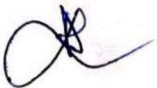


**B.Sc. HOME SCIENCE**

**SEMESTER –III**

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**B. Sc. HOME SCIENCE SEMESTER III**  
**PAPER - I**  
**Community Nutrition**  
**(3T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**OBJECTIVES:**

- 1) To orient students to the basic principles of nutritional assessment as applied to the study of community nutrition.
- 2) To understand the importance of nutrition education.
- 3) To develop an understanding the role of micro-organism in food.
- 4) To prepare standardized recipes for specific age groups and calculate the nutrients.

**THEORY**

**COURSE CONTENT:**

**UNIT-I**

**1. Malnutrition**

- a) Definition and types of malnutrition
- b) Causes and symptoms of malnutrition
- c) Nutritional problems due to malnutrition
- d) Prevalence of malnutrition in India

**UNIT -II**

**Nutritional Assessment**

**1. Assessment of Nutritional Status:**

- a) Anthropometry
- b) Diet Survey
- c) Clinical Assessment
- d) Laboratory methods (Biochemical)

Limitations and interpretation of all the above parameters

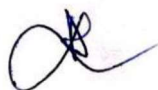
**2. Role of National organizations and International organizations:** (ICAR, ICMR, NIN, CFTRI) and (FAO, WHO, UNICEF, CARE) in community nutrition and health

**UNIT - III**

**1. Nutrition Education**

- a) Meaning, importance and objectives of nutrition education
- b) Methods and evaluation of nutrition education
- c) Problems involved in organizing nutrition education programme for the community and how to solve them

**2. National Nutrition Programme:** a) ICDS b) MDM Programme c) National Nutrition Anemia Prophylaxis Programme (NNAPP) and d) Vitamin A Prophylaxis Programme (VAPP) e) Goiter Control



## UNIT - IV

**Principles underlying and food preservation:** Improving shelf life and nutritional quality of food

### 1. Food Preservation

- A) Importance of food preservation.
- B) General Principles and Methods of Food Preservation
  - a) High/Low temperature (pasteurization/refrigeration/deep freezing)
  - b) Drying (sun-drying / mechanical drying)
  - c) Radiation
  - d) Preservatives

### 2. Food Fermentation

Role of Microorganisms as food fermenting agent for products such as, Idli, Curd, Butter, Cheese and Bread. Nutritive value of fermented foods

**3. Leavening Agent:** Microbiological Chemical and Natural Leaveners

### 4. Food Additives

**INTERNAL ASSESSMENT** (Refer Direction)


<b>Total Marks</b>	<b>20</b>
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### PRACTICALS

1. Conversion of Weights and Volumes of raw foods to cooked food (any 5)
2. Weights and Measures - Standard and household measure for raw food
3. High calorie and High protein recipes (any 2)
4. Low calorie recipes (any 2)
5. Preparation and Calculation of nutritive value of:
  - a) Fermented recipes-Idli, Dosa, Dhokla, Uttappam and Appe (any 2)
  - b) Baked products: Cake, Biscuits, Nankhatai and Cookies (any 2)

### REFERENCES

- 1. Nutritive Value of Indian Foods:** Gopalan C, Rama Sastri and Balasubramanian S.C. National Institution, 1993.
- 2. Understanding Nutrition:** Whitney E.N. & Rolfes S.R. 8<sup>th</sup> Edition West/Wordsworth. 1999.
- 3. Dietetics:** B Srilakshmi, New Age International (P) Ltd., Publishers 3<sup>rd</sup> 2000.



**4.Nutrition and Dietetics** :ShubhanginiA.Joshi, Tata McGraw HillPublishing Co. Ltd., New Delhi,1992.

**5.Nutritional Research**: Current Scenario and Future Trends Editor:K,Krishnaswamy, Oxford and IBH Publication Co. Pvt. Ltd., 2000

**6.Nutritional Problems of India**:Shukla P.K., Prentice Hall of India Pvt.Ltd., Delhi1982

**7.The Science of Food**: An Introduction to Food Science, Nutrition andMicrobiology: Gaman P.M. & Sherrington K.B. 2<sup>nd</sup> Edition. Pergamon Press, 1989.

**8.Indian Food Composition Tables**:.Longvah T, AnanthanR,Bhaskarachary K and Venkaiah K. National Institute of Nutrition, 2017.

**B.SC HOME SCIENCE SEMESTER - III**  
**PAPER -II**  
**Development in Late Childhood and Adolescence**  
**(3T-2)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**OBJECTIVES :**

- To understand development in late childhood and adolescence
- To study significant changes during late childhood to adolescence
- To gain knowledge of issues concerning late childhood and adolescence.

**Theory :**

**Unit – I:-**

**I)Early Childhood Care and Education**

1. **Meaning, need and importance, aims and objectives, principles, scope of ecce.**
2. **Types of preschool programmes- play centres, day care, KG, balwadi, anganwadi, mobile crèche, Montessorie.**

**II)Late childhood:-Physical,Motor,social emotional development.**

- Developmental tasks of late childhood. Physical development – Changes in body size, nutrition and health, physical fitness
- Motors Skills, Factors influencing
- Changes in emotional development, coping with stress

Development of self- understanding, understanding others, self-esteem and self-concept, self - efficacy, self-regulation , industry vs inferiority

- Relationships with family peers, teachers
- Influence of school and media.

### **Unit II- Late Childhood : Cognitive and language.**

- Cognitive development - theoretical perspectives on cognitive development (Piagets and Vygotsky) factors influencing cognitive development
- Intelligence and creativity, influences on intelligence and creativity
- Development of language in late childhood, bilingualism / Multilingualism, influences on language development
- Moral development – Perspectives on morality, influences on moral reasoning and behaviour.

### **Unit III - Early adolescence / Puberty (12-16 Years)**

- Puberty – Sub stages of puberty, primary sex characteristics
- and secondary sex characteristics, effects of puberty changes,
- sex education
- Adolescence :- Development tasks and theoretical perspectives.
- Physical and physiological changes .

### **Unit IV – Adolescence : Cognitive, Language & Moral Development.**

- Perspective on cognitive development
- Development of intelligence and creativity
- Adolescent language
- Self and Identity at adolescence
- Family relationships – parents, grandparents & significant others
- Peer relationships.

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**Preparation of Workbook  
Juvenile Delinquency**

**Practicals:**

- 1. Participation in Nursery school ( With Lesson Plans)**

2. Studying various hazards related to late childhood and adolescence.

3. Exercises on life skill development

**References :**

- Berk, L.E. (2007). Development through the life span (4<sup>th</sup>ed)  
Allyn & Bacon :
- Rice, E.P., (1999). The Adolescent : Development, Relationships & culture (9<sup>th</sup>ed). Allyn & Bacon, Boston
- Santrock, J.B., (2006). Lifespan Development (10<sup>th</sup>ed) . Mc. GrawHill. Sharma N.(1999). Understanding adolescence. New Delhi : NBT

**B.Sc. HOME SCIENCE SEMESTER – III**

**Textile Design**

**PAPER – III**

**(3T-3)**

Total Marks	100
Theory	80
Internal Assessment	20
Practical	-

**Objectives**

1. To acquire knowledge of various methods of fabric construction.
2. To develop creativity in designing for prints.
3. To impart knowledge of traditional textiles of India.
4. Create awareness of different dyeing and printing techniques.

**Theory**

**Unit I :**

- 1 Design – Types, Repeats of design, Types of motifs from India.
- 2 Elements of design and their effects- Line, shape, Color and Texture.
- 3 Principles of design and their effects- Proportion, Balance, Emphasis, Rhythm, Harmony
- 4 .Develop designs for saree, Dress material and dupatta, bedcover, curtain by using different designs.

**Unit II :**

- 1 Methods of fabric contractions : Weaving, - handloom, its parts and operation.  
Types of weaves, basic weaves, decorative weaves.-Dobby, Jacquard, pile, Swivel, Lappet
- 2 Introduction to Knitting – Types of knitting, advantages and disadvantages of knitting.

- 3 Non wovens : Bonded fabric, Felt -types and manufacturing process and their uses.
- 4 Other methods of fabric constructions – Netting, lace making, braiding.

**Unit III :**

1. Finishes, Importance of finishes : General finishes – Scouring, bleaching, singeing, sizing, mercerizing, tentering, calendaring.
2. Special finishes: Special calendaring, napping, flame proofing, water proof and water repellency, wrinkle resistances.

**Unit IV :**

1. Regional embroidery : History, stitches, Motifs, colour, material , threads used in Kantha of Bengal, Chamba of Himachal Pradesh, Kasuti of Karnataka, Kashida of Kashmir.
2. Phulkari of Panjab, Chikankary of Uttarpradesh, Manipuri from Manipur, Kathiyawadi of Gujrat

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**Practical**

1. Make an embroidery album of Kantha of Bengal, Chamba of Himachal Pradesh, Kasuti of Karnataka, Kashida of Kashmir. Phulkari of Panjab, Chikankari of U.P Manipuri, Kathiyawadi of Gujrat
2. Develop designs for saree, Dress material and dupatta, bedcover, curtain by using different design with different colours.

**BOOKS RECOMMENDED**

- Chattopadhyaya, K., Handicrafts of India, All India Handicrafts Board, New Delhi, 1975.
- Ikat textiles of India Chelna Desai, Chronicle Books, San Francisco, 1988
- Silk Brocades Yashodhara Roli & Janssen BV, New 2003
- Hand-woven Fabrics of India, Jaslen Dhamija and Jyotindra Jain, Mapin Publishing Pvt. Ltd. Ahmedabad, 1989
- Tie-Dyed textiles of India, Veronica Murphy & Rosemary Crill, Victoria & Albert Museum, London, 1991
- Traditional Indian costumes and Textiles, Parul Bhatnagar, Abhishek Publication, Chandigarh, 2004
- Designs for a life time Usha Shrikant, Samata Enterprise, Mumbai, 2002
- Marsh, J.T., An Introduction to Textile Finishing, B.I. Publishers, 1979
- Corbman, P.B., Textiles-Fibre to Fabric, Gregg Division/McGraw Hill Book Co., US, 1985
- Potter MD and Corbman BP. Textiles: Fibres to Fabric – Published by McGraw Hill Inc. U.S.A
- Usha Shrikant - Ethnic Embroidery of India, Samaia Enterprises, Mumbai.

William Watson - Textile Design and colour, Longman Green and Co. London.

**B.Sc. Home Science Semester III**  
**PAPER – IV**  
**Housing and Interior Decoration**  
**(3T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**Objectives**

- 1 To develop understanding regarding housing needs, Principles, Planning of house
- 2 To experiment with space, Preparing house plans .
- 3 To develop graphic skills to express ideas in design, forms, knowledge of landscaping and economic use of space.

**COURSE CONTENT: Theory**

**Unit I** a) Concept of Housing

b) Importance of Housing

c) Family Housing Needs – (i) Protection (ii) Economic Needs (iii) Affectional (iv) Social

(v) Standards of Living (vi) Housing Goals (vii) Style (viii) Function

(ix) Occupation (x) Physical and Mental Health

d) Selection of Site for House -(i) Physical features (ii) Type of soil (iii) Hygienic Conditions

(iv) Practical convenience (v) Legal point of view

(vi)Economic Conditions

e) Principles of house planning - (i) Orientation (ii) Aspect (iii) Prospect (iv) Privacy

(v) Grouping (vi) Roominess (vii) Furniture (viii) Sanitation

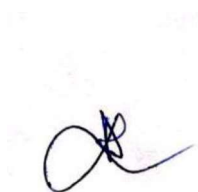
(ix) Circulation (x) Economy

**Unit II** a) Factors affecting house planning: (i) Income (ii) Occupation (iii) Size of the family(iv) Socio-economic status of the family

b) Study of various rooms in the house with respect to:

(i) Living area: (a) Verandah (b) Drawing room

(ii) Sleeping area: (a) Bedroom (b) Guestroom





(iii) Service area: (a) Staircase (b) Toilet (c) Dining room

(d) Store room

(e) Kitchen-Types of kitchen: (a) One wall

(b) Two wall (c) U-shape (d) L-shape

(f) Storage facility in different rooms

### Unit III- Arrangement of Furniture

1.a) Selection of furniture: (i) Expressiveness (ii) Styles (iii) Beauty (iv) Utility (v) Comfort (vi) Flexibility (vii) Durability (viii) Cost

b) Material Required for construction: (i) Wood (ii) Metal and alloy (iii) Plastic (iv) Glass (v) Willow, rattan, cane.

c) Care of furniture

2. (a) application of art elements and principles in arrangement.

(b) Various kinds of Architectural symbols used in scale drawing.

(c) Arrangement in different rooms- (i) Living (ii) Dining (iii) Bedroom

**Unit IV** (a) Bonsai- (i) History (ii) Preparation of soil (iii) Selection of plants (iv) Potting and repotting (v) Different styles (vi) Selection of containers (vii) Care

(b) Landscaping- (i) Importance (ii) How a professional landscape design can enhance home

(iii) Selecting landscape plants (iv) Selecting landscape structures/materials

(v) Installing driveways and walkways (vi) Lighting (Outdoors) (vii) Garden ornaments

**INTERNAL ASSESSMENT** (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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### Practical

Exp. No. 1: Symbols of various kinds of furniture used in scale drawing.

Exp. No. 2: Arrangement of furniture with the help of symbol in Drawing room.

Exp. No. 3: Arrangement of furniture with the help of symbol in Bed room.

Exp. No. 4: Cleaning of different metals copper, silver, iron, brass, Aluminium.

Exp. No. 5: Care and cleaning of furniture

Accessories in Home Decoration (any two)

1) Articles made out of low cost / waste material

(a) Fabric painting, oil, water, nib, knife, sand, glass, stain glass etc.

(b) Wax work / candles etc.

2) Preparation of bonsai.

3) Visit to Landscape /rock garden.

### Books Recommended:

1. Agan T. C. – ‘The House’ Oxford and I. B. H. publishing Co.

2. Ann Reilly; Susan A. Roth – ‘The Home Landscape’, Home planners Inco. Tucson, Arizona.

3. Deshpande R. S. – ‘Modern Indian Homes in India’, United Book Corporation, Poona, 2<sup>nd</sup> Edition.
4. Deshpande R. S. – ‘Build your own Home’, United Book Corporation, Poona, 4<sup>th</sup> Edition.
5. Deshpande R. S. – ‘Low Cost Housing’, United Book Corporation, Poona, 4<sup>th</sup> Edition.
6. Goldstin H. / Goldstein V. – ‘Art in Everyday Life’ MacMillan Co., New York, 4<sup>th</sup> Edition.
7. Pak – Tin & Helan Yeap – ‘Feng Shui – Health Harmony’ B.Jain Publishers Pvt Ltd., New Delhi, 1998.
8. Rutt A. – ‘Home Furnishing’, Wiley Eastern Pvt.Ltd., New Delhi, 2<sup>nd</sup> Edition.

**B.Sc HOME SCIENCE SEMESTER - III**  
**PAPER – V**  
**Extension Communication Techniques**

(3T-5)

Total Marks	100
Theory	80
Internal Assessment	20
Practical	-

**Objectives:**

1. To impart knowledge of extension teaching.
2. To develop awareness about extension learning.
3. To assess the extension teaching methods and approaches.
4. To gain the knowledge about art of presentation and devices useful in effective communication.

**Theory:**

**UNIT - I**

1. Extension teaching :  
 Definition of extension teaching, steps involved in extension teaching, factors contributing to extension teaching, principles of extension teaching and desirable traits of a teacher for effective extension work.
2. Extension teaching process :  
 Teaching plan, Role of teacher in different levels, functions of teaching in extension education.

**UNIT - II**

3. Extension learning process:  
 Definition of extension learning, Learning experience, Laws of learning, principles of learning, factors affecting learning, ideal learning situation to achieve success.

4. Psychology of learning :  
Types of learning, Group psychology and its effect on learning, Principles of group dynamics, Psychological factors in adult learning.

### UNIT - III

5. Extension teaching methods :  
Meaning, importance, functions, classification of various extension teaching methods, factors to be considered in selection and use of extension teaching methods.
6. Approaches in Extension :  
Meaning, Strong and weak points of interpersonal, group and mass approach.
- Interpersonal approach : Home visit, office call, personal letter and telephone call.
  - Group approach : Demonstrations, field trips, group discussions.
  - Mass approach : Campaign, Exhibition, Television, Radio.

### UNIT IV

7. Art of Presentation :  
Meaning, five basic steps of presentation and equipment of campaign work.
8. Selection of teaching aids : Selection, preparation and use of various teaching aids.  
Devices useful for effective communication: Over Head projector, opaque projector, DVD, LCD,

### INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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### Practicals

- Preparation and presentation of flannel cutouts for effective communication.
- Method demonstration for communication.
- Preparation of Poster on home science aspects.
- Handling and operation of opaque projector for teaching.
- Study of Mahila Mandal or Mahila Bachat Ghat (SHG) to analyze working pattern, and submission of report.

### Books Recommended :

- Supre. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata. 1999.
- Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.
- Reddy Adivi. A. Extension Education, Shree Laxmi Press, Bapatla, Guntur, A.P.

4. Singh J. K., Mass Media and Information Technology, Mangaldeep Publication, Jaipur.
5. Kumar K. J. L., Mass Communication in India, Jaico Publishing House, Mumbai.
6. Audio Visual Aids for Co-operative Education and Training, FAO Publications.

### B.Sc. (HOME SCIENCE) SEMESTER- III

#### PAPER VI Applied Physiology- I (3T-6)

<b>Total Marks</b>	<b>50</b>
Theory	40
Internal Assessment	10
Practical	-

#### Objectives :

1. To understand the structure and function of various organs of human body.
2. To promote the basic knowledge of first aid.

#### UNIT-I

1. Animal Cell- Definition, structure & function in brief.
2. Tissue- Classification, Definition and function.

#### UNIT-II

1. Locomotor System- Definition, classification and functions of bones, types of joints.
2. Sense Organs- Definition, structure and functions of eye, ear, tongue, nose and skin.

#### UNIT-III

1. The Blood-
  - a. Definition, composition and functions of blood.
  - b. Clotting of blood.
  - c. Common blood groups, 'Rh' factor and its importance.
2. Lymphatic system- Structure & functions of organs of Lymphatic system, lymph.

#### UNIT-IV

1. Nervous system- Definition, structure and functions of Central Nervous System.
  - i. The synapse and neurotransmitters.
  - ii. Functions and Autonomic Nervous System and Peripheral Nervous System.
2. First Aid- Definition of First Aid, First Aid Kit, Importance of First Aid. First Aid in some accidental conditions- Snake bite, Dog bite, Drowning, Burns, Electric Shock.

#### INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>10</b>
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#### PRACTICALS

1. Study of Microscope.
2. Identification of bones, their joints and its classification.
3. Application of Triangular Bandage and Roller Bandage.
4. Artificial Respiration.

## REFERENCES-

1. Community Health and Nursing- BasavanPhappa B.T.
2. Practical Pathology- Chaturvedi O.U.
3. Human Anatomy- Chaurasia
4. Medical Physiology- Guyton
5. Hygiene and Public Health- Ghosh P.
6. A.B.C. of Nursing in the Home- Gravelious E.M.
7. Manual of First Aid- Gupta
8. Nursing- George
9. Anatomy and Physiology for Nurses- Jain A.K.
10. Practical Guide to First Aid- Keech P.
11. Anatomy and Physiology for Nurses- Pearce
12. Essentials of Community Health Nursing- J.E. Park
13. Practical First Aid- Park
14. Home Nursing- Prabhu V.
15. Anatomy for Nurses- Prasad
16. Anatomy and Physiology in Health and Nurses- Ross & Wilson

## B.Sc. HOME SCIENCE SEMESTER III

### PAPER –VII

### APPLIED CHEMISTRY-I

(3T-7)

<b>Total Marks</b>	<b>50</b>
Theory	40
Internal Assessment	10
Practical	-

## THEORY

### Unit-I

- a) Carbohydrates:** Definition, classification, open chain structure of glucose and fructose. Manufacture of cane sugar, optical isomerism of asymmetric carbon atom, plane polarised light, dextro and leavo rotatory compounds.
- b) Lubricants:** Introduction, function of lubricant, Classification of lubricants: Liquid lubricant (animal and vegetable oil, mineral or petroleum oil, blended oil), Semisolid lubricant (greases), Solid lubricant (graphite).

### Unit-II

- a) Fermentation:** Definition, ideal conditions for fermentation, application of fermentation.
- b) Preparation of vinegar and ethanol by fermentation process.**

### Unit-III

- a) Oils and Fats:** Definition, difference between oils and fats, saponification value, iodine value, rancidity and hydrogenation of oils.

- b) Refining of edible oil, naturally occurring fatty acids (saturated and unsaturated), essential and non essential fatty acids. Omega names of MUFA and PUFA.

#### Unit-IV

- a) **Soap** : Definition, types of soap, Industrial method of preparation of soap, cleansing action of soap.
- b) **Detergent**: Introduction and Definition, classification, composition of common detergent (solid and liquid), Difference between soap and detergents.

#### INTERNAL ASSESSMENT (Refer Direction)

<b>Theory IA Marks</b>	<b>10</b>
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#### PRACTICALS

##### Practical A.

- 1 Preparations of cosmetics: i) Shampoo (simple and herbal) ii) Perfumes
- 2 Preparation of dyes and drug:
  - a.Methyl salicylate from salicylic acid.
  - b.Orange dye from beta naphthol and aniline or p-toluidine
- 3.Use of physical balance.

##### Practical B

1. Determination of total fatty acid present in given sample of soap.
2. Determination of total alkali present in given sample of soap

#### BOOK RECOMMENDED:

1. Text Book of Organic Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Engineering Chemistry, S.S. Dara and Suresh Umare, S. Chand Publication, New Delhi.
4. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
5. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd 1987.
6. Text Book of Organic Chemistry by J. L. Finar, Longman Publication,
7. Synthetic Dyes by G R Chatwal, Himalaya Publishing House, New Delhi.
8. Synthetic Drug by G R Chatwal and Anand, Himalaya Publishing House, New Delhi.
9. Organic Chemistry of Natural Products Vol. I and II, by G. R. Chatwal, Himalaya Publishing House, New Delhi.
10. Perfumes, Cosmetics, Soaps Vol. I, II and III by W. A. Poucher, Ninth Edition, Chapman and Hall Publication (1975)
11. New Cosmetic Science by Takeo Mitsui, Elsevier, 1997.

**PAPER –VIII**  
**Applied Physics & Computer Application -I**  
**(3T-8)**

<b>Total Marks</b>	<b>50</b>
Theory	40
Internal Assessment	10
Practical	-

**Theory:**

**Objectives:** To learn about electrical safety , Heat , Appliances and Operating systems and word processing software (MS WORD) and database creation and management software (MS EXCEL)

**Unit-I**

**Electricity and personal safety:** Concept of ac and dc voltage, frequency and voltage of ac supply in India, Electrical Safety and Precautions, Safety devices in use of electricity : fuse, earthing, earthing methods, circuit breakers, MCBs (Miniature Circuit Breakers for domestic electric supply), lightning conductor), Management of electrical hazards (shocks, burns, fire).

**Unit-II**

**Transmission of Heat:** Concept of Heat, Modes of heat transfer: conduction, convection and radiation (with at least three examples each). Concept of Temperature; Fahrenheit, Celsius and Kelvin) and Conversion of temperature among them. Examples of good and bad conductors of heat(at least three each)

**Unit –III**

**Appliances:** Principle, construction and working of: pressure cooker, thermos flask, solar cooker, Mercury thermometers (laboratory thermometer, clinical thermometer).

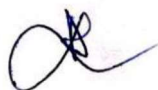
Heating effect of electric current, thermostatic control and automation with bimetallic strip, principle, construction and working of immersion heater, storage type geyser, and electric press.

**Unit- IV**

**Computer Applications:** Concept of operating system, important features of popular operating systems (WINDOWS, UNIX and LINUX).

**Microsoft WORD:** Applications of MS-Word, Study of different commands: Open a new document, Open a saved document, Typing text, selecting text, copy-paste, cut-paste, saving file, closing file, renaming a file, page layout (margin, orientation, page size), creating header & footer, applying fonts, font size, Bold, Italic and Underline, preview document, printing a page/printing a document.

**Microsoft EXCEL:** Applications of MS-Excel, Opening of worksheet, selecting cells, entering and editing text, entering numbers, Entering and editing formulas, inserting rows and columns in worksheet, create database.



## INTERNAL ASSESSMENT (Refer Direction)

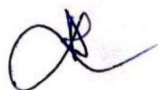
<b>Total Marks</b>	<b>10</b>
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### Practicals

1. Use of multi-meter to measure voltage and frequency of ac supply.
2. Measurement of temperature and it's inter-conversion in other scales.
3. To find the efficiency of an electric heater.
4. Calibration of bimetallic strip and verification of automation.
5. Open MS-Office, create file in MS Word and perform various operations in it
6. Open MS-Office, create file in MS Excel and enter given data in it, creating a worksheet in excel
7. Visit to science center.
8. Visit to industries making/repairing home appliances.

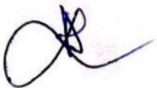
### Reference Books:

1. Principles of physics (vol. I & II) – Halliday & Resnik
2. Principles of physics – Subramanyam, Brijwal
3. How things work (vol. I & II ), INDUS (Harper Collins India)
4. Study of electrical appliances and devices, K. B. Bhatia, Khanna Publishers, New Delhi.
5. Electrician Theory, A. K. Mittal, Arihant Publication, Meerath.
6. Basic Electrical Engineering, M. L. Anwani, Dhanpat Rai & Co. (P) Ltd.
7. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
8. Fundamental of computers E. Balguruswamy, Mc Graw Hill Education Pvt. Ltd. New Delhi
9. Computer fundamental (concepts, system & application) Pradeep K. Sinha, Priti Sinha, Sixth edition 2011, B.P.B . Publication
10. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.
11. Operating System, Dr. S. B. Kishor, Das GanuPrakashan, Nagpur.





**B.Sc. HOME SCIENCE**  
**SEMESTER –IV**

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**B. Sc. HOME SCIENCE - SEMESTER IV**

**PAPER - I  
Nutrition for Life Span  
(4T-1)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical + IA	40+10

**OBJECTIVES:**

- 1) To learn principles of meal planning.
- 2) To plan and calculate balanced diets for family members.

**THEORY**

**COURSE CONTENT:**

**UNIT-I**

**Family Meal Management 1) Meal Planning:**

- a) Definition of RDA , Recommended set- up , Reference persons and RDA
- b) Use and importance of RDA and Food Value Tables in meal
- c) Principles and advantages of meal planning
- d) Factors affecting meal planning
- e) Food fads and fallacies.

**Diet planning with reference to special individual requirements:**

**2) Nutrition during adulthood:**

- a) Balanced diet for Adult man and women.
- b) Nutritional requirements
- c) Dietary guidelines for adults

**UNIT-II**

**1) Nutrition during pregnancy:**

- a) Physiological changes during pregnancy
- b) Desirable weight gain
- c) Nutritional requirements
- d) Diet during pregnancy
- e) Complications during pregnancy
- f) Dietary guidelines for pregnancy

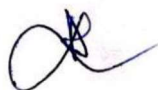
**2) Nutrition during lactation:**

- a) Nutritional requirements of a lactating mother, factors affecting milk secretion, galactagogue foods.
- b) Diet during lactating period.

**UNIT - III**

**1) Nutrition during infancy:**

- a) Growth and development during infancy b) Nutritional requirements



- c) Types of milk fed to infants
- d) Advantages of breast feeding
- d) Bottle feeding
- e) Weaning
- f) Supplementary foods

**2) Nutrition during: 1. Preschool children 2. School going children**

- a) Growth and development b) Nutritional requirements c) Dietary guidelines for children d) Packed Lunches

**UNIT - IV**

- 1) **Nutrition during Adolescence:** a) Growth and Development during adolescence.
  - b) Nutritional requirements.
  - c) Dietary guidelines for adolescent.
- 2) **Geriatric nutrition (age over 60 years) :** a) Changes occurring during ageing
  - b) Nutritional requirements
  - c) Diet during old age
  - d) Dietary guidelines for old age

**INTERNAL ASSESSMENT (Refer Direction)**

**PRACTICALS**

**Meal Planning for various groups**

Planning ,Calculation and Preparation of a whole days model meal for

- Adult Women/Man
- Pregnant women
- Lactating women
- Weaning recipes for Infants (any five)
- Preschool children
- School going children
- Adolescent girl/boy
- Old Person

<b>Total Marks</b>	<b>20</b>
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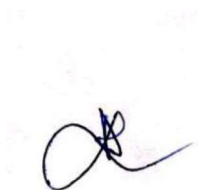
<b>Total Marks</b>	<b>40+10=50</b>
Planning	10
Calculation	10
Cooking	10
Presentation	05
Record	05
IA	10

- b) Planning, calculation and preparation of Packed Lunch for a school going children (any five)

**INTERNAL ASSESSMENT**

<b>Total Marks</b>	<b>10</b>
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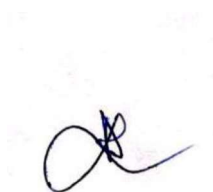
Any one of the following:



- 1) Visit to Balwadi to record anthropometric measurements and write a report (Sample Size: 25)
- 2) Conduct nutrition education programme in school (any one Class) .
- 3) Conduct a survey to check the school lunches/ mid-day meals.
- 4) Conduct a survey of adult man/women and maintain record of BMI (Sample size:50).
- 5) To run a canteen.
- 6) Certificate course in food preservation.

## References

- 1.Nutritive Value of Indian Foods:** Gopalan C, Rama Sastri&Balasubramanian S.C.National Institution,1993.
- 2.Understanding Nutrition:**Whitney E.N. &Rolfes S.R. 8<sup>th</sup>Edition West/Wordsworth.1999
- 3.Dietetics:**B Srilakshmi, New Age International (P) Ltd., Publishers 3<sup>rd</sup>
- 4.Nutrition and Dietetics :**ShubhanginiA.Joshi, Tata McGraw HillPublishing Co. Ltd., New Delhi,1992
- 5.Nutritional Research:** Current Scenario and Future Trends Editor:K,Krishnaswamy, Oxford and IBH Publication Co. Pvt. Ltd., 2000
- 6.Nutritional Problems of India:**Shukla P.K., Prentice Hall of India Pvt.Ltd., Delhi1982
- 7.The Science of Food:** An Introduction to Food Science, Nutrition andMicrobiology: Gaman P.M. & Sherrington K.B. 2<sup>nd</sup> Edition. Pergamon Press, 1989.
- 8.Indian Food Composition Tables:**Longvah T, AnanthanR,Bhaskarachary K and Venkaiah K. National Institute of Nutrition, 2017.



**B.SC HOME SCIENCE SEMESTER - IV**  
**PAPER -II**  
**Development in Adulthood**  
**(4T-2)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical + IA	40+10

**Objectives :**

- To understand the dimensions of development in adulthood.
- To reflect on the concerns of the family and society with respect to the individual in adulthood.
- To develop awareness of diversity in adult life styles in different socio-cultural contexts.

**Theory :**

**Unit I : Introduction to Adulthood**

1. Concept and sub divisions of adulthood
2. Adult roles and expectations in different cultures
3. Diversity in adult life style.

**Early Adulthood**

1. Developmental tasks of early adulthood
2. Physical changes
3. Cognitive development
4. Psycho-social development– self, identity, marriage and family, parenthood, work and gender relations.

**UNIT II : Middle Adulthood**

1. Physical development. Changing physiology and health. Adapting to physical changes, midlife changes/crisis, menopause in women, health concerns
2. Cognitive development – attention, memory, cognitive skills in middle age, experience and expertise, adult intelligence
3. Psycho-social changes-Issues of middle age- generativity vs. stagnation, concerns in middle age, career development and planning for retirement, civic roles and responsibilities .

**Unit III : Late Adulthood**

1. Physical Development in late adulthood and physiological aspects of aging: health concerns; Disability during old age
2. Cognitive changes in late adulthood, understanding dementia and other concerns of the elderly
3. Psycho-social development, adjustment to aging, changing economic situation, occupational continuity and change, Leisure and recreation.

- Perspectives on death.

#### Unit IV: Elderly in India

- Magnitude of elderly in India
- Problems of elderly.
- Retirement ,types and its impact, Retirement homes
- Provisions,Policies and Programmes for the elderly.

**Internal Assessment (Refer Direction)                      20 marks**

#### Preparation of Workbook

- Hazards of Adulthood

<b>Total Marks</b>	<b>40 + 10</b>
Psychological Testing	15
2 Questions	20
Record	05
Internal Assessment	10

#### Practicals:

**Psychological testing: Introduction to psychological testing, characteristics, reliability, validity, norms and standardization. Types of tests, and uses of tests**

- **Psychological tests : personal stress inventory, vocational interest inventory, emotional maturity scale and adjustment inventory.**
- **Visits to settings such as homes for senior citizens .**

#### Internal Assesment

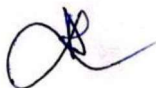
**Preparation of work book (any one)**

**Problems of menopausal women.**

**Adjustments and problems of elderly.**

#### References :

- Lefrancois, G. R. (1996). The Life Span. Wadsworth Publication Company: USA: California.
- Rice, F. (1992). Human Development: A Life Span Approach. Prentice Hall.
- Rutter, M. and Rutter, M. (1992) Developing Minds. Challenge and continuity across the life span. London: Penguin
- . Santrock, J. W. (1997). Life Span Development. NewYork: Brown &Benchmark .



**B.SC. HOME SCIENCE SEMESTER – IV**  
**PAPER – III**  
**SURFACE ORNAMENTATION TECHNIQUES**  
**(4 T-3)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20 =100
Practical + IA	40+10= 50

**OBJECTIVES-**

- To provide comprehensive knowledge about the concepts of dyeing and printing of textiles.
- To foster understanding of traditional Indian embroideries-motifs used, colour combinations used etc.

**Unit I :**

1. Dyes : Classification- Natural and synthetic ,different types of dyes – direct, acid, basic, reactive, sulphur, vat, azo and natural dyes (vegetable, animal, mineral and mordents used) .
2. Dyeing- Introduction, classification, Methods of dyeing: stock, yarn, piece and union and cross dyeing ,garment dyeing ,Common dyeing defects

**Unit II :**

1. Difference between Dyeing and Printing
1. Styles of printing – Direct, Resist, Discharge
3. Methods of printing – Block, stencil, Roller, Screen, Digital, Flock
4. Common printing defects and their remedy

**Unit III :**

1. Preparation of cloth for printing, types of ingredients used in printing, types of different thickeners , After treatment of printed goods,.
2. Paitnings: Kalamkari, Madhubani, Warli.
3. Prints : Sangneri print fabrics, bagru print fabrics

**Unit IV : Traditional textiles of India**

3. Traditional Indian Textiles -Sarees :Bandhani, Patola, Chanderi, Paithani, Dacca, Brocades, Kashmiri Shawls.
4. Costumes of different states of India – Maharashtra, Punjab, Gujrat, Rajasthan,

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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### **PRACTICAL**

1. Dyeing with direct dyes- cotton
2. Tie and dye technique
3. Make sample and article of screen, block, stencil and batik

<b>Total Marks</b>	<b>40+10</b>
Design	15
Printing	10
Embroidery	05
Record	10
IA	10

### **INTERNAL ASSESSMENT**

1. Preparation of sample book based on syllabus.

### **BOOKS RECOMMENDED**

- 1 Potter MD and Corbman BP. Textiles: Fibres to Fabric – Published by McGraw Hill Inc. U.S.A
- 2 Usha Shrikant - Ethnic Embroidery of India, SamaiaEnterprises , Mumbai.
- 3 William Watson - Textile Design and colour, Longman Green and Co. London.
- 4 Vastrashilpvigyan by Vimla Sharma. Loyal Book Depot Meerut.
- 5 Vastrashastra: Prof. VimalAdhau Maharashtra VidhyapeethGranthNirmitMandalasathi, Vidhya Books Aurangabad.
- 6 VastravigyanavamParidhan - Dr. Vrunda Singh PanchsheelPrakashan Jaipur.
- 7 VastravigyanavamParidhan - Dr. PrarnilaVermaBihaar Hindi Granth Academy Bhopal.
- 8 VasiraShilpVigyan :Vimla Sharma ,.
- 9 VastravigyanKeMulSiddhant- Dr. G.P. Sheeri - Vinod PustakMandir Agra



**B.Sc. HOME SCIENCE SEMESTER IV**  
**PAPER – IV**  
**Housing and Home Furnishing**  
**(4 T-4)**

<b>Total Marks</b>	<b>150</b>
Theory	80
Internal Assessment	20
Practical	40
Internal Assessment of practical	10

**Objective**

1. To gain knowledge about the role of internal amenities in contributing for satisfying family living
2. To learn technique that will help one to construct some furnishing items, relative to their function and beauty.

**COURSE CONTENT THEORY**

**UNIT I -Waste management**

- A) Meaning & Importance, ii. Need, iii. Types of waste, iv. Preparation of manure from household waste, v. Preparation of vermi-compost

**Internal Amenities**

- A. House Drainage – Bath water, Laundry water, House cleaning water.
- B. Methods of house drainage – Dilution, Purification, Soakage pits.
- C. Waste Disposal –  
i. Types of Refuse – Dry, Solid, Liquid
- D. Methods of waste disposal – Tipping or dumping, Taking in to the sea, Compost formation, Burning, Conservancy system
- E. Use of drainage water for kitchen garden

**UNIT II –Lighting**

- A. Natural Lighting
- B. Artificial Lighting – Candles, Oil Lamp, Kerosene Lamp, Gas Lighting, Electric Lighting.
- C. Principles of Lighting – Intensity, Steady, Glare, Colour, Safety, Economy.
- D. Types of Lighting – Direct, Semi-direct, Indirect, Semi-indirect

**Unit III- House planning**

- A. Different symbols used in house plans
- B. House plans for different income levels-  
i. Higher, ii. Middle, iii. Lower

C.Vastushastra-

- i. Importance, ii. Placements of rooms, iii. Location of well, Placements of Doors

**Unit IV –Home Furnishing and Floor Coverings**

**A. HomeFurnishing –**

- i. Necessity of curtains , ii. Types of curtains, iii. selection of curtains, iv. Making and Hanging of curtains, v. Care and maintenance of curtain

**B. Carpet and Rugs –**

- a) Factor affecting the selection of carpets and rugs-
  - i. Character, ii. Styles, iii. Pattern, iv. Texture , v. Durability, vi. Cost, vii. Colour, viii. Size.
- b) Types of carpets and rugs.
- c) Care of carpets and rugs.

**C. Wall Treatment –**

- i. Wallpapers, Paints, ii. Tiles

**D. Accessories in Interior –**

- i. Hanging of pictures, ii. Relation of pictures to room, iii. Other Accessories

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**PRACTICALS**

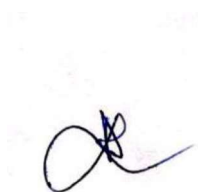
- 01: Drawing of Architectural symbols for house Plan.
- 02: Drawing of floor Plan for low income group.
- 03: Drawing of Floor Plan for middle income group.
- 04: Drawing of Floor Plan for high income group.
- 05: Draw one wall kitchen.
- 06: Draw two wall kitchen.
- 07: Draw ‘U’ shaped kitchen.
- 08: Draw ‘L’ shaped kitchen.
- 09: Working drawing of landscape design.
- 10: Preparation of manure from green waste
- 11: Preparation of vermi-compost

<b>Total Marks</b>	<b>40+10</b>
Floor Plans	10
Draw kitchens	10
Landscape Drawing	10
Record	10
IA	10

**INTERNAL ASSESSMENT**

Any two of the following

- (a)Accessories in Home Decoration (any two)  
Ceramic work / Clay Modeling /Pottery painting
- (b)Visit to ideal house/ideal kitchen



(c) Preparation of sample book on furnishing materials and types of curtains

**Books Recommended:**

- Agan T. C. – ‘The House’ Oxford and I. B. H. publishing Co.  
Ann Reilly; Susan A. Roth – ‘The Home Landscape’, Home planners Inco. Tucson, Arizona.  
Deshpande R. S. – ‘Modern Indian Homes in India’, United Book Corporation, Poona, 2<sup>nd</sup> Edition.  
Deshpande R. S. – ‘Build your own Home’, United Book Corporation, Poona, 4<sup>th</sup> Edition.  
Deshpande R. S. – ‘Low Cost Housing’, United Book Corporation, Poona, 4<sup>th</sup> Edition.  
Goldstin H. / Goldstein V. – ‘ Art in Every day Life’ MacMillan Co., New York, 4<sup>th</sup> Edition.  
Pak – Tin & Helan Yeap – ‘Feng Shui – Health Harmony’ B.Jain Publishers Pvt Ltd., New Delhi, 1998.  
Rutt A. – ‘Home Furnishing’, Wiley Eastern Pvt.Ltd., New Delhi, 2<sup>nd</sup> Edition.  
Shrivastav – ‘Remedial Vastu Shastra’, Manoj Publication, Delhi, 2001

**B.Sc HOME SCIENCE SEMESTER - IV  
PAPER - V  
Media In Extension**

**(4 T -5)**

Total Marks	150
Theory + IA	80 + 20 = 100
Practical + IA	40 + 10 = 50

**Objectives :**

1. To develop understanding regarding communication techniques.
2. To develop concept and learn process of communication.
3. To understand the concept of mass communication.
4. To comprehend the concept of advertisement in extension.
5. To develop the understanding of journalism.

**Theory:**

**UNIT – I**

1. Communication Techniques :  
Meaning, Definition of Communication, Functions of Communication, Importance of effective communication, Key elements involved in effective Communication process, Critical factors affecting Communication process.
2. Mass Communication and media:  
Meaning and importance of mass Communication, Barriers in mass communication, Characteristics of mass Media.

## UNIT – II

### 1. Media in Extension :

Meaning of media, Cone of experience, Classification of media- Electronic media, print media, Folk media.

### 2. Electronic media :

Radio as mass medium, Impact of Radio, Advantages and limitations of radio. Television as mass medium for education and development, Impact of television, advantages and limitations of Television .

## UNIT - III

### i. Print media :

Types of print media, Impact of print media, Advantages and limitations of print media. Techniques of effective writing. Written communication- Newspaper, script writing.

### ii. Folk media.

Folk forms as mass media, Indian folk forms- folk songs, folk dramas, puppets. Impact of folk media.

## UNIT IV

### 1. Advertisement as Mass Media.

Meaning and scope of Advertisement, Planning of Advertisement layout, Format of advertisement, Role of Advertisement and its impact on consumers.

### 2. Journalism in Extension.

Meaning of news, Principals of news, Methods of collecting news, Qualities and duties of Editors and Reporters.

## INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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### Practical :

1. Preparation of radio script.
2. Preparation and presentation of flash cards for communication.
3. Preparation of handmade puppets.
4. Preparation of computerized or handmade advertisement on any issue
5. Report of a pilot survey on women's problems.

<b>Total Marks</b>	<b>40 +10</b>
Spotting	10
Teaching Aid	10
Presentation	10
Record	10
IA	10

## INTERNAL ASSESSMENT

**Report on survey of media availability in 5 households of rural/slum areas.**

### Books Recommended :

1. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
2. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.
3. Reddy Adivi. A. Extension Education, Shree Laxmi Press, Bapatla, Guntur, A.P.
4. Singh J. K., Mass Media and Information Technology, Mangaldeep Publication, Jaipur.
5. Kumar K. J. L., Mass Communication in India, Jaico Publishing House, Mumbai.
6. Mehta D. S., Mass Communication and Journalism in India, Allied Publishers Pvt. Ltd., Chennai.

## **B.Sc. (HOME SCIENCE) SEMESTER- IV**

### **PAPER VI Applied Physiology -II (4T-6)**

<b>Total Marks</b>	<b>75</b>
Theory + IA	40 + 10 = 50
Practical +IA	20 + 05 = 25

#### **Objectives :**

1. To understand the structure and function of various organs of human body.
2. To promote the basic knowledge of first aid.

#### **UNIT-I**

##### Heart-

- i. Structure of Heart.
- ii. Functions of valves.
- iii. Coronary blood supply.
- iv. Structure and function of artery, vein and capillaries.

#### **UNIT-II**

##### Respiratory System-

- i. Structure and functions of respiratory system.
- ii. Mechanism of Respiration.
- iii. Transport of oxygen in brief.

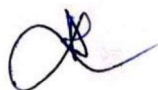
#### **UNIT-III**

##### 1. Digestive System-

- i. Brief study of alimentary canal.
- ii. Accessory glands of digestion.
- iii. Process of digestion and absorption.

##### 2. Excretory System-

- i. Structure and functions of excretory organs.
- ii. Formation of Urine.



#### UNIT-IV

1. Reproductive System-
  - i. Male and Female reproductive organs, their structure and functions.
  - ii. Physiology of Menstrual cycle.
2. Endocrine Glands- Structure and function of pituitary gland, thyroid gland and adrenal gland in brief.

#### INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>10</b>
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#### PRACTICALS-

1. Study of Microscopic slides of common organs-  
T.S. of Liver, Pancreas, Intestine, Lungs, Testis,  
Ovary, Kidney, V.S. of Skin, T.S. of Artery and Vein.
2. Determine Blood Group and 'Rh' type by slide method.
3. Preparation of blood slide and staining by Leishman's stain.
4. Measurement of pulse rate and temperature by using clinical thermometer.
5. Study of different systems by charts or models.
6. Determination of bleeding time and clotting time.

<b>Total Marks</b>	<b>20 + 5</b>
Experiment -1	04
Experiment -2	03
Spotting	06
Bandage Demo	02
Record	03
Viva Voce	02
IA	05

#### INTERNAL ASSESSMENT

Preparation of Drawing Charts on any four systems.

#### REFERENCES-

- Community Health and Nursing- BasavanPhappa B.T.
- Practical Pathology- Chaturvedi O.U.
- Human Anatomy- Chaurasia
- Medical Physiology- Guyton
- Hygiene and Public Health- Ghosh P.
- A.B.C. of Nursing in the Home- Gravelious E.M.
- Manual of First Aid- Gupta
- Nursing- George
- Anatomy and Physiology for Nurses- Jain A.K.

- Practical Guide to First Aid- Keech P.
- Anatomy and Physiology for Nurses- Pearce
- Essentials of Community Health Nursing- J.E. Park
- Practical First Aid- Park
- Home Nursing- Prabhu V.
- Anatomy for Nurses- Prasad
- Anatomy and Physiology in Health and Nurses- Ross & Wilson

## B.Sc. HOME SCIENCE SEMESTER IV

### PAPER VII

#### APPLIED CHEMISTRY-II (4T-7)

<b>Total Marks</b>	<b>75</b>
Theory + IA	40 +10 =50
Practical +IA	20+05=25

#### COURSE CONTENT:

#### THEORY

##### Unit-I

- a) **Polymers:** Definition, addition and condensation polymerization, preparation and uses of polyethylene, PVC, Nylon-6, Nylon-66 and polyester.
- b) **Rubber:** Definition, chemical nature and vulcanization, synthetic rubber (Buna-S) and uses.

##### Unit-II

- a) **Dyes :** Definition, Witt's theory of colour and constitution, classification of dyes based on their functional group- i) Nitro ii) Nitroso and iii) Azo.
- b) **Aromatic Chemistry:** 1) Benzene (Kekule structure of benzene, preparation from petroleum, Chemical properties: Nitration, Sulphonation, Friedel-Craft Alkylation, catalytic halogenations, formation of BHC and uses)  
2) Nitrobenzene: (Laboratory method of preparation, Chemical properties: Reduction, Nitration, Sulphonation, and uses)  
3) Aniline: ( Laboratory method of preparation, chemical properties: Salt formation, diazotization, carbyl amine reaction, Nitration, Sulphonation, halogenation and uses)  
4) Phenol: ( Preparation from Cumene, chemical properties: Salt formation, Fries migration, Catalytic hydrogenation, Condensation, Condensation with formaldehyde, nitration, halogenations, and uses)

##### Unit-III

- a) **Cosmetics:** Definition, functions and ingredients of shampoo, face powder, cold cream, lipstick, hazards of cosmetics.
- b) **Drugs:** Preparation and uses of following drugs: i) Aspirin ii) Paracetamol and iii) oil of winter green.

##### Unit-IV

- a) **Essential oils:** Definition, occurrence and methods of extraction of essential oils. Eucalyptus oil, Rose oil, Lavender essential oil
- b) **Perfumes:** Definition, characteristics of perfume, composition of perfumes, formulation of any two perfumes.

<b>Total Marks</b>	<b>10</b>
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**INTERNAL ASSESSMENT** (Refer Direction)

<b>Total Marks</b>	<b>20+05</b>
Practical A	05
Practical B	5
Viva	5
Record	5
Practical IA	05

**PRACTICAL**

**Practical A**

1. Preparation of Soap
2. Preparation of liquid detergent
3. Preparation of solid detergents
4. Preparation of phenyl

**Practical B**

Identification and colour reactions of Carbohydrates: Glucose, fructose, sucrose and starch

**INTERNAL ASSESSMENT**

Any one of the following :

1. Educational visits to various factories and chemical laboratories in India.
2. Assignment book/ workbook for topics from syllabus (all four units)

**BOOK RECOMMENDED:**

1. Text Book of Organic Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
2. Text Book of Physical Chemistry: B.S. Bahl and G.D. Tuli, S. Chand Publication, New Delhi.
3. A Text Book of Engineering Chemistry, S.S. Dara and Suresh Umare, S. Chand Publication, New Delhi.
4. A Text Book of Basic and Applied Chemistry, P.C. Jain and Monica Jain.
5. Polymer Science by V.R. Gowarikar, Wiley Ester Ltd 1987.
6. Text Book of Organic Chemistry by J. L. Finar, Longman Publication,
7. Synthetic Dyes by G R Chatwal, Himalaya Publishing House, New Delhi.
8. Synthetic Drug by G R Chatwal and Anand, Himalaya Publishing House, New Delhi.
9. Organic Chemistry of Natural Products Vol. I and II, by G. R. Chatwal, Himalaya Publishing House, New Delhi.
10. Perfumes, Cosmetics, Soaps Vol. I, II and III by W. A. Poucher, Ninth Edition, Chapman and Hall Publication (1975)
11. New Cosmetic Science by Takeo Mitsui, Elsevier, 1997.



**B.Sc. HOME SCIENCE SEMESTER IV**

**PAPER –VIII**

**Applied Physics & Computer Application -II**

**(4 T-8)**

<b>Total Marks</b>	<b>75</b>
Theory + IA	40 +10 =50
Practical + IA	20+05=25

**Objectives:** To learn about electricity, effects of electric current, electrical appliances and MS power point and internet.

**Theory**

**Unit- I**

**Electromagnetic Induction and its Application:** Concept and statement of Faraday's laws of electromagnetic induction, Transformer (working principle and construction), transformation ratio (turns ratio, Voltage ratio and Current ratio), efficiency of transformer, types of transformer and applications of transformer. Electricity from generator to home, Definition of kilowatt hour unit for consumption of electricity.

**Unit -II**

**Home Appliances:** Motor based appliances: Principle, construction, working, defects and remedies of: mixer- grinder, fan, cooler, hair dryer, vacuum cleaner, washing machine, and refrigerator.

Microwave oven: concept of microwave heating, principle and working of Induction Cooker.

**Unit- III**

**Chemical effect of electric current:** Chemical effect of electric current, electrolyte, electrolysis, electrolysis of copper sulphate and water, Faraday's law of electrolysis, relation between chemical equivalent and electrochemical equivalent, uses of electrolysis, primary cells, (Daniel cell, Leclanche cell), secondary cells (Lead acid accumulator).

**Unit- IV**

**Computer Applications:**

**MS Power point:-** applications of MS Power point, creating presentation, adding slides in presentation, deleting slide, creating masters, formatting text, color to fonts, inserting auto-shapes, inserting pictures, inserting sound, inserting videos, slide show.

**Internet:-** Internet, Internet connection (Broadband, Dial-up and wireless connection), Web browsers (Internet explorer, Mozilafirefox, Google chrome and Opera), World Wide Web, Search engine, E-mail.

**INTERNAL ASSESSMENT (Refer Direction)**

**Practical**

<b>Total Marks</b>	<b>10</b>
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<b>Total Marks</b>	<b>20+5</b>
Experiment	10
Viva	05
Record	05
IA	05

1. Study of transformer and determination of turn's ratio
2. To measure power of an appliance and calculate time for 1 kWh unit of electric energy consumption.
3. To determine electrochemical equivalent (ECE) of copper using copper voltameter.
4. To find  $E_1/E_2$  of two cells by potentiometer.
5. Measurement of voltages of given dry batteries of different voltages.
6. Creating e-mail id and use of internet to send/ receive e-mails.
7. Creating and enhancing Power Point Presentation
8. Create slides using different slide layouts
9. Working with shapes, lines, text and objects: creating rectangles, squares, circles, ellipse, polygon etc.

**INTERNAL ASSESSMENT**

<b>Total Marks</b>	<b>05</b>
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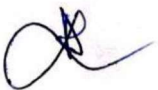
1. Assignment book/ workbook for topics from syllabus (all four units)

**Reference Books:**

1. Principles of physics (vol. I & II) – Halliday & Resnik
2. Principles of physics – Subramanyam, Brijwal
3. How things work (vol. I & II), INDUS (Harper Collins India)
4. Study of electrical appliances and devices, K. B. Bhatia, Khanna Publishers, New Delhi.
5. Electrician Theory, A. K. Mittal, Arihant Publication, Meerath.
6. Basic Electrical Engineering, M. L. Anwani, Dhanpat Rai & Co. (P) Ltd.
7. Elements of Computer Science, S. K. Sarkar, A. K. Gupta, S. Chand & Co., New Delhi
8. Fundamental of computers E. Balguruswamy, Mc Graw Hill Education Pvt. Ltd. New Delhi
9. Computer fundamental (concepts, system & application) Pradeep K. Sinha, Priti Sinha, Sixth edition 2011, B.P.B . Publication
10. Comdex computer course, Vikas Gupta, PM Publication, New Delhi.

**B.Sc. HOME SCIENCE**

**SEMESTER -V**

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**B.Sc. HOME SCIENCE SEMESTER V**  
**PAPER-I**  
**DIET THERAPY -I**  
**(5 T-1)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**OBJECTIVES:**

1. To provide knowledge about the causes and symptoms of various diseases.
2. To understand the role of diet in the management of these conditions.
3. To plan, calculate and prepare diets for various diseases.

**COURSE CONTENT: THEORY**

**UNIT-I**

**Diet Therapy**

**1. Introduction to diet therapy:**

**1) Applications of principles of diet therapy:**

- a) Diet counselling
- b) Role of dietician in health care
- c) Dietetic care in hospital patients: its importance

**2) Therapeutic adaptations of the normal diet:**

- a) Soft diet
- b) Clear Liquid diet
- c) Liquid diet
- d) Bland diet
- e) Low fibre diet
- f) High fibre diet

**3) Modes of feeding:**

- a) Enteral
- b) Parenteral

**UNIT-II**

**Weight Management: Overweight and Obesity**

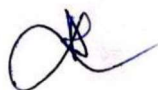
Causes, symptoms and principles of dietary management of overweight and obesity

**1) Obesity**

- a) Types and causes of obesity
- b) Assessment for obesity
- c) Dietary management of obesity
- d) Complications of obesity
- e) Role of exercise

**2) Underweight**

- a) Definition
- b) Causes of underweight
- c) Dietary management of underweight



### UNIT-III

#### 1) Gastrointestinal disorders:

Causes, symptoms and principles of dietary management of gastro- intestinal disorders

- a) Peptic ulcer
- b) Diarrhoea
- c) Constipation
- d) Ulcerative colitis

### UNIT-IV

#### 1) Liver disorders and Gall bladder disorders:

Causes, symptoms and principles of dietary management of liver disorders

- a) Functions of the liver
- b) Viral Hepatitis
- c) Cirrhosis of liver
- d) Hepatic coma

#### 2) Functions gall bladder

- a) Cholecystitis
- b) Cholelithiasis

INTERNAL ASSESSMENT (Refer Direction)

Total Marks	20
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### PRACTICALS

Preparation and Evaluation of Therapeutic adaptations of the Normal Diet

Liquid Diets (Full Clear)

Soft Diet

Planning, Calculation and Preparation for the following disorders:

#### 1) Weight Management:

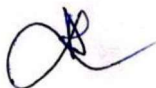
- a) Obesity
- b) Underweight

#### 2) Gastrointestinal Disorders:

- a) Peptic Ulcer
- b) Diarrhoea
- c) Constipation

#### 3) Liver Disorders:

Jaundice: Mild to Moderate



## REFERENCES

1. **Nutritive Value of Indian Foods:**Gopalan C, Rama Sastri&Balasubramanian, S.C.National Institute of Nutrition, 1993.
2. **Krause's Food Nutrition and Diet therapy:**L Kathleen Mahan,Sylvia Escottstump.19<sup>th</sup> edition, W.B. Saunders Co.1996.
6. **Normal & Therapeutic Nutrition:**Corinne H. Robinson & M.R Lawer,15<sup>th</sup>Edition1997.
4. **Clinical Dietetics:**F.P. Antia, 2<sup>nd</sup>Edition. Oxford University Press 1973.
5. **Text book of Human Nutrition:** Editors:Bamji M.S. Rao N.P Reddy V. Oxford &IBH pub. Co. pvt.Ltd.1996.
6. **Dietetics:**Srilakshmi B, 3<sup>rd</sup>Edition, New Age International (p) Ltd., 2000.
7. **Manual of Nutrition and diet Therapy:**Grills &Bosscher, Macmillan Pub.Co. Inc.1981.
8. **Essentials of Nutrition and Diet Therapy:** Williams S.R. Times Mirror/ MosbyCollege Pub.1990.
9. **Nutrition & Dietetics:**Shubhangini A. Joshi. Tata McGraw - Hill Pub. Co. Ltd.,New Delhi 1992.
10. **Indian Food Composition Tables:**Longvah T, AnanthanR,Bhaskarachary K and Venkaiah K. National Institute of Nutrition, 2017.

**B.SC HOME SCIENCE SEMESTER - V**  
**PAPER -II**  
**Family Dynamics and Developmental Assessment**  
**(5T-2)**

Total Marks	100
Theory	80
Internal Assessment	20
Practical	-

### Objectives :

- To make students aware of importance of family & marriage
- To introduce to the students concept of developmental assessment.

### Theory :

#### Unit I - Marriage

- Meaning and definition,
- Marriage as an institution : goals, rituals, philosophy and functions
- Readiness for Marriage : Psychological, Social, Physiological and Economical
- Preparation for Marriage
- Selecting a suitable partner
- Premarital association
- Premarital guidance and counselling

## Unit II - Family

- Meaning definition and structure of family.
- Changing trends in family constitution, roles, demand and responsibilities.
- Nuclear and joint families - Structure, role, interaction and hierarchy of dominance in joint and nuclear families.
- Influence of different disciplinary patterns, maternal deprivation, and overprotection in child development.
- Areas of adjustment within the family at different stages of family life cycle.
- Crisis in family life – unemployment, prolonged illness, death, separation, desertion, divorce, violence and distress and birth of handicapped child.

## Unit III - Developmental assessment

- Definition, purpose and importance of assessment
- Sources of information :Interview,case study,check list,rating scales and observation
- Developmental milestones – definition and developmental milestones of children from 0 to 6 years.
- Assessment below 2 years
- Tools & techniques used for assessment- TDSC, DASII, DDST, DOC,
- Neurological evaluation
- Assessment of visual & hearing impairment.

## Unit IV- Early Developmental Stimulation

- Definition, aims, importance,
- Role of parents.
- Newborn stimulation in NICU & at Home.
- Sensory training, early stimulation programmes
- Developmental delay – meaning and risk factor
- Early intervention for the developmental delay.

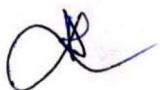
## INTERNAL ASSESSMENT (Refer Direction)

A small project on assessment of stress of adolescents of working and non- working women.

<b>Total Marks</b>	<b>20</b>
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## Practical

- Observation of milestones in a child (0 to 6 years) and the identification of developmental status and presentation in workbook format
- Learning and preparation of different activities for stimulation - tactile auditory, motor, language, visual & cognitive
- Psychological test (marriage attitude scale , parent child relationship scale, CPM and SFBT).



## References :

s

- Corsor, Rose (1975); The family, its structure and functions, New York, Mac Publishing Co.
- Guppy, G R (1976) ; Family and social change in Modern India, New Delhi, Vikas pu.co.
- Rao P & Rao V N ( 1982), Marriage – The family & women in India, New Delhi, Vikas pu.co.
- Shrivastava, Ak (1986); Social class & Family life in India.
- Freeman, Theory & practice of psychological testing, Oxford & IBH pu.co. New Delhi.
- Anna Anastasi, Psychological testing .

**B.Sc. HOME SCIENCE SEMESTER-V**  
**PAPER-III**  
**Advanced Pattern Making**  
**(5T-3)**

Total Marks	100
Theory	80
Internal Assessment	20
Practical	-

## OBJECTIVES-

1. To develop skill in designing and making paper pattern for different garment.
2. To orient students in detail the principles of draping fabric on the dress form.

## UNIT-I:

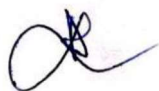
- Introduction to methods of pattern- Drafting, flat pattern and Draping with its advantages and disadvantages.
- Darts – Definition, Terminology and Types of darts.
- Methods of dart manipulation-slash and spread, method and pivot method.

## UNIT-II:

- Application of elements of design(shape, line, colour and texture) and principles (Balance, Rhythm, Proportion, Emphasis & Harmony) of design on dress.(Silhoutte)
- Fit-Definition of fit, principles of fit (Ease, grain, line set & balance)
- Fitting problems and their remedies on different body parts viz. Bust, waist, Hips, Neck and Shoulder.

## UNIT-III

- Pattern Grading – Definition, terminology, Principles & Methods of pattern grading – Nested, Track and Computerised. Pattern marking.
- Pattern envelope-front of envelope, back of envelope and inside envelope.
- Pattern layout-definition, importance of layout and types of layout.





## UNIT- IV

Creation of following parts of garment using basic block of skirt, sleeves and collar.

- Skirts – pleated, gathered, circular and flared.
- Collars – Peterpan, Mandarin, Shirt Collar and Sailor Collar
- Sleeves –Puff Sleeve, Bell Sleeve and Leg-o-mutton

## INTERNAL ASSESSMENT (Refer Direction)

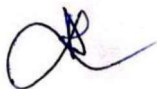
<b>Total Marks</b>	<b>20</b>
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### Practical

1. Drafting cutting stitching and designing of following garments by using different types of fabric.
  - a) Casual wear (Skirt and Top)
  - b) Saree blouse plain / katori
2. Draping on dress form
  - a) Basic front and back bodice of skirt.
  - b) Dart manipulation
  - c) Yokes and collars.
  - d) Flared, pleated and hip yoke skirt.

### BOOKS RECOMMENDED

- Bains, S. and Hutton, J., Singer Sewing Book, Hamlyn, London, 1972
- Patternmaking for Fashion Designers, Lori A. Knowles, 2006, Fairchild Publications Inc.
- Principles of Flat Pattern Design, 4<sup>th</sup> Edition, Nora M. MacDonald, Fairchild Publications Inc.,2009.
- Armstrong, Helen.,Pattern Making for Fashion Design,Harper Collins Publishers.,1997.
- Verma, Gayatri,Cutting and Stitching Pratical,AsianPublishers,Darya
- Gang, New Delhi,2007.( Hindi Book)
- Armstrong, H.J. (2009), Pattern Making for Fashion Design, Harper Collins Publishers, INC, New York.
- Constantino, M, Fashion Marketing, BT Batsford, London, 199



**B.Sc. HOME SCIENCE SEMESTER V**  
**PAPER – IV**  
**Resource Management - I**  
**(5T-4)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	50

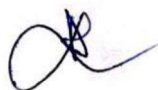
**Objective**

1. To recognize the importance of wise use of resources in order to reach personal and family goals.
2. To make students realize the importance of motivating factors in management –values, goals and standards.
3. To give opportunity to develop ability to take rational decisions.

**COURSE CONTENT THEORY**

**UNIT I - Management**

- A. The Management Process:-
- i. Definition, Importance and Scope
  - ii. Planning –
    - a. Importance & need for planning
    - b. Types: - 1) Use- Single, Repeat 2) General, Specific
    - c. Levels – 1) Master planning 2) Operational Planning 3) Day to day planning 4) Sequencing & Ordering
- B. Implementation -
- i. Controlling/ Execution of plan
  - ii. Energizing- checking the progress
  - iii. Adjusting the plan
- C. Evaluative feedback
- i. Importance
  - ii. Types-
    - a. Formal
    - b. Informal
    - c. Self
  - iii. Methods of evaluation
- D. Relation between planning, controlling & evaluation
- E. Principles of Management-



- i. Division of Work, ii. Authority and Responsibility, iii. Discipline, iv. Unity of Command, v. Unity of Direction , vi. Interest, vii. Fair Remuneration, viii. Centralization, ix. Scalar Chain, x. Work Order, xi. Equality, xii. Stability,
- xiii. Co-operation, xiv. Initiative

## UNIT II Family Resources

### A. Resources -

- i. Definition, ii. Role of resources, iii. Scope of resources
- iv. Classification –
  - a. Human Resources
    - 1) Time
    - 2) Energy
    - 3) Interest
    - 4) Ability or skill
    - 5) Knowledge
    - 6) Attitude
  - b. Non-human –
    - 1) Money
    - 2) Material goods
    - 3) Community Facilities

B. Factors affecting family resources.

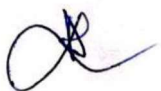
C. Characteristics of resources.

## UNIT III Decision Making –

- A. Definition and Importance
- B. Role and scope of decision making
- C. Process of decision making
- D. Types –i. Individual, ii. Group, iii. Habitual, iv. Intellectual
- E. Factors affecting decision making

## UNIT IV-Time Management

- A. Definition
- B. Nature & Importance of time
- C. Specific aids or tools of time management – i. Work Production Curves, ii. Rest and sleep periods
- D. Process of managing time – i. Planning, ii. Implementation, iii. Evaluative feedback
- E. Leisure – i. Meaning, ii. Importance, iii. Activities



**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**Practical**

Diagrammatic Representation of the following:

- a) Management Process
- b) Family Resources
- c) Decision Making

Arrange exhibition/Visit to exhibition / Trade show – Report

2. Giving seminars on related topics

3. Recycling of old clothes

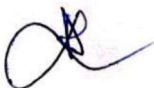
- a) Traveling Bags
- b) Purses
- c) Door mats

A. Assignment on related topics

**Books Recommended:**

1. Good year & Klohar 'Managing for effective living' John Wiley and Sons.
2. Gross-crandall-knoll 'Management for Modern families' Prentice Hall, Inc. New Jersey.
3. Nickell- Rice- Tucker, 'Management in family living' John Wiley & Sons.
4. Swanson Bettye 'Introduction to Home Management McMillan Pub. House. Inc. New York.
5. BorkarSunita 'Introduction to Resource Management', Himalaya Publishing House.
6. Sounderaraj Stella 'A textbook of Household Arts' Orient longman.
7. Rudramurthy B., Extension in Planned Social Change, Allied Publishers Pvt. Ltd.,

Chennai.



**B.Sc HOME SCIENCE SEMESTER – V**  
**PAPER – V**  
**Programme Planning And Building In Extension**  
**(5T-5)**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**Objectives :**

1. To develop understanding about Programme planning.
2. To understand the need for programme planning.
3. To develop understanding of community organization.
4. To know the significance of adoption process in community development.
5. To comprehend the communication of innovations.

**Theory :**

**Unit - I**

1. Programme planning for extension work :  
Definition, characteristics of programme planning process, importance of extension programmes, Steps in programme planning process.
2. Programme building in extension :  
Principles of programme planning, professional abilities needed by programme planners, role of officials and non-officials in programme planning

**Unit - II**

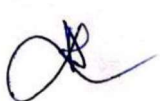
1. Community organization :  
Definition and concept of community organization, principles of community organization, methods of community organization.
2. Communication of innovations:  
The SMCRE model, Diffusion, Relation between Communication and diffusion, definition of innovation, characteristics of innovations.

**Unit - III**

1. Innovation decision process :  
Innovation Decision Process, Innovativeness, Stages involved in adoption process, Classification of adopters, Characteristics of Adopters, Rate of adoption.
2. Information from communication media:  
Sources of information regarding communication media, adoption stages and information sources, important factors related to adoption of practices.

**Unit IV**

1. Group Mobilization :  
Definition of groups, occasions of group association, groups in rural communities, principles of working with groups.



2. Change agent :

Meaning, traits of change agents, role of change agents working towards ensuring change.

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**Practical**

1. Report on assessment of working pattern of change agent.
2. Power point presentation on any home science aspect.
3. Programme planning for one day event.
4. Survey on comparative study of household practices .e.g. difference between old and new innovation in nutrition, health, textiles, child rearing practices.
5. Organizing Exhibition for display of articles related to home science.

**Books Recommended :**

1. Directorate of extension : Extension Education in Community Development.
2. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
3. Chandra. A., Shah. A. and Joshi. V.: Fundamentals of teaching Home Science, Sterling Publishers, New Delhi, 1989.
4. Waghmare S. K., Teaching Extension, Prashant Publishers, Vallabh Vidyanagar.
5. Singh. K., Rural Sociology, Prakashan Kendra, Lucknow.
6. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.

**B.Sc. Home Science Semester V**

**PAPER- VI**

**Nutritional Biochemistry- I  
(5T-6)**

**OBJECTIVES**

This course will enable the students to :

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

1. Develop an understanding of the principals of biochemistry (as applicable to human nutrition)
2. Obtain an insight into the chemistry of major nutrients and physiologically important compounds.
3. Understand the biological processes and systems as applicable to human nutrition.
4. Apply the knowledge acquired to human nutrition and dietetics.

**COURSE CONTENT: Theory**

**UNIT I: Carbohydrates**

1. Definition and Classification: Mono, Di, Oligo, and Polysaccharides with at least two examples of each class.

### **Monosaccharides –**

- 1) based on number of carbon atoms (Triose, Tetrose, Pentose, Hexose) ,
- 2) based on functional group (Aldo and Keto derivatives)

### **2. Structure and sources of**

- Monosaccharides : glucose, fructose, galactose.
- Disaccharides – maltose, lactose, sucrose.

### **3. Reducing and Non reducing Sugars**

### **4. Polysaccharides –Classification: Homopolysaccharides&Heteropolysaccharides**

Sources, structure, physical properties and uses of starch, glycogen, cellulose and difference between them.

5. **Asymmetric Carbon Atom. D and L configuration reference compound glyceraldehydes.**
6. **Formation of Glycoside bonds in glucose and fructose.**
7. **Alpha and Beta structure of glucose and fructose.**
8. **Pyranose structure of glucose and fructose.**

## **UNIT II: Proteins**

### **1. Amino Acids : Basic Structure of Amino Acid and formation of peptide bond**

Classification : 1) Polar , Non-polar.

2) Essential and Non-essential amino acid

3) Glucogenic and Ketogenic

**2. Proteins:** 1. Definition and classification of proteins (based on solubility, based on functions)

2. Structure : Basic idea of primary, secondary and tertiary structure of protein.

## **Unit III : Lipids**

### **1. Fatty Acids :Essential and non essential fatty acids**

Types of Fatty Acids : SFA, MUFA, PUFA, Omega -3 and Omega -6 Fatty Acids.

Cis Fatty Acids and Trans Fatty acids.

### **2. Lipids : Definition and Classification**

## **Unit IV**

### **1. Nucleic Acids**

Structure of a mononucleotide. Bases found in nucleic acids. Difference between RNA and DNA and their functions.Structures of DNAs & RNAs. Base pairing rule.

### **2 Protein synthesis:- Mechanism of protein synthesis (i) Transcription (ii) Translation.**

### **3 Difference between m-RNA, r-RNA, t-RNA and their functions.**

### **4 Introduction and Definition of :**

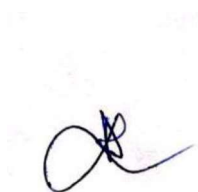
a. High Energy compounds :a] ATP b] ADP

b. Inborn errors of metabolism : a]Sickle cell anemia b]Gout

**INTERNAL ASSESSMENT (Refer Direction)**

**PRACTICALS**

<b>Total Marks</b>	<b>20</b>
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## **I. QUALITATIVE ANALYSIS**

1. Colour Reactions of Carbohydrates.
  1. Fructose
  2. Maltose
  3. Sucrose
2. Colour Reactions of Cholesterol

## **II. QUANTITATIVE ANALYSIS**

1. Estimation of Glucose by Benedict's Method.

## **III. SMALL EXPERIMENT**

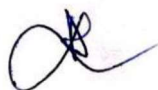
1. Isolation of Casein from Milk.

## **IV. EXPERIMENTS WITH ENZYMES**

1. Inversion (Hydrolysis) of Sucrose by Yeast Invertase.

### **References :**

1. West E. S., Todd W.R., Mason H.S. & Van Bruggen J.T. (1974) : 4<sup>th</sup> Ed. Text book of biochemistry, Amerind Pub Co Pvt Ltd.
2. White A., Handlar P., Smith E.L, Stelten, D.W. (1959) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, McGraw Hill Book Co.
3. Murray R K Granner, D.K., Mayes, P.A. & Rodwell V.W.(1993) : 23<sup>rd</sup> Ed. Harper's Biochemistry. Lange medical book.
4. Lehninger, A.L, Nelson D.L. & Cox M.M. (1993) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, CBS Publishers & distributors.
5. Devlin, T.M. (1986) : 2<sup>nd</sup> Ed. Text book of biochemistry with Clinical correlations, John Wiley and sons.
6. Stryer, L. (1995) : Biochemistry, Freeman WH and Co.
7. U. Satyanarayan and U Chakrapani : 2008 Fundamentals of Biochemistry, Books & Allied Pvt. Ltd, Calcutta Trueman R. Patricia 2007 Nutritional Biochemistry MJP Pub, Chenna





**B.Sc. (HOME SCIENCE) SEMESTER- V**  
**PAPER VII**  
**(5T-7)**  
**Health Science and Hygiene**

<b>Total Marks</b>	<b>100</b>
Theory	80
Internal Assessment	20
Practical	-

**OBJECTIVES**

1. To understand basic concept of microorganisms
2. To impart knowledge of measures taken for prevention and control of diseases.
3. To promote basic knowledge of role of disinfection in health

**UNIT-I**

Infectious disease Epidemiology-

- i. Definition of Infection, contamination, host, communicable and non-communicable diseases, source of infection, Incubation period, types of communicable and non-communicable diseases.
- ii. Modes of transmission of disease- Direct and Indirect.
- iii. Measures of Disease Prevention and Control.

**UNIT-II**

A. Health Education- Aims, Objectives, Principles, Role of Communication in Health Education.

B. Disinfection-

- i. Definition of disinfection, sterilization, disinfectant, antiseptic, deodorant.
- ii. Types of disinfection.
- iii. Types of disinfectants-a. Natural agents  
b. Physical agents  
c. Chemical agents

**Chemical agents-** Phenyle, Savlon, Bleaching Powder, Potassium Permanganate, Lime, Spirit, Iodine, Dettol.

**Insecticides-** DDT, BHC powder.

**UNIT-III**

1. International Health Organisation- WHO, UNICEF
2. Implication of drug addiction, Narcotics, Alcoholism, smoking, their control and prevention.

**UNIT-IV**

Family planning and demography.

- a. Definition, necessity, advantages, and methods of family planning.
- b. Birth rate, Death rate and Census.
- c. Geriatrics.

**INTERNAL ASSESSMENT (Refer Direction)**

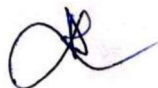
<b>Total Marks</b>	<b>20</b>
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## **PRACTICALS**

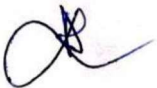
1. Study of common insecticides and disinfectants- Phenyle, Dettol, DDT, BHC powder, Potassium Permanganate, Bleaching Powder.
2. Identification of RBC and WBC by using Leishman's stain.
3. Demonstration of RBC & WBC count by using Hemocytometer.

## **REFERENCES-**

1. Textbook of Paediatrics- Aghor
2. Community Health and Nursing- BasavanPhappa B.T.
3. Textbook Microbiology for Nurses- Baveja C.P.
4. Practical Pathology- Chaturvedi O.U.
5. Textbook of Medicine- P.C. Das
6. Handbook of Paediatrics- Desai
7. Hygiene and Public Health- Ghosh P.
8. Textbook of Preventive and Social Medicine- K. Park
9. Textbook of Preventive and Social Medicine- J.E. Park
10. Essentials of Community Health Nursing- J.E. Park
11. Textbook of Obstetrics and Gynaecology- D.C. Dutta
12. Textbook of Medical Microbiology- Anantnarayan



**B.Sc. HOME SCIENCE**  
**SEMESTER –VI**

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**B.Sc. HOME SCIENCE SEMESTER VI**  
**PAPER-I**  
**Diet Therapy-II**  
**(6T-1)**

<b>Total Marks</b>	<b>150</b>
Theory +IA	80 +20
Practical+IA	40+10

**OBJECTIVES:**

1. To provide knowledge about the causes and symptoms of various diseases.
2. To understand the role of diet in the management of these conditions.
3. To plan, calculate and prepare diets for various diseases.

**COURSE CONTENT: THEORY**

**UNIT-I**

**1. Conditions Requiring Nutritional Support:**

Causes, symptoms and principles of dietary management of some of the special conditions requiring Nutritional support:

- a) Fevers: Short and long
- b) Anaemia: Types
- c) Surgery: Pre and postoperative care
- d) Burns: Types, degree
- e) Cancer: Types of Cancer, carcinogens

**2. Food Allergy:** Common food allergens

**UNIT-II**

**1) Diabetes Mellitus:**

Causes, symptoms and principles of dietary management of diabetes mellitus:

- a) Normal blood glucose level
- b) Types of diabetes mellitus
- c) Treatment: Oral Hypoglycemic drugs and Insulin
- d) Role of diet in the management of IDDM and NIDDM
- e) Complications of diabetes mellitus

**2) Food Exchange List:** Use of food exchange list in meal planning of diabetic people

**UNIT- III**

**Hypertension:**

Causes, symptoms and principles of dietary management of hypertension

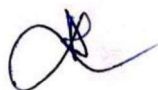
- a) Normal blood pressure and types of hypertension
- b) Role of sodium/ salt in hypertension
- c) Role of diet in management of hypertension

**Coronary Heart Diseases:**

Causes, symptoms and principles of dietary management of coronary heart diseases:

- a) Risk factors for CHD
- b) Dietary principles of CHD
- c) Atherosclerosis
- d) Lifestyle modification

**UNIT- IV**



## Renal Disorders:

Causes, symptoms and principles of dietary management of some of the special conditions requiring nutritional support:

- a) Glomerulonephritis
- b) Nephrotic syndrome
- c) Acute and chronic Renal failure
- d) Importance of dialysis.
- e) Renal calculi

## INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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## PRACTICALS

Planning, Calculation and Preparation for the following disorders:

- 1) Fever: Short and long duration
- 2) Anaemia: Iron Deficiency
- 3) Diabetes (NIDDM)
- 4) Hypertension
- 5) Coronary Heart diseases
- 6) Kidney disorders
  - a) Nephritis
  - b) Nephrosis

<b>Total Marks</b>	<b>40+10</b>
Planning	10
Calculation	10
Cooking	10
Viva	05
Record	05
IA	10

## INTERNAL ASSESSMENT

Any one of the following

1. Seminar on any one topic from syllabus
2. Preparation of scrap Book
3. Power point presentation
4. To run a canteen
5. Visit to Health club

<b>Total Marks</b>	<b>10</b>
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## REFERENCES

1. **Nutritive Value of Indian Foods:**Gopalan C, Rama Sastri&Balasubramanian, S.C.National Institute of Nutrition, 1993.
2. **Krause's Food Nutrition and Diet therapy:** L Kathleen Mahan, Sylvia Escottstump. **19<sup>th</sup> edition, W.B. Saunders Co.1996.**
6. **Normal & Therapeutic Nutrition:** Corinne H. Robinson & M.R **Lawer,15<sup>th</sup> Edition 1997.**
4. **Clinical Dietetics:** F.P. Antia, 2<sup>nd</sup> Edition. Oxford University Press 1973.
5. **Text book of Human Nutrition:** Editors:Banji M.S. Rao N.P Reddy V. Oxford & IBH pub. Co. pvt.Ltd.1996.
6. **Dietetics:**Srilakshmi B, 3<sup>rd</sup> Edition, New Age International (p) Ltd., 2000.
7. **Manual of Nutrition and diet Therapy:** Grills &Bosscher, **Macmillan Pub.Co. Inc. 1981.**
8. **Essentials of Nutrition and Diet Therapy:** Williams S.R. Times Mirror / **Mosby** College Pub.1990.
9. **Nutrition & Dietetics:**Shubhangini A. Joshi . Tata McGraw - Hill Pub. Co. Ltd., New Delhi 1992.
10. **Indian Food Composition Tables:**.Longvah T, AnanthanR,Bhaskarachary K and Venkaiah K. National Institute of Nutrition, 2017.

## B.SC HOME SCIENCE SEMESTER - VI

### PAPER -II

#### Care and well-being in Human Development (6T-2)

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 +20
Practical + IA	40+10

#### Objectives :

- To understand the significance of care and well-being in human development
- To understand the concerns at different stages of life
- To explore the availability of services and institutions that promote care and wellbeing.

#### Theory :

##### Unit I : Care and Human Development

1. Definition, concept and relevance of care
2. Vulnerable periods in life that require care
3. Principles of care giving
4. Holistic concept of well-being
5. Promoting well-being
6. Relationship between care and well-being
7. Subjective well- being.

##### Unit II : Care and Well-being in Childhood

1. Critical issues during infancy(preterm birth, feeding problems, ,congenital disabilities,sleep problems, colicky,constipation,developmental delay etc)
2. Critical issues during early childhood years (sleeping concerns, eating concerns, behavioural concerns, emotional concerns, speech concerns, caries, infections and illness, autism, anemia, Developmental delay etc)
3. Critical issues during middle childhood (school concerns, behavioural concerns, peer concerns, emotional concerns, risk taking behavior, weight/height concerns, tics,etc)
4. Critical issues during adolescence(school concerns, social concerns,vocational concerns ,emotional concerns, substance abuse, dangerous behaviour ,excessive risk taking, body image, eating disorders,obesity, chronic illness etc ).
5. Health care; nutritional and psychological counseling across the childhood stages.

##### Unit III : Care and Well-being in Adulthood

1. Adults as caregivers and their needs
2. Wellness model by Bill Hettler.
3. Experiencing wellness at different stages and work domains of adulthood
4. Care needs of elderly

5. Health and nutritional care across adulthood stages
6. Spiritual and psychological well-being.

**Unit IV : Policies, Services and Programmes**

1. Community resources for well-being
2. Provisions, and services that promote well-being
3. School health programmes
4. Counselling services for individuals and families

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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**Practicals**

1. Observation of an infant in natural settings to understand their care needs
2. Interview of a young mother of a preschool child as a caregiver.
3. Visits to :  
A counseling centre/clinic,
4. Psychological tests (self- concept inventory, behaviour orientation scale and 16 PF).

<b>Total Marks</b>	<b>40 +10</b>
Psychological Testing	15
2 Questions	15
Record Book	05
Viva	05
Internal Assessment	10

**INTERNAL ASSESSMENT**

**1 . Preparation of workbook on any one :**

- Spiritual and psychological well being
- Disciplinary patterns of child rearing

**2.Oral presentation on any given topic :**

**References :-**

- Chelsea, C., Fielder, D., Komilzoda, S. &Pathmanathan, I. ( 2009). Child health policy and programming for marginalized communities. New Delhi: UNICEF
- Davar, B.V. (Ed.) ( 2001). Mental health from a gender perspective. New Delhi: Sage.
- Ghosh, S. (1981). The Feeding & Care of Infant & Young Children. New Delhi: Voluntary Health Association of India.
- Swaminathan, M. (1985). Who cares? : A study of child care facilities for low income working women in India. New Delhi: Centre for Women’s Development Studies.

**B.Sc. HOME SCIENCE SEMESTER-VI**  
**PAPER-III**  
**Fashion Designing**  
**(6T-3)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical +IA	40+10

**Objectives**

- To understand the concept related to elements and principles of design.
- To understand terminology related to fashion.
- To acquaint the students with the basic factors influencing fashion.
- To foster an understanding of international designers and their work. To learn basic fashion designing process and apparel manufacture,
- To gain Knowledge of fashion marketing and merchandising.

**UNIT-I**

- Origin of clothing, theories of clothing-Modesty, Protection, Adornment, Identification, Religious.
- Definition of fashion, History of fashion, Terminology of fashion, Origin of fashion designing.
- Principles of fashion movement, classification of fashion, Theories of fashion adoption- Trickle up, Trickle down and Trickle across.

**UNIT-II**

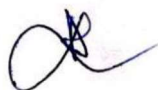
- Fashion cycle and its stages, flow chart of fashion design process.
- Role of fashion professionals –( i) Fashion designers, (ii) Fashion Technologist, (iii) Fashion Merchandiser
- Factors influencing fashion-Economic factor, Psychological factors, Social factors, cultural factors, geographical factors and technological factors.

**UNIT-III**

- Fashion leaders, Fashion Followers, Fashion Victims, Fashion Innovators, Fashion motivators.
- Fashion Forecasting
- Study of different departments of garment industry and their working.

**UNIT-IV**

- Fashion Marketing- Introduction, definition & importance of fashion marketing.
- Fashion Merchandising- Introduction, definition & importance of fashion merchandising.
- Market Trends, Sources of Fashion Inspiration, Fashion Advertising and its medias.





<b>Total Marks</b>	<b>20</b>
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**INTERNAL ASSESSMENT (Refer Direction)**

**PRACTICAL**

1. Drafting cutting stitching and designing of following garments by using different types of fabric.
2. Evening wear (Salwar / Chudidar/ Plazzo& kurta)
3. Cocktail wear
4. Use of computer in fashion designing.

<b>Total Marks</b>	<b>40+10</b>
<b>Drafting</b>	10
Stitching	20
Record Book	10
IA	10

**INTERNAL ASSESSMENT**

- i) Designing and making one fashion accessories (Purse/Belts/Fashion Jewellery / Scarves/Stole etc.)
- ii) Visits to fashion institute, export house and study tour.

**BOOKS RECOMMENDED:**

**Kaur Navneet, comdex Fashion Design vol 1 Fashion concept SDR Printer Delhi**

- Armstrong, H.J. (2009), Pattern Making for Fashion Design, Harper Collins Publishers, INC, New York.
- Frings, G.S. (1999), Fashion from Concept to Consumer, 6<sup>th</sup> edition, NJ, Prentice Hall.
- Jarnow, J. Dickerson Kitty G (1987), Inside the Fashion Business, New Jersey, Merrill, Prentice Hall.
- Mc. Kelvey, K., Muslow, J., Fashion Forecasting (2008) Wiley Blackwell
- Tate, S.L. and Edwards, M.S.(1982) The Complete Book of Fashion Design, New York, Harper & Row Publication.
- Stephens Frings Gini, 2007, Fashion: From Concept to Consumer (9th Edition), Prentice Hall
- Genova Aneta 2011, Accessory Design, Fairchild Pubns; 1 edition
- Schaffer Jane, Saunders Sue 2012, Fashion Design Course: Accessories: Design Practice and Processes for Creating Hats, Bags, Shoes, and Other Fashion Accessories, Barron's Educational Series
- Lau John 2012, Basics Fashion Design 09: Designing Accessories: Exploring the design and construction of bags, shoes, hats and jewellery, A Publishing; 1 edition
- The Dynamics of Fashion, Elaine Stone, Fairchild Publication, 2008
- Frings Gini, Fashion From Concept to Consumer, (5<sup>th</sup> Edition), Prentice Hall

**B.Sc. HOME SCIENCE SEMESTER VI**  
**PAPER – IV**  
**Resource Management -II**  
**(6T-4)**

<b>Total Marks</b>	<b>150</b>
Theory	80
Internal Assessment	20
Practical	40
Internal Assessment of practical	10

**Objective**

1. To give opportunity to develop ability to manage various resources.
2. To develop ability to apply management principles in experimental house and in day today life experience and various small events.
3. To develop ability to apply work simplification techniques.
4. To make them aware of intelligent choice of consumer goods.

**UNIT – I : Energy Management**

- A. Energy Management Meaning, Importance
- B. The efforts used in Home making activities
- C. Energy requirements for household tasks
- D. Forms and effects of fatigue
- E. Process of managing energy -
  - i. Planning
  - ii. Implementing
  - iii. Evaluating feedback

**UNIT – II**

**A. Work Simplification**

1. Definition and Importance
2. Techniques – i. Process chart, ii. Operation chart, iii. Pathway char

**B. Ergonomics –**

- i. Meaning and importance, ii. Definition, iii. Role and scope of ergonomics in home,
- iv. Anthropometric dimension

**UNIT – III - Finance / Money Management**

- A. Concept of Income
- B. Planning – i. Definition, ii. Importance of family finance plan/Budget – steps in making budget

- C. Implementing
- D. Evaluative feedback
- E. Account keeping
  - i. Definition & Importance
  - ii. Types of account keeping
- F. Consumer
  - i. Definition and roles
  - ii. Intelligent choice of consumer goods
  - iii. Consumer credit-credit purchase
  - iv. Consumer protection

## UNIT – IV

### A) Event Management

- 1) Meaning and importance
- 2) Definition
- 3) Planning implementation and review of –
  - a. Family function – Birthday, Engagement, Anniversaries, Wedding reception
  - b. Formal meeting – Seminar, Conference
  - c. Exhibition/ trade show
  - d. Product launch meeting – product display
  - e. Theme special

### B) Entrepreneurship

- 1) Meaning and definition
- 2) Concept and importance
- 3) Women entrepreneurship
- 4) Types of women entrepreneurship

INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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### Practical

1. Time plan for college going students, working and non-working women.
2. Work simplification techniques applied to any activity – Pathway – process – Operation chart.
3. Establishing Budget making & actual spending (for any event)
4. Account keeping – ( any event)

<b>Total Marks</b>	<b>40 +10</b>
Time plan	10
Work simplification techniques	10
Budget making	10
Record Book	10
IA	10

## INTERNAL ASSESSMENT

- a) Arrange any one Event
- b) Project report on self-employment

### Books Recommended:

1. Good year & Klohar 'Managing for effective living' John Wiley and Sons.
2. Gross-crandall-knoll 'Management for Modern families' Prentice Hall, Inc. New Jersey.
3. Nickell- Rice- Tucker, 'Management in family living' John Wiley & Sons.
4. Swanson Bettye 'Introduction to Home Management McMillan Pub. House. Inc. New York.
5. Borkar Sunita 'Introduction to Resource Management', Himalaya Publishing House.
6. Neeta Baporikar "Entrepreneurship Development & Project Management" Himalaya Publishing House
7. Successful Event Management by Anton Shone, Bryn Parry II Edition Cengage Learning Pvt.Ltd.

**B.Sc HOME SCIENCE SEMESTER VI**  
**PAPER V**  
**Community Development and Management**  
**(6 T-5)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical + IA	40 + 10

### Objectives :

1. To understand the importance of leadership in extension work.
2. To developed the concept of teaching methods.
3. To understand the necessity of co-ordination in extension work.
4. To understand the concept of development communication.
5. To understand administration, supervision and evaluation for extension work.

### Theory :

#### Unit - I

1. Leadership in Extension :  
Definition of leadership, Methods of selecting local leaders for extension work, traits of leaders, role of local leaders in extension work.
2. Motivation for extension work

Definition of motivation, importance of motivation for extension work, basic elements to motivate home makers, techniques of motivation,

### Unit - II

1. Extension Training :  
Meaning & Importance of training, need of training, Types of training for extension workers, principles of training.
2. Coordination for extension work :  
Importance of coordination, necessity of team work, aspects of coordination, practical difficulty of team work and its solutions.

### Unit III

1. Development communication :  
Meaning and definition of development communication, approaches for development communication, constraints in development communication.
2. Participatory Approach in Development Communication :  
Meaning of PADDC, types of participation of people in development process, participatory approaches, PRA and RRA techniques.

### Unit - IV

1. Extension Administration and Supervision :  
Meaning of administration and supervision, concept, principles of good administration, necessity of administration, traits desirable in extension administrators or supervisors.
2. Extension monitoring evaluation :  
Meaning of monitoring evaluation, Importance of monitoring evaluation, types of evaluation, methods of evaluating extension programmes.

**INTERNAL ASSESSMENT (Refer Direction)**

<b>Total Marks</b>	<b>20</b>
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### Practicals:

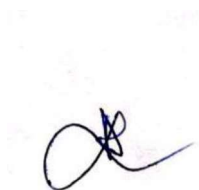
Practice of public speaking.

1. Preparation of Television script.
2. Handling and operation of Overhead Projector.
3. Preparation and presentation of computerized transparency.
4. Organizing and conducting seminar on home science aspects.

<b>Total Marks</b>	<b>40+10</b>
Spotting	10
Teaching Aid	10
Presentation	10
Viva	05
Record	05
IA	10

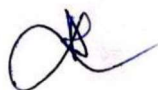
### INTERNAL ASSESSMENT

Report on Survey of Health & hygiene conditions of 5 households of rural/ slum areas.



**Books Recommended :**

1. Directorate of extension : Extension Education in Community Development.
2. Supe. S. V. An Introduction to Extension Education – Oxford Publishing Company, New Delhi & Kolkata.1999.
3. Chandra.A., Shah. A. and Joshi. V.: Fundamentals of teaching Home Science, Sterling Publishers, New Delhi, 1989.
4. Devdas. R. P., Methods of teaching Home Science, National Council of Education.1978.
5. Singh. K., Rural Sociology, Prakashan Kendra, Lucknow.
6. Dahama. O. P. and Batnagar O. P. Education & Communication for Development, Oxford & IBH Publishing Co., New Delhi, 1977.
7. Rudramurthy B., Extension in Planned Social Change, Allied Publishers Pvt: Ltd, Chennai.



**B.Sc. Home Science Semester VI**  
**PAPER- VI**  
**Nutritional Biochemistry-II**  
**(6 T-6)**

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical + IA	40+10

**OBJECTIVES**

This course will enable the students to :

1. Develop an understanding of the principals of biochemistry (as applicable to human nutrition)
2. Obtain an insight into the chemistry of major nutrients and physiologically important compounds.
3. Understand the biological processes and systems as applicable to human nutrition.
4. Apply the knowledge acquired to human nutrition and dietetics.

**COURSE CONTENT: Theory**

**Unit I Metabolism**

1. **Metabolism** : Introduction to Anabolism and Catabolism & its relation to nutrition.
2. **Carbohydrate Metabolism** :Absorption, transport and assimilation of Carbohydrates.
3. **Protein Metabolism** : Absorption, transport and assimilation of Proteins.
4. **Lipid Metabolism** : Absorption, transport and assimilation of Lipids.

**Unit II Carbohydrate Metabolism**

1. Introduction, definition and significance of intermediary metabolism :
  1. Glycolysis,
  2. Kreb's cycle ( Detail process of energy and enregetics.)
  3. Glycogenesis,
  4. Gluconeogenesis.
2. **Definition** : Blood sugar regulation : hypoglycemia, hyperglycemia and renal threshold. Glucose Tolerance Test.

**Unit III. Protein Metabolism**

1. Introduction, definition, process and importance of:-
  - i) Transamination
  - ii) Oxidative Deamination,
  - iii) Urea Formation.
2. Enzymes : Classification according to IUB system. Effect of temperature and pH on the activity of enzymes

**Unit IV: Lipid Metabolism :**

1. Lipid profile (Cholesterol, Bile acids, Triglycerides) & Health status.
2. Definition of : Lipogenesis and Hyperlipidemia.
3. Formation of Ketone bodies in diabetics.
4. Elementary idea of Beta Oxidation

## INTERNAL ASSESSMENT (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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### PRACTICALS

#### I. QUALITATIVE ANALYSIS

- a. Colour Reactions of Carbohydrates.
  1. Glucose
  2. Lactose
  3. Starch
- b. Colour Reactions of Proteins.
  1. Albumin
  2. Casein
  3. Gelatin

<b>Total Marks</b>	<b>40+10</b>
Qualitative	10
Quantitative	10
Small experiment	10
Record	05
Viva	05
IA	10

#### II. QUANTITATIVE ANALYSIS

1. Sorenson's Amino Acids Titration (Formol Titration)

#### III. SMALL EXPERIMENT

1. Preparation of Potato Starch :  
Solubility test and Colour Reactions

#### IV. EXPERIMENTS WITH ENZYMES

1. Action of Ptyalin (Salivary Amylase) on Starch.

### INTERNAL ASSESSMENT

Any one of the following :

1. Seminar on any one topic
2. Preparation of Drawing Book based on any one topic
3. Power Point Presentation

### References :

1. West E. S., Todd W.R., Mason H.S. & Van Bruggen J.T. (1974) : 4<sup>th</sup> Ed. Text book of biochemistry, Amerind Pub Co Pvt Ltd.
2. White A., Handlar P., Smith E.L, Stelten, D.W. (1959) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, McGraw Hill Book Co.
3. Murray R K Granner, D.K., Mayes, P.A. & Rodwell V.W.(1993) : 23<sup>rd</sup> Ed. Harper's Biochemistry. Lange medical book.
4. Lehninger, A.L, Nelson D.L. & Cox M.M. (1993) : 2<sup>nd</sup> Ed. Principles of Bio-chemistry, CBS Publishers & distributors.
5. Devlin, T.M. (1986) : 2<sup>nd</sup> Ed. Text book of biochemistry with Clinical correlations, John Wiley and sons.
6. Stryer, L. ( 1995) : Biochemistry, Freeman WH and Co.



7. U. Satyanarayan and U Chakrapani : 2008 Fundamentals of Biochemistry, Books & Allied Pvt Ltd, Calcutta
8. Trueman R. Patricia 2007 Nutritional Biochemistry MJP Pub, Chennai

## B.Sc. (HOME SCIENCE) SEMESTER- VI

### PAPER VII Public Health (6T-7)

<b>Total Marks</b>	<b>150</b>
Theory + IA	80 + 20
Practical + IA	40+10

#### Objectives :

1. To understand basic concept of microorganisms
2. To impart knowledge of measures taken for prevention and control of diseases.
3. To promote basic knowledge of role of disinfection in health

#### UNIT-I

- a. General concept of Bacteria and viruses-
  - i. Structure of bacterial cell, classification of bacteria.
  - ii. Structure of virion and types of viruses.
- b. Grain staining.
- c. Non-communicable diseases-
  - Diabetes mellitus
  - Nephrotic syndrome

#### UNIT-II

Diseases caused by bacteria, viruses and protozoa.

1. Water, food and milkborne diseases.-Hepatitis, Cholera, Typhoid, Dysentery.
2. Airborne diseases- Tuberculosis, poliomyelitis, measles.

#### UNIT-III

Parasitic infections-

- a. Mode of infection, life cycle, harmful effects, prevention and control of following infections-
  - i. Amoebiasis (Entamoeba Histolytica)
  - ii. Ascariasis (Roundworm)
- b. Mode of infection, life cycle, harmful effects, prevention and control of diseases caused by insects.
  - i. Malaria (Plasmodium vivax and Plasmodium falciparum)
  - ii. Filariasis (Wuchereria Bancrofti)

#### UNIT-IV

Immunity-

- a. Definition

- b. Classification- Natural and Acquired Immunity, Active and Passive Immunity.
- c. Mechanism Of Immunity (in brief)- Humeral and cellular Immunity.
- d. Vaccines, Routine immunization schedule.
- e. Antibiotics- Definition and classification of antibiotics.

**INTERNAL ASSESSMENT** (Refer Direction)

<b>Total Marks</b>	<b>20</b>
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**PRACTICALS-**

1. Examination of slides of microorganisms- Staphylococci, Streptococci, Mycobacterium Tuberculosis, E-coli, Malarial Parasite, Filarial Parasite.
2. Urine examination- Physical and Chemical examination like sugar, Albumin, Acetone & bile salts.
3. Estimation of Haemoglobin percentage by Sahli's and Haemometer.
4. Study of life cycle of parasites by charts. (Entamoeba Histolytica, Roundworm, Plasmodium vivax and Plasmodium falciparum, Wuchereria Bancrofti)

<b>Total Marks</b>	<b>40 + 10</b>
Experiment -1	10
Experiment -2	10
Spotting	10
Record	05
Viva	05
IA	10

**INTERNAL ASSESSMENT**

<b>Total Marks</b>	<b>10</b>
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Survey on communicable or non-communicable diseases in your locality.

**REFERENCES-**

1. Textbook of Paediatrics- Aghor
2. Community Health and Nursing- Basavan Phappa B.T.
3. Textbook Microbiology for Nurses- Baveja C.P.
4. Practical Pathology- Chaturvedi O.U.
5. Textbook of Medicine- P.C. Das
6. Handbook of Paediatrics- Desai
7. Hygiene and Public Health- Ghosh P.
8. Textbook of Preventive and Social Medicine- K. Park
9. Textbook of Preventive and Social Medicine- J.E. Park
10. Essentials of Community Health Nursing- J.E. Park
11. Textbook of Obstetrics and Gynaecology- D.C. Dutta
12. Textbook of Medical Microbiology- Anantnarayan.