieticians – Duties of Dieticians, Diet Counseling.
- UNIT-5** Indicators of mother and child health care- maternal mortality rate, infant mortality rate, neonatal mortality rate, perinatal mortality rate, child survival index; Nutritional problems - low birth weight, Iodine deficiency disorders, Nutritional anemia.

RECOMMENDED BOOKS:

1. Srilakshmi B (2002), Dietetics: New Age International (P) Ltd.

2. Swaminathan M, Principles of Nutrition and Dietetics: The Bangalore Printing and Publishing Co Ltd.
3. Antia FP and Abraham Phillip, Clinical Dietetic and Nutrition: Oxford University Press.
4. Shubhangini A Joshi, Nutrition and Dietetics: Tata McGraw – Hill Publishing Co Ltd.
5. Robinson H Corinne and Lawler R Marilyn, Normal and Therapeutic Nutrition: Oxford and IBH Publishing Co Pvt Ltd.
6. KhannaKumud et al. Department of Food and Nutrition, IHE (2005), Text book of Nutrition and Dietetics: Elite Publishing House Pvt. Ltd.

HS -508: PRACTICAL BASED FOR HS- 507

Planning, preparing and calculating the nutritive values for different therapeutic diets:

1. Diet in fever
2. Diet in diarrhea
3. Diet in constipation
4. Diet in jaundice
5. Diet in hypertension
6. Diet in diabetes mellitus
7. Diet in obesity
8. Diet in anemia.

(B): HS – 509: FOOD PROCESSING AND PRESERVATION TECHNOLOGY

- UNIT- I** Food processing- Scope and need for food processing, Processing of cereals and pulses, Processing of milk and different milk products, Processing of vegetables and fruits, Processing and refining of fat, Fruit beverages.
- UNIT- II** Food Preservation, Food Additives-Principles of Food Preservation, Methods of Food Preservation, Preservation by low temperature, Preservation by high temperature, Preservation by preservatives, Preservation by osmotic pressure, Preservation by dehydration, Food Additive, Purposes of food additives, Different types of food additives.
- UNIT- III** Food Adulteration, Food laws and Food Standards- Definition of adulteration, Types of adulterants – Intentional adulterants, Incidental adulterants, Common adulterants and relating health hazards, Identification of adulterants in food stuffs, Food laws and food standards: Food Additive: Purposes of food additives, Different types of food additives.
- UNIT- IV** Food Sanitation and hygiene - Environmental hygiene and sanitation – Site, Water, Waste disposal, Hygiene in food handling – receiving, storage, preparation and serving. Personal hygiene, Food borne illnesses – infection, infestation and food poisoning
- UNIT- V** Some Recent Concepts in Food Technology-Biotechnology in food, Nutraceuticals, Algae as food – Spirulina, Organic foods, Low cost nutrient supplement, Space foods, Food irradiation, Packaging of foods.

RECOMMENDED BOOKS:

1. Sumati R. Mudambi, Shalini M. Rao. Food Science, New Age International (P) Limited, New Delhi
2. Subbulakshmi , G., and Udipi, A, Shobha (2001). Food Processing and Preservation. New Age International (P) Limited, New Delhi
3. N. Shakuntala Manay, M. Shadaksharaswamy (2001). Foods Facts and Principles, Second Edition. New Age International (P) Limited, New Delhi
4. B.Srilakshmi (2001). Food Science, Second Edition. . New Age International (P) Limited, New Delhi
5. Mohini Sethi, Surjeet Malhan, Catering Management, An Integrated Approach Second Edition,
6. Mridula Mirajkar, Sreelata Menon (2002). Food Science and Processing Technology – Volume 2. Kanishka Publishers, New Delhi
7. Jagmohan Negi (2004). Food and Beverage, Management and Cost Control. Kanishka Publishers, New Delhi
8. T. N. Morris (2004). Principles of Fruit Preservation, Jam making, canning and drying, Agrobios (India)
9. S. N. Mahindru (2004). Food Safety, Concept and Realiy. S.B. Nangio, APH Publishing Corporation.

RECOMMENDED BOOKS:

1. Sumati R. Mudambi, Shalini M. Rao. Food Science, New Age International (P) Limited, New Delhi
2. Subbulakshmi , G., and Udipi, A, Shobha (2001). Food Processing and Preservation. New Age International (P) Limited, New Delhi
3. N. ShakuntalaManay, M. Shadaksharaswamy (2001). Foods Facts and Principles, Second Edition. New Age International (P) Limited, New Delhi
4. B.Srilakshmi (2001). Food Science, Second Edition. . New Age International (P) Limited, New Delhi
5. MohiniSethi, SurjeetMalhan, Catering Management, An Integrated Approach Second Edition,
6. MridulaMirajkar, SreelataMenon (2002). Food Science and Processing Technology – Volume 2. Kanishka Publishers, New Delhi
7. JagmohanNegi (2004). Food and Beverage, Management and Cost Control. Kanishka Publishers, New Delhi
8. T. N. Morris (2004). Principles of Fruit Preservation, Jam making, canning and drying, Agrobios (India)
9. S. N. Mahindru (2004). Food Safety, Concept and Realiy. S.B. Nangio, APH Publishing Corporation.
10. F. Aylevard (2001). Food Technology Procesing and Laboratory Control. , Agrobios (India)
11. UshaRaina, SushmaKashyap, Vinita Narula, Salila Thomas, Suvira, Sheila Vir, Shakuntala Chopra. (2002), Basic Food Preparation- A complete manual. Orient Longman Private Ltd
12. Educational Planning Group (2013). Food and Nutrition. Arya Publishing
13. M.Swaminathan (2012). Food and Nutrition Volume – 2. The Bangalore Printing and Publishing Co, Ltd. Bangalore
14. Vijay Kaushik (2000). Food Science and Nutrition. Mongal Deep Publications, Jaipur
15. Shirley J. Vangarde, Margy Wood burn (2005). Food Preservation and Safety Principles and Practice. Surabhi Publications. Jaipur.

HS – 510: PRACTICALS FOR HS- 509

1. Preparation of curd, butter, pea nut butter, ghee
2. Preparation of jams, jellies and marmalade
3. Preparation of pickles
4. preparation of chips
5. Sprouting
6. Confectioneries – candy making
7. Preparation of squashes, fermented beverages, soya milk, ginger ale
8. Identification of adulterants in food stuff

SIXTH SEMESTER

HS-601: CHILD PSYCHOLOGY

- UNIT – I** An introduction to child psychology: Definitions, scope and research methods of child psychology, longitudinal and cross-sectional methods. Theories of child psychology; Freud-Psychosexual theory, Piaget-cognitive theory, Erikson Psychosocial theory.
- UNIT – II** Personality - Meaning, Traits and Type Personality Determinant of Personality development. Assessment of Personality. Gender roles; factors influencing Gender roles. Attitude -Attitude formation, Cognitive dissonance.
- UNIT – III** Learning -Meaning, Types of learning, Factors influencing learning, motivation, different kinds of motivation, motivating a child to learning.
- UNIT – IV** Intelligence - Meaning, different kinds of Intelligence, Meaning of IQ, factors related to IQ. Intelligence test/ Measurement of Intelligence.
- UNIT – V** Psychology and care of disabled children - Mentally retarded, Physically handicapped, Educationally backward. Definition, characteristics and care/ remedial measures.

RECOMMENDED BOOKS

1. J.W Santrock (1996) Child Development, Seventh Edition, Braun and Bench Mark : London
2. Developmental Psychology A Life-span approach, Fifth Edition, Tata McGraw – Hill Edition
3. Thomson, G.G (1996) Child Development, Surjeet Publication, 7-K, Kolhapur Road, New Delhi -110007
4. Baron, R.A (1999): Social Psychology (8th Edition). Prentice Hall of India, Private Limited, New Delhi.

HS- 602: PRACTICAL FOR HS-601

1. Observations of a child/ Case study.
2. RCPM

HS 603: HUMAN DEVELOPMENT – ADOLESCENCE AND ADULTHOOD

- UNIT -I** Adolescence - Meaning of puberty and adolescence, different views regarding the period; physical and social development.
- UNIT -II** Adolescence - Emotional and personality development; problems – drugs abuse, alcohol abuse and school drop – out.
- UNIT -III** Early Adulthood - Plateau in physical development; social and adjustments and relationships; marital adjustments, parenthood; selecting a vocation.
- UNIT -IV** Middle adulthood -Physical changes; social adjustments; relationship with maturing children; relationship with aging parents.
- UNIT -V** Late adulthood - Physical changes and health; memory changes, retirement.

RECOMMENDED BOOKS:

1. Berk, Laura E.(2007) Development through the Life Span. Dorling Kindersley(India) Pvt Ltd Delhi.
2. . Papalia, Olds, Feldman. (2004) : Human Development : Tata McGraw Hill Edition. New Delhi
3. Kapadia K.M: Marriage and Family, University Press, New Delhi
4. Santrock, J.W (2006) : Child Development (7th Edition) : Brown and Benchmark. London.
5. Santrock John W. (2011), Adolescence TataMcGraw Hill Publishing Co Ltd, New Delhi.
6. Santrock John W.(2008) Life Span development,. Tata McGraw Hill Publishing Co Ltd. New Delhi
7. Hurlock Elizabeth (2004)Developmental Psychology.. TatMcGraw Hill Publishing Com.Ltd. New Delhi

HS- 604 : PRACTICAL BASED FOR HS- 603

1. Visit to old age home-report.
2. Personality test

HS:- 605: HOUSING & INTERIOR SPACE MANAGEMENT

- UNIT- 1** Housing – importance and objectives, factors affecting housing needs of the family. Types of housing – independent house, part house, apartment. Owning Versus Renting.
- UNIT- 2** House Planning – selection of site. Principles of planning houses. Sanitation – light, ventilation, drainage, water supply. Functional designing of work areas, storage space. Principles of Kitchen Planning, types of Kitchen Plan.
- UNIT- 3** Interior Decoration – Art; definition. Design – types of design; structural, decorative. Elements of arts. Principles of design. Application of elements of arts

to design. Study of colours – dimensions of colours, colour system, colour schemes.

UNIT- 4 Furniture – materials used in making furniture. Selection of furniture. Arrangements of furniture for living, sleeping, dining. Upholstered furniture – its selection.

UNIT- 5 Furnishings – objectives of furnishings. Selection, care and maintenance of bed spreads, pillow, slip covers and curtains. Wall treatment – its importance. Window treatment – its types. Hanging of curtains – pelmets, swags, valances etc. Carpets –types, selection and care. Lighting – types and lighting suitable for various activities. Flower arrangement – principles, selection, style and care of flowers. Accessories – types and their place in interior decoration.

RECOMMENDED BOOKS:

1. Varghese MA, NN, Srinivasan, “Home Management” New Age International (P) Ltd Publishes
2. Educational Planning Group, “Home Management” Arya Publishing House, New Delhi
3. Jessie Aghn, “The House”
4. Premavathy Seetharman, Parveen Pannu, “Interior Design and Decoration” CBS.

HS – 606: PRACTICALS FOR HS-605

1. Make floor plan of the house for different income group
2. Draw a motif by application of elements of art and apply any one colour scheme
3. Presentation of seminar paper. Prepare sample of any 2 mode of window treatment
4. Development of design and construction of any 2 of the under mentioned items – cushions, table mats, slip covers, pillow
5. Arrangement of flowers for different areas and occasions.

OPTIONAL COURSES

(A): HS- 607: COMMUNITY DEVELOPMENT

UNIT- I Community Development - Meaning and definitions of Community development, Role of Extension in Community Development, Principles of Community Development; Types of Community Development programmes.

UNIT- II Rural Sociology in India- Meaning and characteristics. Structure: tribe, clan, class, family; Basic Institutions: panchayati raj, religious institutions, schools, cooperative society.

UNIT- III Rural psychology: Factors determining rural minds; Basic Principles in rural psychology; Adult psychology and learning: Factors in adult learning.

- UNIT-IV** Lifestyle education: Meaning and categories of lifestyle behavior; the basis of lifestyle: eating, air, water, sun, physical exercise, rest, abstinence from toxics, good mental attitude; Lifestyles of healthier people: Inhabitants of Okinawa, Hunzas of Central Asia, Sherpas of Nepal, Otomi Indians, the British, Mediterranean, Eskimos.
- UNIT- V** Community Nutrition: Meaning, need, objectives and importance of Community Nutrition; Definition of Community Nutrition; Supplementary nutritional goals of India.

Recommended Books:

1. Dahama, O.P. Extension & Rural Welfare. Agra 282003: Ram Prasad and Sons, 1989
2. Supe, S.V. An Introduction to Extension Education. New Delhi: Oxford & IBH Publishing Co.Pvt. Ltd 1983
3. Nisha M, Understanding Extension Education. Delhi: Kalpaz Publication 2006
4. Dubey V.K & Indira Bishnoi. Extension Education and Communication. Delhi: New Age International ltd 2009
5. PankajamG.Education- Third Dimension of Education. New Delhi: Gyan Publishing House 2000

HS- 608:PRACTICAL FOR HS- 607

- 1) Study of any two NGO working for the development of women, youth, and children in your locality.
- 2) Study of the lifestyles and diets of the Mizo society.

(B): HS- 609: MANAGEMENT AND PRACTICES OF EXTENSION EDUCATION

- UNIT-I** Entrepreneurship-Characteristics; Importance; Type and functions of Entrepreneurship; Entrepreneurship at grassroots level.
- UNIT-II** Entrepreneurship through Home Science Education- Introduction; Different aspects of Entrepreneurship in Home Science: Food and Nutrition, Resource Management, Fabric and apparel designing, Human Development.
- UNIT-III** Global warming and climate change- Definition, Concept and its effects on Agriculture, water availability, yield/production, pest, diseases and weeds. Land use and global warming; ENSO effect on agriculture;
- UNIT-IV** Methods of Research- Trends in Research in Home Science; Research designs; Types of Research; Sampling techniques; Selection and preparation of Tools for data collection.

UNIT- V Collection of data for research-Types of variables; Data collection and classification/coding; Analysis of Data through parametric and non-parametric statistics; Report writing- presentation of data, interpretation and discussion.

RECOMMENDED BOOKS:

1. Ray G.L. Extension Communication & management. Ludhiana: Kalyani publishers 1991
2. Pamplona George D. Enjoy it, Foods for healing and prevention. Mostolen: Unigraf E-28938 2010
3. Your article library. Com 2015
4. Dubey V.K.& Indira Bishnoi. Extension Education. Delhi:Kalpaz Publication 2006

HS- 610: PRACTICAL BASED FOR HS- 609

1. Visit to a poultry/ agriculture/piggery farming site. Study, report and evaluation.
2. Taking samples on any Home Science topic, study and evaluation.