

**B.Sc. (Home Science)**

**(2017)**

**New Syllabus**

**MODIFIED SYLLABUS**  
**B.SC. (HOME SCIENCE)**

**FIRST, SECOND, THIRD, FOURTH, FIFTH & SIXTH SEMESTERS**

Sr. No.	Proposed	Marks			
		Theory	Practical	Sessional	Total
<b>FIRST SEMESTER</b>					
I	Applied Mathematics	60	X	40	100
II	Chemistry I	60	40	X	100
III	General English I	60	X	40	100
IV	Environmental Studies	60	X	40	100
V	Horticulture and Gardening	60	40	X	100
<b>SECOND SEMESTER</b>					
VI	Computer Application	60	40	X	100
VII	Chemistry II	60	40	X	100
VIII	Elementary Physiology	60	40	X	100
IX	Psychology	60	X	40	100
X	Biochemistry	60	40	X	100
<b>THIRD SEMESTER</b>					
XI	Human Development-I (HDFS-I)	60	40	X	100
XII	Fundamental of Nutrition and Food Science (FN-I)	60	40	X	100
XIII	Textile Science and Analysis (TAD-I)	60	40	X	100
XIV	Family Finance and Consumer Education (FRM I)	60	X	40	100
XV	Extension Education and Community Development (ECM-I)	60	40	X	100
<b>FOURTH SEMESTER</b>					
XVI	Early Childhood Education (HDFS-I)	60	X	40	100

XVII	Nutrition for the Family (FN II)	60	40	X	100
XVIII	Wet Processing of Textiles (TAD-II)	60	X	40	100
XIX	Concepts and Principles of Home Management (FRM-II)	60	X	40	100
XX	Teaching Methods and Media (ECM-II)	60	40	X	100
<b>FIFTH SEMESTER</b>					
XXI	Human Development-II (HDFS-II)	60	X	40	100
XXII	Diet Therapy (FN-III)	60	40	X	100
XXIII	Textile Design and Garment Construction (TAD-III)	60	X	40	100
XXIV	Family Housing (FRM-III)	60	40	X	100
XXV	Programme Planning for Family Development (ECM-III)	60	X	40	100
<b>SIXTH SEMESTER</b>					
XXVI	Marriage and Family Dynamics	60	X	40	100
XXVII	Community Nutrition (FN-IV)	60	40	X	100
XXVIII	Textile Design and Apparel Construction (TAD-IV)	X	60	40	100
XXIX	Interior Designing and Home Decoration (FRM-IV)	60	40	X	100
XXX	Communication Process and Adoption (ECM-IV)	60	X	40	100
<b>Total</b>					3000

**B.Sc. (Home Science)**

**First Semester**

**B.Sc. (Home Science) First Semester  
APPLIED MATHEMATICS  
PAPER-I**

Theory – 60  
Sessional – 40

**Unit I. Number System**

- (a) Natural numbers, Whole numbers, Integers (positive, negative, zero)  
Rational numbers, Irrational numbers, Prime, Odd, Even numbers,  
Composite numbers.
- (b) Test of Divisibility
- (c) LCM, HCF, Application of numbers (Square root, Cube root)
- (d) Simplification of expressions (BODMAS).

**Unit II. General Arithmetic**

- (a) Simple and compound interest
- (b) Unitary method, work, time and speed
- (c) Percentage: Conversion of percentage into least fraction, conversion of  
simple fraction into percentage. Simple problems based on percentage.
- (d) Profit Loss and Discount: Concept of Cost price, Selling price, Profit, Loss,  
Discount, Net price and Marked Price etc. Simple Problems based on it.

**Unit III. Algebra**

- (a) Fundamental operation – Addition, Subtraction of like and unlike term.  
Multiplication and division of polynomials.
- (b) Factorization: Concept of Factors, Grouping Method, Factoring  
Polynomials by Common Factors, Factoring Quadratics-Difference of  
Square, Perfect Square.

(c) Concept and solution of simple equation, problems based on simple equation.

#### **Unit IV. Simultaneous Equations**

Concept and solution of simultaneous equations, problems based on simultaneous equations.

#### **Unit V. Menstruation**

(1) Area of Triangle, Square, Rectangle, Parallelograms and Circle.

(2) Perimeter of polygons.

(3) Volume of Cubes, Cuboids and spheres

#### **STATISTICS**

Processing of data, Diagrammatic and Graphic representation of data, Average (Mean)

**B.Sc. (Home Science) First Semester  
CHEMISTRY I  
PAPER-II**

Theory: 60 Marks  
Practical: 40 Marks

**Unit – I**

- (a) Introduction:- Definition, Branches of Chemistry and scope of Chemistry with General Information of the chemical industries.
- (b) Matter:- States of Matter, Physical and Chemical changes of matter, Element, compound, Mixture, Symbol and Chemical Equation.

**Unit –II**

Elementary Study of Atomic structure:- Dalton's atomic theory, Fundamental particles of Atom (Electron, Proton and Neutron) and the characteristics, Discovery of Electron, proton and neutron, Atomic mass, Atomic number, Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

**Unit III**

- (a) Ionization:- Arrhenius theory of Ionization, Idea of pH and buffer solution.
- (b) Elementary idea of Oxidation and Reduction.
- (c) Water:- Hard and Soft water, Hardness and their removal.

## **Unit - IV**

- (a) Catalysis, types of Catalysis, characteristics, theory of catalysis and its application.
- (b) Elementary idea of Colloidal Solutions- Method of preparation, properties and application, Emulsions and Gels.

## **Unit - V**

Radioactivity:- Definition study of  $\alpha$ ,  $\beta$  and  $\gamma$  rays, Artificial radioactivity, Concept of Isotopes, Isobars, Isotones.

### **Practical:**

1. Salt analysis:- Detection of one acid and one basic radical.
2. Acid and Base titration :- Oxalic acid and Sodium hydroxide.

### **Reference books:**

1. Physical and Inorganic chemistry of Bountra and Khanna.
2. Physical and Inorganic chemistry of Bochlas and Gupta.
3. Org. Chemistry By Dr. S.K. Wadhwa.
4. Org. Synthetic products by O.P. Agarwal.



**B.Sc. (Home Science) First Semester**

**GENERRAL ENGLISH**

**PAPER-III**

Theory: 60

Sessional: 40

**1. VOCABULARY BUILDING**

Word- Formation; synonyms, Antonyms, Homophones, Idiomatic Phrases

**2. PREPOSITIONS**

Model verbs, Conditional sentence

**3. TRANSFORMATION AND SYNTHESIS**

**4. PRECISE WRITING**

**5. EASSAY WRITING** ( 5 topics to be discussed)

**6. LETTER OF APPLICATION FOR JOB AND RESUME**

**PRACTICAL**

1. Based on Lectures
2. LANGUAGE WORK: the prescribed lessons having a bearing on the topics covered in lectures.
3. Identification of phonetic sounds and symbols
4. Stress and Intonation
5. Listening Comprehension
6. Speaking English

**REFERENCES:**

1. Jones, Daniel. Everyman's English Pronouncing Dictionary, University Book Stall, New Delhi. 1993.
2. Jones Daniel. An Outline of English Phonetics, Arnold, London, 1970.
3. George, H.V. Common Errors in English Learning, M/s Newbury House, London, 1970.
4. Sharma, S.D. A Textbook f Spoken and Written English, Vikas, Delhi, 1984.

**B.Sc. (Home Science) First Semester  
ENVIRONMENTAL STUDIES  
PAPER-IV**

Theory: 60 marks

Sessional: 40 marks

**UNIT I**

The Multidisciplinary Nature of Environmental Studies: Definition, scope & its importance, Need for public awareness. Natural resources: Natural resources and associated problems.

**UNIT II**

Human Population and the Environment, Population growth, variation among nations, Population explosion-Family welfare programme, Environment and human health, Human rights

**UNIT III**

Environmental Pollution: Definition, Causes, effects and control measures of: a) Air Pollution b) Water Pollution c) Soil Pollution d) Marine Pollution e) Noise Pollution f) Thermal Pollution g) Nuclear Hazards

**UNIT IV**

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

**UNIT V**

Ecosystem: Concept of an 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. Introduction, types, characteristic features, structure and function of the ecosystems

**Field Work**

1. Visit to a local area to document environmental assets—river / forest / grassland / hill / mountain.

2. Visit to a local polluted site–Urban / Rural / Industrial / Agricultural. Study of different ecosystems.
3. Study of simple ecosystems–pond, river, hill slopes, etc.

### **References**

1. Agarwal, K. C., Environmental Biology, Nidhi Publications Ltd. Bikaner.
2. Bharucha, E., Textbook of Environmental Studies, Universities Press, Hyderabad.
3. Bharucha, E., The Biodiversity of India, Mapin Publishing Pvt. Ltd. Ahmedabad.
4. Brunner, R. C., Hazardous Waste Incineration, McGraw Hill Inc. New York.
5. Hawkins, R. E., Encyclopaedia of Indian Natural History, Bombay Natural History Society.
6. Heywood, V. H & Watson, R. T., Global Biodiversity Assessment, Cambridge House, Delhi.

**B.Sc. (Home Science) First Semester  
HORTICULTURE AND GARDENING  
PAPER - V**

Theory: 60 marks

Practical: 40 marks

**Unit-I**

Gardening, Layout of a Garden, Soil preparation –digging, tillage and sterilisation.  
Drainage watering and weeding Manures and fertilizes

**UNIT-II**

Propagation of plants, Seed propagation, Vegetative propagation by natural and artificial methods (Bulbs Rhizomes Suckers Runners Tubers Budding and grafting)

**UNIT-III**

Kitchen Garden Principle of planning and cultivation of vegetables with reference to all seasonal vegetables.

**UNIT-IV**

Lawn, Hedges and edges, Principle of planning of lawn and hedges. Brief description of care and cultivation of ornamental plants Care and cultivation of seasonal flowers Care and cultivations of common indoor plants.

**UNIT-V**

Plant diseases bacterial, fungal and viral. General characteristics, morphology and economic importance of algae, fungi and moulds

**Practical**

- i) Study of garden tools and accessories.
- ii) Identification of different types of plants i.e. vegetable flowers, ferns and ornamental plants.
- iii) Preparation of nursery.
- iv) Prepare and manuring a seed bed for raising seedlings.

- v) Prepare a bed for sowing potatoes and cultivate them.
- vi) To prepare a plot for raising seedlings, ornamental/ Indore pot plants.
- vii) From seeds guiding rules for seed sowing.
- viii) Vegetative propagation by cutting and grafting.
- ix) Maintenance of plants.      xii) Prepare a plot and cultivate seasonal vegetable
- x) Use of pesticides and fungicides      xiii) Plant propagation
- xi) Identification of slides of algae fungi and moulds.      xiv) Prepare pot for repotting

**Project:** Prepare Herbarium file, Collection of specimen of ornamental plants flowers

**REFERENCE BOOK:**

1. Gemmell Alam, Basic Gardening, Penguin books publication
2. Aruna Lundra, Four Seasons Gardening in India, Low Price Publications
3. Roman Kapoor, Home Gardening, UBS Publisher's Distributors

**B.Sc. (Home Science)**

**Second Semester**

**B.Sc. (Home Science) Second Semester**

**COMPUTER APPLICATION**

**Paper VI**

Theory: 60 Marks

Practical: 40 Marks

**UNIT 1: WINDOWS OPERATING SYSTEM**

**Introduction**, what is windows, windows XP, using mouse, windows features- basic concepts, working on desktop, opening and closing an Application, manipulating windows, saving your work, printing your work, start up, shut down and sleep.

**My computer**- opening your drive.

**windows explorer**- starting windows explorer, navigating drives and folders, science window, selecting files/folders, creating a folder, opening IXComp folder, creating file, opening file global warming, coping files or folders, moving files or folders, changing the name of a file or folder, deleting files or folders, searching files or folders, switching between tasks, Windows keyboard shortcuts.

**UNIT II WINDOWS ACCESSORIES:**

Introduction, notepad, word pad, ms-point, character map, clip board, calculator.

**UNIT III WORD PROCESSING BASICS:**

Introduction, types of word processors, starting openoffice.org writer- writer interface, creating a new documents, saving a documents, closing an openoffice.org writer documents, exiting openoffice.org, viewing writer window. Text editing- selecting text, selecting using click-and-drag method, selecting using double click and triple click method, selecting a block area, selection using select all menu option, keyboard commands for selecting text, inserting text, insert Vs. overtyping mode, deleting text, undo and repeat. using cut copy and paste- cut and paste text, copy and paste text, using drag and drop. Text formation- about font

style, changing the font, typeface and size, using the formatting toolbar, changing text color, changing the font effects, using superscripts, subscripts and rotation, adding background color.

#### **PARAGRAPH FORMATTING:**

Paragraph alignment, indenting text, indenting with the ruler, defining paragraph spacing, tabs using ruler, using the ruler to change margin setting, setting tab using menu, using format paint brush, using drop caps. Using grammar and spell check- using spellcheck. Preview a page before printing- printing writer document.

#### **UNIT IV MANAGING WRITER DOCUMENT:**

Introduction, find and replace text, show/hide nonprinting characters. Page setup- adjusting page margins, using mirror margin, set the size and orientation of page, choosing your paper source. Header and footer- creating header, creating footer, header and footer using page setup, deleting header and footer. Footnotes and endnotes. Adding border and shadow. Numbering Pages, Page number in Header/Footer. Inserting Special Characters. Bullets and Numbering, Creating, removing and changing Bulleted list, Creating, removing and Changing Numbered list. Working With Columns, Defining the number of columns on a page, Changing the number of columns for existing text.

#### **UNIT V TABLES AND GRAPHICS IN WRITER:**

Introduction, Creating table-Inserting new table, entering text in an open office. Org table, Modifying table structure, changing column and cell widths, Adjusting the width of table cells, Adding borders and shading, using math in cell, Merging and Splitting cells, Table auto format, Convert text to table and table to text, Deleting a table. Inserting and sizing graphics, adding images to a document, Inserting An image from a file, Moving Graphics on the page, Proportionately resizing the graphic using the sizing handles, Text wrapping, Disproportionately resizing the graphic using the sizing handles, Inserting a border around a graphic, Deleting Graphics from a document. Using openoffice.org Gallery. Using Writer's Drawing Tools, Creating drawing objects, Inserting Fontwork gallery.



**B.Sc. (Home Science) Second Semester  
CHEMISTRY  
PAPER-VII**

Theory: 60  
Practical: 40

**Unit - I**

- a. Fuel and fuel gases: Definition, characteristics of a good fuel, Types of fuels and their application, Composition of L.P.G., Kerosine, Diesel Oil, Petrol, Bio Gas, Octane number and Cetane number.
- b. Prevention of fire, Types of fire extinguishers, Uses.

**Unit -II**

General introduction of IUPAC and Nomenclature of simple organic compounds.

**Unit - III**

Elementary Study of Drugs:- Definition, Classification, General application and their mode of actions of Antibodies, Antiseptics, Analgesic, Sulpha drugs, Insecticides, disinfectants.

**Unit - IV**

Carbohydrates: Definition, classification, preparation, properties and uses of Glucose and Sucrose (No. structure and Isomerism)

**Unit - V**

- a. Amino acids: Preparation, properties and uses.
- b. Protein: Definition, Classification, preparation, properties and uses, simple tests of protein.

## **Practical:**

1. Salt analysis :- Detection of two acids and Basic radicals
2. Redox titration:- Oxalic acid  $\text{KMnO}_4$
3. Element detection

## **Reference Books:**

1. Inorganic Chemistry by S.R. Gupta
2. Organic Chemistry by Dr. S.K. Wadhwa
3. Applied Chemistry by Thankamma Jacob.
4. Org. Chemistry By Dr. R.N. Singh
5. Org. Synthetic products by O.P. Agarwal

## **B.Sc. (Home Science) II Semester**

### **Elementary Physiology**

#### **Paper VIII**

Theory: 60 marks

Practical: 40 marks

#### **Unit-I**

Cell structure, components and their function. Elementary anatomy of various systems. Cardiovascular System, Blood and its composition, Blood groups, Coagulation of blood, Structure and function of heart, Heart rate, Cardiac output, Blood pressure and its regulation

#### **Unit-II-** Elementary knowledge of the Following:

Gastrointestinal System, Structure and functions of various organs of the G.I. tract, Digestion and absorption of food and role of enzymes and hormones. Reproductive System, Structure and function of Sex glands and organs including hormones, Menstrual Cycle, Physiology of pregnancy, parturition, lactation and menopause.

#### **Unit-III**

Muscular-Skeletal System, Types of joints and their functions, Skeletal System-formation of bone. Disorder in skeletal system. Respiratory System, Structure of lungs, Mechanism of respiration and its regulation, O<sub>2</sub> and CO<sub>2</sub> transport in blood

#### **UNIT IV**

Excretory System, Structure and function of kidney, bladder, formation of urine, role of kidney in homeostasis, Structure and function of skin, Regulation of body temperature

#### **Unit V**

Nervous System, Functions of different parts of brain in brief, Nerve cell and impulse transmission, Sense organs and their functions.

#### **Practical**

### Demonstrations and study of models of

- i) digestive,
- ii) excretory
- iii) female reproductive system
- iv) Human heart, eye and ear.
- v) Microscopic examination of prepared slides of different human body system as well as tissue of different body organs.
- vi) Skeletal system
- vii) Structure of cell
- viii) Brain

### Reference Books

1. Text book of Biology for 10+2 students (NCERT)
2. Randhawa, RK, Family Resource Management and Health Science, Pardeep Public.
3. Chatterjee, C.C., Human Physiology. Vols. I, II. Medical Allied Agency.
4. Guyton, A.C., Text Book of Medical Physiology. WB Saunders.
5. Mukherjee, K.L., Medical Laboratory Technology. Vol I. Tata McGraw Hill.
6. Wilson, KJW & Ross JS., Anatomy and Physiology in Health and Illness. 6th Ed. Churchill Livingstone.

**B.Sc. (Home Science) Second Semester  
PSYCHOLOGY  
PAPER-IX**

Theory: 60Marks  
Sessional: 40

**Unit I – Introduction**

- (a) Definition of Psychology. Psychology as a science its scope.
- (b) Branches of Psychology
  - i. Social
  - ii. Clinical
  - iii. Educational
  - iv. Abnormal
- (c) Importance and application of psychology in Home Science.

**Unit II- Methods of studying Human Behavior**

- (a) Introspection ----- (i) Merit (ii) demerit.
  - (b) Observation ----- (i) Steps (ii) Merit (iii) Demerit
  - (c) Experimental ----- (i) Steps (ii) Merit (iii) Demerit
  - (d) Case Study
  - (e) Interview
  - (f) Sociometry
  - (g) Questionnaire
- } in brief

**Unit III- Personality, Motivation, Frustration and conflicts:-**

- (a) Concept of personality, definition, measurement of personality.
- (b) Definition and types of motivation (i) innate and acquired, needs, incentive and instincts.
- (c) Meaning of frustration, source of frustration.

(d) Types of conflicts, methods of resolving conflicts.

#### **Unit IV- Learning, Memory and Forgetting, Individual differences.**

1. Meaning of learning, Learning laws, theories of learning. Learning curves, Learning and maturation.
2. Memory and forgetting
  - a. Meaning, Kinds, methods, process of memory.
  - b. Characteristics of good memory.
  - c. Forgetting causes of forgetting.
3. Individual differences
  - a. Meaning and types of individual difference
  - b. Causes of individual difference.

#### **Unit V: Intelligence, Attention and interest.**

- (a) Definition of intelligence, factors affecting intelligence measuring intelligence.
- (b) Definition characteristic, types, conditions of attention.
- (c) Definition of interest, forms of interest, differences between attention and interest.

#### **Sessional work**

1. Administration of personality test on an adolescent.
2. Administration of frustration test and adolescent.
3. Exposure to two psychology tests (i) questionnaires (ii) Rating scale
4. Administration of an interest inventory and adolescent

## **References**

1. Liebert R.M. 1977 Psychology John wiley and Sons Inc. New York, London.
2. Stanger R.S. and Solly C.M. 1970 Basic Psychology, Tata Megraw Hill Publishing Co. Ltd. New Delhi.
3. Worehel S. and Shebilshe Psychology Principle and Applications (Second Edition). Prentice Hall Englewood Cliffs, New Jersey.
4. Malott R.W. and Whaley D.L. 1976 Psychology Harper's College Press.
5. Sharma M. Chandra S.S. 2003 General Psychology Volume- II Atlantie Publishers New Delhi. 27.
6. London P. 1970 Beginning Psychology. State University, New York.
7. Srivastava D.N. Verma P. 2005 General Psychology Sahitya Prakashan, Agra.

**B.Sc. (Home Science) Second Semester  
BIOCHEMISTRY  
PAPER-X**

Theory: 60 marks

Practical: 40marks

**UNIT-I**

1. Introduction to biochemistry and interrelationship between biochemistry and other biological sciences.
2. **Carbohydrates-**
  - Introduction, classification, structure, general properties of monosaccharide.
  - Digestion and absorption of carbohydrates in human body
3. **Metabolism**-Glycolysis and Krebs's Cycle
4. Mutarotation

**UNIT-II**

1. **Lipids-**
  - Composition, classification, general properties.
  - Analysis of fats and oil- acid value, iodine value, saponification value, acetyl number, hydrogenation and rancidity, Digestion and absorption of lipids in human body.
2. **Lipid metabolism**
  - Beta oxidation theory with its energetic
  - Elementary knowledge of different sterols e.g. cholesterol, phytosterol and ergosterol

**UNIT-III**

1. **Proteins-**
  - Definition, composition,, classification, general properties- solubility, amphoteric nature, colloidal nature of proteins, denaturation of protein



- Classification of amino acids including essential amino acid and non essential amino acids
2. Digestion and absorption of proteins
  3. **Protein metabolism-** Brief idea of Deamination, Transamination, Decarboxylation, Transmethylation

#### **UNIT-IV**

1. **Vitamins-** definition, classification absorption, storage, functions and excretion of vitamin A, D, E, K, Thiamine, Riboflavin, Niacin, Ascorbic Acid
2. **Minerals-** brief idea of calcium, phosphorous, iron, iodine, sodium, chlorine, potassium, their storage, absorption, function, and excretion

#### **UNIT-V**

1. **Enzymes-** definition, classification, general properties of enzyme, enzyme inhibition, factors affecting the rate of enzyme reaction. Clinical importance of enzymes
2. **Hormones-** elementary study of TSH, ACTH, Gonadotrophic Hormones and Growth Hormone their biological function and mode of action. A general idea of Sex Hormones

#### **Practical –2 interactive periods per week**

1. Simple test for glucose, fructose, galactose, sucrose, maltose, and lactose.
2. Simple test for protein- milk, egg. (Biuret test, Millons test, Xanthoproteic test).
3. Separation of water soluble and insoluble protein from egg proteins.
4. Separation of water soluble and insoluble protein from wheat and soybeans flour.

5. Test for starch-
  - Iodine test for starch solution.
  - Preparation of stained slide of potato starch grain.
  - Microscopically examination.
6. Estimation of reducing substances.
7. Simple test for sterol.
8. Ether extraction of fatty acid substances.
9. Qualitative test for identification of lipids.
10. Qualitative test of food adulterations-
  - Metanil yellow in turmeric / dal, vanaspati in pure ghee.
  - Starch in milk
  - Adulteration in red chilli, black pepper

**Reference books-**

1. General biochemistry by Frutton and Simmond.
2. Text book of Biochemistry by West and Todd.
3. Introduction to Modern Biochemistry by Karlson.
4. Principles of Biochemistry by White Handler and Smith.
5. Biochemistry by Kleiner and Orten.
6. Hawk's Physiological Chemistry by Oser.
7. Review of Physiological Chemistry by H.A. Harper.
8. Essentials of Food and Nutrition Vol. I and II by M. Swaminathan.
9. Biochemistry by S.K. Dasgupta. Vol. I, II, III.
10. Essentials of Biochemistry by Dr. M.C. Pant.
11. Biochemistry by Virendra Kumar Shukla.
12. A Text Book of Biochemistry by S.P. Singh.
13. Nutrition and diet therapy- Sheel Sharma, Pee,pee, publishers, New Delhi-2013
14. Experimental and techniques in Biochemistry 2007, galgotia Publishers, New Delhi.

**B.Sc. (Home Science)**

**Third Semester**

## **B.Sc. (Home Science) III Semester**

### **HUMAN DEVELOPMENT – I**

#### **PAPER XI**

Theory: 60 Marks  
Practical: 40 Marks

#### **Unit–1 Meaning, determinants and principles of Human Development**

- (a) Meaning and scope of human development, Contribution of allied fields and their importance, Stages of human development
- (b) Principles of growth and development
- (c) Determinants of Development
  - (i) Heredity Vs Environment
  - (ii) Maturation Vs Learning

#### **Unit II – Prenatal development and Care of the neonate**

- (a) Menstrual cycle, fertilization
- (b) Stages of Prenatal development, factors affecting prenatal development
- (c) Antenatal Care
  - (i) Signs and Symptoms of Pregnancy
  - (ii) Discomforts of pregnancy
  - (iii) Prenatal diagnostic tests
  - (iv) Calculation of expected Date of delivery (EDD)
  - (v) Labor and its stages
  - (vi) Types of birth
  - (vii) Concept of IUGR (Intra Uterine Growth Retardation) SFD (Small for Date babies) and premature babies.
  - (viii) Physical and psychological preparation for the neonate

(ix) Care of the mother

(d) (i) Care of the newborn (ii) Puerperium period

(iii) Immunization

### **Unit III – Infancy (0 – 2 yrs)**

(a) Development tasks and characteristics

(b) (i) Physical and motor development

(ii) Sensory and perceptual development

(iii) Cognitive development

(iv) Early language development

### **Unit IV – Early Childhood Period (2 - 6 yrs)**

(a) Development Tasks and characteristics of early childhood period

(b) (i) Physical and motor development

(ii) Social emotional development

(iii) Cognitive development

(iv) Language development

### **Unit V - Childhood Period (7 – 11 Yrs)**

(a) Developmental tasks and characteristics of middle childhood period

(b) (i) Physical and motor development

(ii) Social emotional development

(iii) Cognitive development

(iv) Language development

(v) Personality development and Interest development

(c) School and its influences

## **Sessional**

1. Visit to maternity and well baby clinics.
2. Preparation of teaching aids
3. Preparation of a toy for infants.
4. Planning and organization of competitive games for middle childhood.

## **References**

1. Dolloff P.B. and Resnick M.R. 1972. Patterns of life : Human growth and Development, Charles E Merrill Publishing Co. Ohio.
2. Bee H. 1985. The Developing Child, Harper and Row Publishers New York.
- Elkind D, 1978, Development of the child, John Wily and Sons.
3. Hawkes G.R. and Pease D. 1962. Behaviour and Development from 5 – 12, Harper Internationa.
4. Ambron 1978. Child Development, Holt Rinchart and Winston.
5. Berke L.E. 1995. Child Development, Allyn and Bacon.
6. Hurlock E.B. 1978. Child Development, Mcgraw Hill Publishing Co.

**B.Sc. (Home Science) III Semester**  
**FUNDAMENTALS OF NUTRITION AND FOOD SCIENCE**  
**Paper : XII**

Theory -60  
Internal– 40

**UNIT- I - Basic concepts in Food and Nutrition**

1. Basic terms used in the study of Food and Nutrition.
2. Understanding relationship between food, nutrition and health
3. Functions of food – physiological, psychological and social.

**UNIT –II- Nutrients**

Functions, dietary source and Recommended Dietary allowances (RDA)

1. Carbohydrates, lipids, and proteins.
2. Fat soluble vitamins- A, D,E and K
3. Water soluble vitamins – thiamine, riboflavin, niacin, pyridoxine, folate, vitamin B12, and vitamin C.
4. Minerals- calcium, iron and iodine

**UNIT –III- Food Groups**

Selection, nutritional contribution and changes during cooking of the following food groups:-

1. Cereals
2. Pulses
3. Fruits and vegetables
4. Milk and milk product
5. Eggs
6. Meat, poultry and fish
7. Fats and oils

**UNIT –IV Methods of Cooking and preventing nutrient losses**

1. Dry, moist, frying and microwave cooking
2. Advantages, disadvantages and the effect of various method of cooking on nutrients
3. Minimizing nutrient losses

## **UNIT- V Nutritional Improvement of Foods**

Nutrient losses in cooking and enhancing the nutritional quality of foods.

Food Preservation

### **References:**

- Bamji MS, Krishnaswamy K, Brahma GNV(2009). Textbook of Human Nutrition, 3<sup>rd</sup> Edition.Oxford and IBH Publishing Co. Pvt.Ltd.
- Srilakshmi (2010). Food Science, 5th Edition. New Age International Ltd.
- Raina U, Kashyap S, Narula V ,Thomas S, Survira, Vir S, Chopra S (2010). Basic food preparation : A complete Manual, forth edition, Orient Black Swan ltd.
- Wardlaw and Insel MG, Insel PM (2004). Perspectives in Nutrition, Sixth Edition. Mosby.

### **Internal :**

1. Working instructions. Weights and measures and table setting, preparing market order.
2. Identification of food sources for various nutrient
3. Food preparation, understanding the principles involved , nutritional quality and portion size
  - Beverages : Hot tea/coffee, milk shakes/lassi, fruit based beverages
  - Cereals: boiled rice, pulao, chapati, paratha, puri, pastas.
  - Pluses : Whole, dehusked
  - Vegetables: curries, dry preparations
  - Milk and milk products: Kheer, custard
  - Meat, fish and poultry preparations
  - Egg preparations: Boiled, poached, fried, scrambled, omelet, egg pudding
  - Soups: Broth, plain and cream soups
  - Baked Products : Biscuits, cookies, cream cakes, sponge cake preparations, tarts and pies.
  - Snacks: pakoras, cutlets, samosa, upma, poha, sandwiches
  - Salad: Salads and salad dressings
  - Preserved Foods



**B.Sc. (Home Science) III Semester**  
**TEXTILE SCIENCE AND ANALYSIS (TAD-I)**  
**PAPER - XIII**

Theory: 60  
Sessional: 40

**COURSE CONTENT : THEORY**

**UNIT I:**

- (i) Introduction to textiles (ii) Its importance in day to day life (iii) Its scope (iv) Classification of textile fibers (v) General Properties of textile fibers – primary and secondary properties.

**UNIT II:**

- (a) Raw material, Properties and Uses of -
  - (i) Cellulosic fiber-Cotton
  - (ii) Protein fibers- wool and silk
  - (iii) Regenerated fiber –Viscose Rayon
  - (iv) Synthetic fibers –Polyester, Acrylic and Nylon
- (b) Sources and uses of minor fibers-
  - (i) Cellulosic – Sisal, Pina, Coir, Kapok, Jute and Ramie
  - (ii) Protein – Mohair, Cashmere, Camel hair, Alpaca, Llama, Vicuna

**UNIT III:**

- (a) Definition of yarn
- (b) Yarn properties and their effect on fabric performance
- (c) Types of spinning-(i) Mechanical (Ring and Rotor) Spinning
  - (ii) Chemical Spinning
- (d) Types of Yarn – (i) Simple Yarns (ii) Novelty Yarns (iii) Textured Yarns

**UNIT IV:**

- (a) Preliminary knowledge of various techniques of fabric construction – weaving, knitting (warp and weft), non –woven (felting, braiding, multicomponent fabrics-bonded).

(b) Study of Hand loom – parts and their uses, basic steps of weaving.

(c) Types of weaves –basic and decorative

### **UNIT V:**

(a) Variety of fabrics available in the market and their characteristic features.

(b) Fabric faults /defects as related to stages of manufacture and their classification.

(c) Selection of fabrics for various end- uses keeping in mind: purpose, serviceability, maintenance, durability, economy, storage and appearance.

(d) Selection of clothes keeping in view: age, sex, personality, figure, occupation, occasion and season.

(e) Appropriate labels on fabrics and garments.

(f) Storage of various clothing.

### **REFERENCES**

1. Textiles by Hollen and Saddler.
2. Textiles – Fiber to fabric by Peter Corbman.
3. Corbmen P Bernard: Textiles fiber to fabric
4. Hess KP: Textiles, fibres and their uses
5. Gupta & Bajaj: Rui se Nylon tak
6. Charu Arora: Introduction to Clothing and Textiles

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### **Sessional:**

1. Identification of pure fabrics by – visual, burning, microscopic and chemical tests.
2. Yarn Analysis - twist direction, ply, staple/filament, yarn structure.
3. Laboratory tests on fabrics – Fabric count and balance of cloth.
4. Collection and study of 15 samples of yarns.
5. Collection and study of different weaves-basic and decorative.

6. Collection of 5 fabric samples made with different techniques of fabric construction.
7. Collection of various types of fabric samples based on application (Apparel for various age groups and occasions, Upholstery and Furnishings, household use-towels, blanket, bed sheets) and their analysis.
8. Collection of 5 different fabrics labels.
9. Collection of 5 different garment labels.

**B.Sc. (Home Science) III Semester**  
**Family Finance and Consumer Education (FRM I)**  
**PAPER XIV**

Theory: 60 Marks  
Sessional: 40 Marks

**Unit – I: Family Finance**

- (a) Meaning, Definition and importance of family finance.
- (b) Standard of Living: Meaning, Definition, types and factor determining.
- (c) Causes of low standard of living and remedial measures.

**Unit – II: Family Income**

- (a) Meaning, definition and sources of income.
- (b) Types of Income: Money income, Real income, Psychic income and their importance.

**Unit – III: Budget & Saving**

- (a) Budget – Meaning, Definition, Types, Characteristics, Advantages and Disadvantages.
- (b) Saving – Meaning, Importance and methods to save.

**Unit – IV: Consumer Education**

- (a) Meaning, Definition, Objectives and need of consumer education in India.
- (b) Meaning, Definition and characteristics of consumer.
- (c) Consumer rights and responsibilities in today's world.

**Unit – V: Consumer and the Market**

- (a) Basic concept of market and types of market.
- (b) Consumer choice: Factors influencing consumer decisions.
- (c) Problems of consumer.

**Sessional Work**

- a. Study on income and expenditure pattern of various income groups.
- b. Visit to Saving Institutes.
- c. Problems of consumer- small survey report.

## **Reference Books**

- a. Family Finance: H.F. Bigelow
- b. Elements of Modern Economics: Meyere
- c. Fundamentals of Economics: J.K. Mehta
- d. Modern Economics: M.L. Seth.
- e. The Economics of Consumption: L.J. Garelen.
- f. Management in Family living: Nickell and Dorsey
- g. Management for Modern Families: Gross and Crandall
- h. Paribaric Vitt: Saraswati Verma and Asha Pandey.
- i. Home management and family finance :- Dr. Maneesha Shukul and Prof. Veena Gandotra
- j. Consumer Economics :- Dr. Saxena And Saxena
- k. Premovthy seetharman and Mohini Seth - Consumerism strategies and practices.
- l. Satya Sundaram - "Consumer protection in india."
- m. Journals of Consumer education.
- n. Veena gonaotra & ami divatia - "Consumer education."

**B.Sc. (Home Science) III Semester**  
**EXTENSION EDUCATION AND COMMUNITY**  
**DEVELOPMENT (ECM-1)**  
**PAPER - XV**

Theory: 60 Marks  
Practical: 40 Marks

**I. Extension Education:**

1. Meaning, philosophy, objectives, functions, elements and scope of Extension Education.
2. Difference between Formal education and non-formal education.
3. Difference between Extension education, adult education, social education and functional literacy.
4. Role of Home Science Extension Education in National development.
5. Role and qualities of Extension Personnel.

**II. Historical Perspective:**

1. Extension activities in India-pre-independence and post-independence (NES)

**III. Community Development and Panchayati Raj:**

1. Community-Meaning ,characteristics and types.
2. Community development –concept, elements, faiths, philosophy & objectives.
3. Community development Programme- origin, principles, Organizational setup and functions of the programme at various levels.
4. Types of Community Development Programme in India: Integrated type, Adaptive type, and Project type.

Institutions for Community Development in India: School; Panchayat-Panchayati Raj System – origin, 73<sup>rd</sup> Amendment Act; Cooperatives; youth clubs; mahila mandals, SHGs

#### **IV. Support Structures and their functions:**

1. GO's and NGO's
2. Central Social Welfare Board.
3. State Social Welfare Board.
4. National Level Voluntary Agencies like DRDA, CAPART, KVK's, KVIC and NIPCCD.
5. Local Level Voluntary Agencies, people's organizations at grass roots.

**V. Extension Teaching Models** – Social Education Model; Social Action Model; Indigenous Model; Empowerment model.

#### **Sessional :**

1. Visit and survey of nearby slum and rural areas to get acquainted with their social and cultural problems and other specific problems.
2. Submission of project related to the survey.
3. Preparation of activities under various extension teaching models.

#### **References**

1. Directorate of Extension Education,
2. A. S. Sandhu, "Agricultural communication"
3. G. L. Ray, "Extension and Management Communication" Naya Prakash.
4. S. K. Wag mare, "Teaching Extension Education"
5. P. Dhama & O.P. Bhatnagar, "Education & Communication for Development" Oxford IBH Publishing Co. Pvt. Ltd, New Delhi.

**B.Sc. (Home Science)**

**Fourth Semester**



**B.Sc. (Home Science) IV Semester**  
**EARLY CHILDHOOD CARE AND EDUCATION**  
**PAPER - XVI**

Theory: 60 Marks  
Sessional: 40 Marks

**Unit I – Introduction**

- (a) Meaning and importance of early childhood education
- (b) Recent trends and achievements in ECCE
- (c) Curriculum for ECCE
  - (i) Meaning of Curriculum
  - (ii) Basic Principles of Curriculum Construction
  - (iii) Formation of Curriculum
  - (iv) Types of Curriculum

**Unit II – Play**

- (a) Play as means of development and learning.
- (b) Theories of Play – Surplus energy theory, relaxation theory, Recaptitulation theory
- (c) Types of play
- (d) Development stages of play
- (e) Functions of play in language and cognitive development.
- (f) Teachers role in promoting and fostering play

**Unit III Principles of programme planning**

- (a) Known to Unknown, Simple to complex and concrete to abstract
- (b) Programme planning : goals and objectives
- (c) Formal, non-formal and integrated learning approaches

(d) Role of teacher in guiding children's development and learning.

#### **Unit IV – Literature for Children – Understanding need for literature for children**

- (a) Types of literature and criteria for selection
- (b) Books for preschoolers: (i) Picture books (ii) Story books,  
(iii) Information books (iv) Concept books  
(v) Number and Alphabet books
- (c) Techniques of storytelling :- (i) Reading of story books,  
(ii) Narration with the help of aids like flash cards, flannel board puppets,  
Modulation and speech, use of gestures, role play.

#### **Unit – V Activities in the pre-school**

- (a) Creative activities :- (i) Painting (ii) Drawing  
(iii) Tearing cutting (iv) Pasting, (v) Collage  
(vi) Modeling (Dough, clay, plasticine sand and mud.)
- (b) Music and dance - (i) their educational values  
(ii) Role of teacher in organizing the activities
- (c) Science Experiences
- (d) Activities to develop mathematical concept.
- (e) Nature study and field Trips :- (i) Planning of field trips  
(ii) Preparation of field trips and its importance

#### **Practical**

1. Preparation of the material to be used with children in school. Each student to use at least 5 material.
2. Organizing of activities for children.
3. Preparation of rhymes – books, science activities, games.
4. Collecting national folk songs for children.
5. Visit to at least four nursery school.
6. Organizing pre writing activities.

## References

1. Spodek B. 1978. Teaching in the Early Years (Second Edition) Prentice – Hall Inc. Inglewood Cliffs New Jersey.
2. Jain K. 2003. Preschool Education, Mohit Publication, New Delhi.
3. Green M.M. and Woods E.L. 1969. A nursery School Handbook for Teachers and parents. Universal Books, Delhi, Kanpur.
4. Read K.H. 1967. The Nursery School. A Human Relationship Laboratory, Oxford Publishing Co.
5. Grewal J.S. 1984. Early Childhood Education, National Psychological Corporation, Agra.

**B.Sc. (Home Science) IV Semester  
NUTRITION FOR THE FAMILY**

**PAPER XVII**

Theory: 60  
Practical: 40

**Unit I- Basic concepts of meal planning**

1. Food groups and concept of Balanced Diet
2. Food exchange list
3. Concepts of Dietary reference intake
4. Factors affecting meal planning and food related behavior.
5. Dietary guidelines for Indians and food pyramid.

**Unit II-Nutrient Requirements**

1. Concepts of minimum nutrient requirements and Recommended Dietary Allowances and excess / deficiency of nutrients
2. Energy Metabolism-
  - Concepts of energy balance
  - Components of energy expenditure and factors affecting the same
  - Physiological fuel factors
  - Method of assessing energy needs

**Unit III- Nutritional during the Adult Years**

Physiological changes, RDA, Nutritional guidelines, nutritional concerns and healthy food choices in the following groups:

1. Adults – Male and Female
2. Pregnant Women- physiological changes in pregnancy, nutritional needs, effect of nutritional status on pregnancy outcome, optimal weight gain and its components, nutrition related problems in pregnancy.
3. Lactation- Physiology of lactation, nutritional needs of nursing mother, feeding the baby.
4. Elderly- life expectancy, physiological changes in elderly, nutritional and health concerns in old age and their management

## **Unit IV-Nutrition during Childhood**

Growth and development, growth reference/standards, RDA, nutritional guidelines, nutritional concerns and healthy food choices in the following groups:

- Infants
- Preschool children
- School children
- Adolescents

## **Unit V-Nutrition for special Conditions**

1. Nutrition for physical fitness and sports
2. Feeding problems in children with special needs.

### **Reference:**

- Bamji MS, Krishnaswany K, Brahma GNV(2009). Textbook of Human Nutrition, 3<sup>rd</sup> Edition.
- Khanna K., Gupta S, Passi SJ, Seth R, Mahna R and Puri S (1997). Textbook of Nutrition & Dietetics. Phoenix Publishing House, New Delhi
- Stacy Nix (2009). William's Basic Nutrition and Diet Therapy, 13<sup>th</sup> Edition. Elsevier Mosby.

### **Practicals:-**

1. Identification of nutrient rich sources of foods, their seasonal availability and price, study of nutrition labeling on selected foods.
2. Use of food exchange list
3. Planning, preparation and evaluation of adequate diets using food exchange list to suit different socioeconomic groups for:
  - Young adult
  - Pregnant and lactating women
  - Preschool child
  - School age child and adolescents
  - Elderly
4. Planning Complementary food for infants

**B.Sc. (Home Science) Fourth Semester  
WET PROCESSING OF TEXTILE (TAD-II)  
PAPER XVIII**

Theory: 60  
Sessional: 40

**COURSE CONTENT : THEORY**

**UNIT I:**

- (a) Definition, purpose and classification of finishes (according to purpose, method and durability)
- (b) Process and uses of-
  - (i) Basic finishes- Bleaching, Mercerization, Calandring, Sanforization, Tentering, Singeing
  - (ii) Functional Finishes- Crease Resistance, Water Proof and Water repellent, Flame proof and flame retardant, antistatic, soil proof, Mildew proof.

**UNIT II:**

- (a) Water - Sources, uses, types; hardness of water – types, causes and techniques of removal of hardness.
- (b) Soaps and detergents – Kinds, composition and properties.

**UNIT III:**

- (a) Blues – Types, composition, uses and action of blues.
- (b) Stiffening agents – Types, properties, sources, preparation and application of various stiffening agents.
- (c) Bleaches – Classification and their uses, optical brighteners.
- (d) Additional laundry reagents – Uses of Washing soda, borax, acetic acid, ammonia, oxalic acid, solvents (petrol, acetone, carbon tetrachloride), absorbents (common salt, talcum, French chalk)

#### **UNIT IV:**

(a) Dyes –

(i) Natural dyes – Sources

(ii) Synthetic dyes – Classification, types and uses of acid, basic, direct, azoic, sulphur, disperse, vat, Pigment.

(iii) Health hazards caused by synthetic dyes.

(iv) Methods of dyeing – Solution, fiber, yarn, fabric and piece dyeing, resist (batik and tie & dye)

(b) Methods of Printing -

(i) Direct- Block, screen, stencil (ii) Transfer Printing (iii) Discharge Printing

(iv) Polychromatic and digital Printing

(v) Automatic Printing: Roller, screen, duplex, discharge, photographic

#### **UNIT V:**

(a) Stains – Definition, classification, identification, and general precautions observed during stain removal (b) Dry cleaning – Definition, principle, dry cleaning agent and their use, comparison with wet cleaning, advantages and disadvantages, spot cleaning.

(b) Disinfecting the fabric

(c) Textiles and Environment – Health Hazards to workers and consumer, toxicity of chemicals used in textiles (during growth, manufacture, finishing and use), textiles as a source of air and water pollution.

#### **REFERENCES:**

1. Trotman ER: Dyeing and chemical technology of fibers.

2. J. Hall “the standard hand Book of textiles”, Woodhead publication, 2004
3. J. E. Smith “Textile processing-printing, dyeing, Abhishek publishing,2003.
4. Kate Broughton, Textile Dyeing”, Rockport publishers, 1996.
5. W.S. Murphy, “Textile Finishing”, Abhishek publication,2000.
6. Roshi Robinson, “shibori for textile Artists”, Batsford London.

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**Sessional:**

1. Removing individual stains by Home and lab methods (blood, wax, chewing gum, chocolate, coffee, egg, fruit, grass, ice-cream, medicine, Ink pen, ball-pen ink, iron-rust, mildew, lipstick, oil, perspiration, urine, paints).
2. Home dyeing – (a) Making sample of tie and dye using various techniques of tying.  
(b) Making sample of Batik
3. (a) Making sample of screen printing  
(b) Making sample of stencil printing  
(c) Making one article using combination of any of the above methods of dyeing and printing.
4. Collection of 5 fabric samples having different finishes – basic, mechanical, texturizing, chemical.

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**B.Sc. (Home Science) Fourth Semester  
CONCEPTS AND PRINCIPLES OF  
HOME MANAGEMENT (FRM-II)  
PAPER - XIX**

Theory: 60Marks  
Sessional: 40Marks

**Unit – I: Introduction of Home Management**

- (a) Definition, Philosophy and Concepts of Home Management.
- (b) Importance and factors affecting home management.
- (c) The management process – Planning, organizing, controlling and Evaluation.
- (d) Management cycle.

**Unit – II: Systems approach to Management**

- (a) Meaning and Definition.
- (b) Managerial unit- The family and its environment as system.

**Unit – III: Decision making**

- (a) Its importance and role.
- (b) Decision making process.
- (c) Classification of decisions.
- (d) Factors affecting decision making.

**Unit – IV: Motivational Factors of Management**

- (a) Values – Origin, Classification and Characteristics.
- (b) Goals – Types and Characteristics.
- (c) Standards – Types, Conventional of flexibility standard & Quantitative and Qualitative Std.
- (d) Interrelatedness of values, Goals & Standard.

**Unit – V: Family Resources**

- (a) Family resources – Classification, Characteristics and Objectives of use of resources.

- (b) Factors affecting resources- Scarcity, utility, accessibility exchange, transferability, substitution, Manageability, Interchangeability.

### **Sessional work**

- a. Identification of values and goals.
- b. Identification of resources.

### **References**

- a. Home management for Indian families : M.K. Mann
- b. Management for modern families : Gross and Crandall
- c. Management in daily living : hoodyear and Khlor
- d. Management in family living : Nickell and Dorsey
- e. Home management and family finance : Maneesha Shukul and Gandotra

**B.Sc. (Home Science) Fourth Semester  
TEACHING METHODS AND MEDIA  
(ECM-II)  
PAPER - XX**

Theory: 60 Marks  
Sessional: 20 Marks  
Practical: 20 Marks

- I. Teaching Learning Process – meaning, principles, characteristics, factors affecting teaching and learning. Adult learning-Characteristics of adult learner and factors affecting adult learning.
- II. Approaches in Extension Education: individual, group and mass.
- III. Methods of Extension Education according to approaches – concept, use, importance, selection and limitations.
- IV. Audio-visual Aids for teaching learning process – meaning, importance, classification, criteria for selection and use of audio-visual aids.
- V. Media – concept, types and importance.
  1. Folk media.
  2. Print media.
  3. Electronic media.

**Practical and Sessional:**

1. Preparation and use of audio-visual aids – display, distribution and use with teaching methods.
2. Preparation and presentation of any one media.

**References:**

1. Directorate of Extension Education,
2. A. S. Sandhu, “Agricultural communication”
3. G. L. Ray, “Extension and Management Communication” Naya Prakash.
4. S. K. Wag mare, “Teaching Extension Education”
5. P. Dhama & O.P. Bhatnagar, “Education & Communication for Development” Oxford IBH Publishing Co. Pvt. Ltd, New Delhi.

**B.Sc. (Home Science)**

**Fifth Semester**

**B.Sc. (Home Science) Fourth Semester  
HUMAN DEVELOPMENT-II (HDFS II)  
PAPER XXI**

Theory: 60 Marks  
Sessional: 40 Marks

**Unit I – Puberty and Adolescence (11 to 21 years)**

- (a) Development tasks and characteristics. Physical development: Puberty, growth spurts, primary and secondary sexual characteristics, secular trends.
- (a) Identity: Definition, Identity status, Factors influencing Identity development.
- (b) Social relationships and heterosexual relationship, Importance.
- (c) Adolescent's Emotions: - Meaning, Causes, expression, characteristics of emotional maturity.
- (d) Problems – Drug and Alcohol abuse, STD, HIV AIDS, Teenage pregnancy.

**Unit II – Young Adulthood (20 to 35 years)**

- (a) Definition of an adult, its characteristics, Development task of a young adult.
- (b) Responsibilities and adjustments-educational, occupational, marital and parenthood.
- (c) Choosing a Career - Stages, factors affecting selection for career.

**Unit III – Middle Adulthood (35 to 55 years)**

- (a) Characteristics, Developmental tasks, physical changes.
- (b) Reproductive Changes- Menopauses, climetric syndrome and associated health risks.

- (c) Stresses in middle age- family, workplace, occupation and coping strategies.
- (d) Preparation for retirement- physical, social, financial and occupational

#### **Unit IV – Late adulthood (55– 65 years) and Old Age (65 years onwards)**

- (a) Characteristics, developmental tasks, physiological changes and health problems, cognitive, memory and personality changes.
- (b) Retirement – effect of retirement (emotional, economic, self and family), changes in relationship with family.

#### **Unit V – Old Age**

- (a) Issues: - Old age homes, elderly abuse, loneliness and post parental status.
- (b) National Policies and legal provisions for elderly.
- (c) Death – Preparation and coping strategies.

#### **Sessional**

1. Case study of any one stage.
2. Visit to old age home/Widow Home.
3. Establishing one day camp for the aged to give them opportunity of association and submitting a report of the same.
4. Assessment of problems of any two stages.
5. An intervention to study middle crises and retirement blues and submitting its report.

#### **References**

1. Monaster G.J. 1977. Adolescent Development Life Tasks. Mc.Graw Hill.
2. Ambron S.R. 1978. Child Development (IInd Edition) Holt, Rinehart and Winston.

3. Papalia D.E. Olds S.W. 1975. A child's World-impact Through Adolescence, McGraw Hill Co.
4. Boeknek G. 1980. Human Development Brook and Cole Publishing Company.
5. Perkins V.H. 1975. Human Development Wadword Publishing Company California.
6. Rayner E. 1971. Human Development (IInd Edition) George Allen and Unwin.
7. Mussen P.H. Conger J.J. Kagan J and Huston A.C. 1984. Child Development and Personality (VI Edition) Harper and Row Publishers.

**B.Sc. (Home Science) Fourth Semester  
DIET THERAPY**

**PAPER XXII**

Theory-60

Practical-40

**Unit I-Principles of Diet therapy and Nutrition care process**

1. Principles of diet therapy
2. Assessment of patients nutritional needs
3. Team approach in health care
4. Planning, implementation and evaluation of nutrition care
5. Dietary counselling in Nutrition care

**Unit II- Therapeutic adaptation of normal diet**

1. Qualitative and quantitative adaptation
2. Progressive diets- clear fluid, full fluid, soft and regular
3. Introduction to enteral and parenteral nutrition

**Unit III- Weight Management**

Etiology, clinical features, diagnosis, complications, nutritional and lifestyle modifications and dietary counseling in weight management

1. Overweight and obesity
2. Underweight
3. Eating disorders- Anorexia nervosa and bulimia

**Unit IV- Nutritional management of common disorders**

Etiology, clinical features, diagnosis and nutritional management of the following

:-

1. Infections and fevers- short term and long term (Typhoid, Tuberculosis and HIV/AIDS)
2. Stomach disorder- Gastritis and Ulcers
3. Small and large intestine disorders- Diarrhoea, Constipation, Lactose intolerance, Steatorrhoea, Celiac disease
4. Liver disease- infective hepatitis



## **Unit V- Cardiovascular and common metabolic disorders**

Etiology, clinical features, diagnosis, complication, nutritional management, lifestyle modification and dietary counselling in:-

1. Cardiovascular disorders- Hypertension, Hyperlipidemia and Atherosclerosis
2. Diabetes Mellitus- Type 1 and Type 2
3. Gout

### **References :**

- Bamji MS, Krishnaswamy K, Brahma GNV(2009). Textbook of Human Nutrition, 3<sup>rd</sup> Edition.
- Joshi SA. 2010. Nutrition and Dietetics. 3<sup>rd</sup> edition. Tata Mc. Graw-Hill Education Pvt Ltd.
- Khanna K., Gupta S, Passi SJ, Seth R, Mahna R and Puri S (1997). Textbook of Nutrition & Dietetics. Phoenix Publishing House, New Delhi

### **Practical's:-**

1. Planning, calculation, preparation, service and evaluation of diet for patients suffering from following disorder

#### **A) Therapeutic diets**

- i) Normal Diet with a 3 day cycle menu
  - ii) Soft diet
  - iii) Liquid diet- clear and full fluid
2. Diet in fever- acute & chronic
  3. Diet in Diarrhoea, Constipation
  4. Diet in infective hepatitis
  5. Diet in Overweight / Obesity and underweight
  6. Type 2 diabetes
  7. Cardiovascular disorders- Hypertension, Atherosclerosis
  8. Designing and preparation of a dietary counselling aid

**B.Sc. (Home Science) Fifth Semester**  
**TEXTILE DESIGN AND GARMENT CONSTRUCTION (TAD III)**  
**PAPER XXIII**

Theory: 60  
Sessional: 40

**COURSE CONTENT : THEORY**

**UNIT I:**

- (a) Origin and functions of clothing
- (b) Theories of clothing- theory of modesty, immodesty, protection, adornment, combined need theory.
- (c) Psychological and Sociological aspects of clothing.
- (d) Clothing needs of the family at its various stages.

**UNIT II:**

- (a) Types of Design-Structural & Applied
- (b) Elements of Design as applied to Textiles and Apparel
- (c) Principles of Design as applied to Textiles and Apparel

**UNIT III:**

- (a) Fabrics with Traditional Embroidery of different states- Phulkari, Kantha, Kasuti, Kutch & Sindhi, Kasidakari, Chikankari and Zardozi.
- (b) Traditional woven fabrics- Brocades, Baluchars, Patola, Ikat, Pochampalli, Carpets and Shawls of Kashmir.
- (c) Traditional painted /printed and dyed fabrics- Sanganeri, Bhagru, Kalamkari, Madhubani, and Bandhani.

**UNIT IV:**

- (a) Textile Design, motifs and their features –Natural, Stylized, Geometric and Abstract.
- (b) Repeats and layouts.

**UNIT V:**

- (a) Fashion –Definition, Origin and Evolution.
- (b) Fashion Cycle, Terminology, Elements and Principles.
- (c) Theories of Fashion adoption

(d) Career options in Fashion Industry.

**REFERENCES:**

1. Helen J Armstrong, Pattern Making for fashion design, prentice Hall
2. Harold Carr & Barbara Latham, The technology of manufacture, Oxford pub. USA, 1994
3. Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991

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**Sessional:**

1. Making samples of basic stitches of clothing constructions (total 58).....14practicals
  - (a) Basic stitches (5) – Basting (even and uneven), Hemming (visible and invisible), Back stitch.
  - (b) Seams (6) – Plain, lap, french, run and fell, counter seam and counter hem.
  - (c) Seam Finishes (6) – Pinking, turn and machine, turn and baste, turn and hem, over casting and blanket stitch.
  - (d) Plackets (6) – Continuous, two piece, kurta placket, frock/shirt placket, zip, zip with cover.
  - (e) Fasteners (2)–of Overlap and underlap.
  - (f) Neckline Finishes(7) – Piping (on square, round, v-shape neckline) Facing (square, round, v-shape and fancy shaped neckline)
  - (g) Fullness (8) – Darts (Single and double), Tucks (pin, broad, cross and shell), Gathers and Shirring.
  - (h) Knitting samples(2)–Basic-

- (i) Darning and patch(3)- plain and printed
- (j) Pocket (2)– patch with flap and side seam pocket.
- (k) Cuff(1)- Simple
- (l) Embroidery sample with at least 20 stitches (1)
- (m) Smocking sample with 8 stitches(1)

2. Drafting of basic sleeve block.

3. Drafting of child's basic bodice block and

(A) Its adaptation to

- a. (i) 'A' – line frock (ii) simple gathered  
frock.....8 practicals
- b. (i) 'A' – line romper (ii) romper with bib and  
bloomer.....8 practicals

(B)Drafting and stitching instruction of all of the above and stitching of any one from (a) and one from (b).

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**B.Sc. (Home Science) Fifth Semester  
FAMILY HOUSING (FRM-III)  
PAPER - XXIV**

Theory: 60 Marks  
Practical: 40 Marks

**Unit – I: Housing**

- (a) Housing needs and importance.
- (b) Housing scenario in India.
- (c) Causes of shortage of housing.
- (d) Renting and ownership housing: advantages and disadvantages.

**Unit – II :HousePlanning**

- (a) Selection of site: Natural features, neighborhood and social consideration, availability of external and utility services.
- (b) Principles underlying planning of house.
- (c) Vastu Shastra.
- (d) Planning units of the house: Private, Work, Recreational, Service area.

**Unit – III: Types of House Plans**

Meaning and characteristics of:

- (a) Site plan.
- (b) Floor plan.
- (c) Cross section plans.
- (d) Elevation plans.
- (e) Perspective plans.

**Unit – IV: Construction and Building Material**

- (a) Construction features of a house(brief description).
- (b) Building Materials

**Unit – V: Housing Legislation and Schemes**

- a. Building Codes
- b. Bye-laws
- c. NBO (National building organization).
- d. Governmental housing schemes.

### **Practical Work**

- a. Making different floor plans for various Income levels.
- b. Visit and Observation of a residential building under constructions.
- c. Market survey of different building material.

### **Reference Books**

- a. Modern Ideal Home for Indians – R.S. Desh Pandey United Books Co. Poona.
- b. Cheap & Healthy Home for middle class – R.S. Desh Pandey, United Books Co. Poona.
- c. The House – its use and care – T. again, J.B.H. Publishing New Delhi.
- d. Home with Character - Craig and Rush.
- e. House Plans of different living – Veena Gandotra Sarjoo Patel, Dominant pub & Distributor, New Delhi.

**B.Sc. (Home Science) Fifth Semester**  
**PROGRAMME PLANNING FOR FAMILY DEVELOPMENT (ECM-III)**  
**PAPER XXV**

Theory – 75 Marks

Sessional – 25 Marks

**I. Programme Planning:**

1. Concept, Meaning and Objectives of Programme Planning.
2. Need of Programme Planning.
3. Principles of Programme Planning
4. Participatory planning- Concept, importance and approaches.

**II. Steps in Programme Planning:**

- A. 1. Meaning and Importance of Plan of Work.
  2. Developing a Plan of Work
  3. Factors to be considered in preparing the Plan of Work
- B. Programme Execution-
  1. Aspects of execution.
  2. Steps of Programme Execution.
- C. Programme Evaluation:
  1. Concept, Importance, Criteria and types of Evaluation.
  2. Steps of Evaluation.

**III. Leaders and Leadership:**

1. Meaning, qualities and role.

2. Types of leaders, identification and training of leaders.

**IV. Rural Development Programmes** under Five Year Plans.

**V. Planning Commission of India in brief** – role and importance.

**Sessional:**

- a. Visiting community to identify needs of community through PRA techniques.
- b. Development of need-based programmes – its implementation and evaluation.
- c. Writing report and its presentation.

**References**

1. Anoop Singh Sandhu, “Extension program planning”
2. P. Dhama & O.P. Bhatnagar, “Education & Communication for Development” Oxford IBH Publishing Co. Pvt. Ltd, New Delhi.
3. Directorate of Extension Education, “Extension Education in community Development”
4. Dr. A. Adivi Reddy, “Extension Education”
5. Uham Kumar Singh, “Extension Education” G. L. Ray, “Extension and Management Communication” Naya Prakash.
6. S. K. Waghmare, “Teaching Extension Education”



**B.Sc. (Home Science)**

**Sixth Semester**

**B.Sc. (Home Science) Sixth Semester**  
**MARRIAGE AND FAMILY DYNAMICS**  
**PAPER XXVI**

Theory: 60 Marks  
Sessional: 40 Marks

**Unit 1- Marriage in Indian Society**

- (a) Meaning, goals, characteristics of marriage, prevalent forms of marriage restrictions on marriage
- (b) Readiness for marriage (i) Psychological (ii) Social  
(iii) Physiological (v) Economical
- (c) Preparation for marriage - (i) Selecting a suitable partner, Theories on mate selection (ii) Premarital association (iii) Premarital guidance and counseling
- (d) Presents trends in marriage

**Unit II- Marital Adjustment**

- (b) Types of adjustment-physical, financial, in-laws and social
- (c) Marital adjustment at different stages of family life cycle and occupational cycle
- (d) Factors affecting marital adjustment

**Unit III- Legal laws related to marriage in India :-**

- (a) The Hindu Marriage Act
- (b) Special Marriage Act
- (c) The Dowry Prohibition Act.
- (d) The Child Marriage Restraint Act.
- (e) Christian Act, Muslim Act.

## **Unit IV- Family**

- (a) Meaning, definition, structure (Joint family and nuclear family), functions of family, sociological significance of family
- (b) Changes in family structure, factors responsible, advantages and disadvantages of change in family structure, effects of different family structures on changing roles of family.
- (c) Modern trends in family - single parent families, childless families, dual earner families, nuclear families, DINK families, liv-in-relationship.

## **Unit V- Dysfunctional families and family counseling**

- (a) Dysfunctional families-
  - (i) Separation and divorce
  - (ii) Violence and distress
  - (iii) Abused families
- (b) Family counseling-
  - (i) Meaning, principles, importance and techniques of family counseling.
  - (ii) Skills, competencies and role of counselor.

## **Sessional work**

1. Term paper on any topic from the course.
2. Critical analysis of relevant news articles on marriage and family issue.
3. Identification of risk family and assessment of their needs.

## **References:**

1. Rice F.P. Marriage and Parenthood. Allyn and Bacon Inc. Toronto.

2. Rice F.P. 1983. Contemporary Marriage. Allyn and Bacon Inc. Toronto.
3. Reddy VNK, 1978. Marriages in India. The Academic Press Gurgaon.
4. Landis and Landis 1968. Building as Successful Marriage Prentice Hall Enc.
5. Duval I.M. 1962 Family Development J.P. Lippincot Co.
6. Winch R.F. 1963. The modern Family Holt Rinehart and Winston.

**B.Sc. (Home Science) Sixth Semester**

**COMMUNITY NUTRITION**

**PAPER XXVII**

Theory- 60

Internal -40

**Unit I- Introduction to Community Nutrition**

- Concept and Scope of community nutrition
- Food related behavior – factors affecting food habits, relation to knowledge, attitude, beliefs and practices in food behavior.

**Unit II-Assessment of Nutritional status**

1. Direct methods – anthropometry, biochemical and clinical examination
2. Indirect methods- dietary surveys, vital statistics

**Unit III- Nutritional problems and their implications**

Etiology, prevalence, clinical features and preventive strategies of :-

1. Under nutrition-
  - PEM
  - Nutritional anemia
  - Vitamin A deficiency
  - Iodine deficiency disorder
2. Fluorosis

**Unit IV- Nutrition Policy and Programmes in India**

1. National nutrition Policy
2. Objectives, target group and intervention strategy of
  - a. ICDS
  - b. Mid day meal programme
  - c. National programmes for prevention of anaemia, Vitamin A deficiency and Iodine deficiency disorder

**Unit V- Nutrition Education**

1. Objectives, principles and scopes of nutrition and health education and promotion

2. Behaviour change communication – concepts, objectives and approaches.
3. Methods and aids for imparting nutrition education

**References:-**

- Bamji MS, Krishnaswany K, Brahma GNV(2009). Textbook of Human Nutrition, 3<sup>rd</sup> Edition.
- Park K (2009). Park textbook of Preventive and Social Medicine, 20<sup>th</sup> Edition. M/S Banarsidas, Bhanot Publishers, Jabalpur, India.
- Wadhwa A and Sharma S. (2003). Nutrition in the community – A textbook. Elite publishing House Pvt . Ltd. New Delhi

**Internal :**

1. Planning and demonstration of low cost nutritious recipes for infants, preschoolers, pregnant/ lactating mothers.
2. Development of suitable aids for nutrition education programs.
3. Assessment of nutritional status-
  - a. Anthropometric measurements- weight, height and MUAC.
  - b. Plotting and interpretation of growth charts of children below 5 years
  - c. Identification of clinical signs of common nutritional disorders
  - d. Dietary assessment-24 hour recall
4. Planning and conducting a nutrition promotion activity
5. Visit to an ongoing nutrition and health promotion programme.

**B.Sc. (Home Science) Sixth Semester**  
**TEXTILE DESIGN AND APPAREL CONSTRUCTION (TAD-IV)**  
**PAPER - XXVIII**

Practical: 60  
Sessional: 40

**TAD-IV A: Textile Design (Practical)**

1. Learning Traditional and Contemporary embroidery stitches.
2. Sketching of designs with different motifs (Natural, Stylized, Geometric and abstract.)
3. Development of design- Motif, design, pattern, repeat- drop repeat (full drop,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{3}{4}$  drop, ), brick and mirror (vertical and horizontal) repeat.
4. Sketching of Croquets and Garment details- Necklines and collars, Sleeves with details, Fullness (pleats, gathers, darts, tucks), frills, flounces, ruffles, fringes, variety of fasteners.
5. Sketching of- ladies wear (skirts, pants, blouse, Top), Men's wear (Shirt, Trousers), Unisex garments (coat, jackets, Kurta) .
6. Sketching of-different lines to see the effects produced by them.
7. Making of different Colour schemes and to study the effect produced by different colours and colour schemes..
8. Collection of different types of Stripes, Checks, plaids. Effects produced by each and by mixing of these.
9. Collection of different types of textures (Stretch fabrics, velvet, leather, fur and lace, non – woven). Effects produced by each and by mixing these textures.

**B.Sc. (Home Science) Sixth Semester**  
**INTERIOR DESIGN AND HOME DECORATION (FRM-IV)**  
**PAPER - XXIX**

Theory: 60 Marks  
Practical: 40 Marks

**Unit – I: Interior design and Home decoration**

- a. Meaning of interior design.
- b. Factors affecting interior design.
- c. Interior design : Traditional and modern overview.

**Unit – II: Design**

- a. Objectives of design
- b. Type of design- Structural and Decorative.
- c. Elements of design- Line, Form, Texture, Space, Patter, Light and Colour.
- d. Principles of design- Proportion, Balance, Rhythm, Emphasis, Harmony

**Unit – III: Colour**

- a. Colour Theory – Chemist, Physicist and Psychologist.
- b. Colour System- Prang colour system and Munsell colour system.
- c. Dimensions of colours ; Hue, value and Chroma.
- d. Colour Wheel – Primary, Binary, Intermediate, Teritary and Quarternary colour, Warm and Cool colour and their effect.
- e. Colour Schemes – Similar and contrasting colour schemes, Planning of colour schemes for different areas in the house.

**Unit – IV: Furnishing**

- a. Furnishings: Classification of furnishing–Curtain, Draperies, Upholstry, Carpet.
  - (i) Factors influencing the selection of furnishings for the home-family needs and preference, availability, climatic condition, income, home maker taste etc.
  - (ii) Windowtreatment.
- b. Light: Natural and artificial light, lighting in various rooms and for different activity centers.



## **Unit – V: Flower arrangement**

- a. Equipments used in Flower arrangement.
- b. Types of Flower arrangement using elements and principles of art and design.

## **Practical Work**

- a. Making any one decorative article for the home i.e. bed cover, table net, cushion cover, lampshade etc.
- b. Floor decoration with flower, rice powder, chalk powder and poster colours. (Alpana, Mandana, Rangoli).
- c. Artificial flower making and their arrangements.

## **Reference Books**

- a. Art in everyday – Goldstein and Goldstein
- b. Home with characters – Craig and rush
- c. Home furnishing – A.H. Rull  
Grah Vyavastha awam grah Kak G.P. Sherry.
- d. Grah Prabandh – Sharma and Verma
- e. Interior Architecture – J. Rosemary Riggs
- f. Colours in your home – Tera Eve Legh
- g. Colour Forecasting – Tracy Dianne

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## **TAD-IV B: Apparel Construction (Practical)**

1. (a) Drafting of petticoat – 4 paneled and 6-paneled  
(b) Stitching of any one of these.
2. Drafting of various collars – Flat peterpan collar, raised peterpan collar, cape collar, baby collar, shawl collar, T-shirt collar, Chinese band collar and sailors collar.....2 practicals.
3. Drafting of basic sleeve block and its adaptation to different sleeves.  
(a)Set in sleeves: puff and its variations, gathered and its variations, long and short cap, flared, leg-o-mutton.  
(b)Modified sleeves – loose and tight magyar, loose and tight reglan, kimono, saddle sleeve.....2 practicals

4. (a) Drafting of adult's bodice block and sleeve block.  
(b) Its adaptation to: Ladies Shirt (Kameez) / Kurti /Top  
(c) Stitching of anyone of these garments.
5. (a) Drafting of – (i) salwar and (ii) churidar pyjama  
(b) Stitching of any one of these.
6. Exhibition

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**B.Sc. (Home Science) Sixth Semester  
COMMUNICATION PROCESS AND ADOPTION (ECM-IV)  
PAPER - XXX**

Theory: 60 Marks  
Sessional: 40 Marks

**I. Communication:**

1. Meaning, nature and importance of communication.
2. Factors influencing effective communication.
3. Key elements in the communication process.
4. Models of communication.

**11. 1. Types of Communication** – Upward-Downward; Interpersonal - Intrapersonal; One way- Two way; Individual- Group- Mass, Localite - Cosmopolite.

2. **Barriers** of communication and ways to overcome them.

**111. Development communication-** Nature, Definition, Role & significance.

**IV. Innovation and Diffusion:**

1. Concept of Innovation and Diffusion.
2. Characteristics of innovation and applicability of each characteristic to homestead technologies.
3. Consequences of innovation.
4. Innovation decision process.
5. Elements of diffusion-social agents, opinion leaders and change agents.

**V. Adoption**-concept, adoption stages, adopter categories, rate of adoption, discontinuance.

**Practical :**

1. Formulating communication strategies for home science development programmes.
2. Development of Communication Skills using different Approaches.

**References**

1. P. Dhama & O.P. Bhatnagar, "Education & Communication for Development" Oxford IBH Publishing Co. Pvt. Ltd, New Delhi.
2. Directorate of Extension Education, "Extension Education in community Development"
3. A. S. Sandhu, "Agricultural communication"
4. G. L. Ray, "Extension and Management Communication" Naya Prakash.
5. B. N. Ahuja, "Theory & Practice Journalism"
6. S. K. Waghmare, "Teaching Extension Education"
7. Lady Irwin College, "Studies of the Rural Community"
8. Larry L. Barker, "Communication"