# PERIYAR UNIVERSITY

**PERIYAR PALKALAI NAGAR**

**SALEM – 636011**

**DEGREE OF BACHELOR OF SCIENCE**

*CHOICE BASED CREDIT SYSTEM*

*Syllabus for*

# B.SC. HOME SCIENCE

**( SEMESTER PATTERN )**

**( For Candidates admitted in the Colleges affiliated to Periyar University from 2017-2018 onwards )**

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# REGULATIONS

## OBJECTIVES AND SCOPE

Home Science has contributed a great deal towards national development by training students to take up leadership roles in extension and community outreach programs. As a discipline Home Science integrates the ingredients of the sciences, social sciences and technology to facilitate the study of and enhance the quality of human life. The education process in Home Science underscores the importance of the individual's dynamic relationship with his/her family, community and society as a whole, as well as with the resources in the environment. Higher education learning in Home Science subject s provides students the opportunity to sharpen their capacities with a sense of social responsibility. In contemporary times, Home Scientists promote capacity building of individuals and communities for social and economic empowerment.

**The objectives of the present B.Sc. Program Home Science course are:**

1. To understand and appreciate the role of interdisciplinary sciences in the development and well-being of individuals, families and communities
2. To learn about the sciences and technologies those enhance quality of life of people
3. To acquire professional and entrepreneurial skills for economic empowerment of the student in particular, and community in general
4. To develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development

To take science from the laboratory to the people

## ELIGIBILITY

Refer this office circular No: PU/R/AD-1/UG/PG/Programmes Eligibility/2019 Dated: 16-04-2019.

## DURATION OF THE PROGRAM

The duration for the degree B.Sc., in Home Science shall be consisting of three academic years divided into six semesters.

## COURSE OF STUDY

The course of the study shall comprise instructions in the following courses according to the syllabus and books prescribed.

## EXAMINATIONS

The theory examination shall be of three hours duration to each course at the end of each semester. The candidate failing in any subject(s) will be permitted to appear for each failed subject(s) in the subsequent examinations. The practical examinations shall be conducted at the end of every academic year.

## PASSING MINIMUM

The candidate shall be declared to have passed the examination if she/he secures not less than 40 per cent in internal marks and 40 per cent in external marks separately in each course.

# COURSE OF STUDY AND SCHEME OF EXAMINATION

| Part | Paper Code | Subject Title | Hours /Week | Credits | University Examination | | | Exam Hrs. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Internal(25%) | External(75%) | Total | |
| **SEMESTER I** | | | | | | | | |
| I | | Tamil I | 6 | 3 | 25 | 75 | 100 | 3 |
| II | | English I | 6 | 3 | 25 | 75 | 100 | 3 |
| III | | Core Paper I | 5 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Practical I | 3 | - | - | - | - | |
| III | | Allied Paper I | 4 | 4 | 25 | 75 | 100 | 3 |
| III | | Allied Practical I | 3 | - | - | - | - | |
| IV | | Value Education | 2 | 2 | 25 | 75 | 100 | 3 |
| **SEMESTER II** | | | | | | | | |
| I | | Tamil II | 6 | 3 | 25 | 75 | 100 | 3 |
| II | | English II | 6 | 3 | 25 | 75 | 100 | 3 |
| III | | Core Paper II | 5 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Practical I | 2 | 4 | 40 | 60 | 100 | 3 |
| III | | Core Practical II | 3 | 3 | 40 | 60 | 100 | 3 |
| III | | Allied Paper II | 4 | 4 | 25 | 75 | 100 | 3 |
| III | | Allied Practical I | 3 | 2 | 40 | 60 | 100 | 3 |
| IV | | Environmental Studies | 1 | 2 | 25 | 75 | 100 | 3 |

| Part | Paper Code | Subject Title | Hours /Week | Credits | University Examination | | | Exam Hrs. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Internal(25%) | External(75%) | Total | |
| **SEMESTER III** | | | | | | | | |
| I | | Tamil III | 6 | 3 | 25 | 75 | 100 | 3 |
| II | | English III | 6 | 3 | 25 | 75 | 100 | 3 |
| III | | Core Paper III | 5 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Practical III | 2 | - | - | - | - | - |
| III | | Allied Paper III | 4 | 3 | 25 | 75 | 100 | 3 |
| III | | Allied Practical II | 3 | - | - | - | - | - |
| IV | | SBEC I | 2 | 2 | 25 | 75 | 100 | 3 |
| IV | | NMEC I | 2 | 2 | 25 | 75 | 100 | 3 |
| **SEMESTER IV** | | | | | | | | |
| I | | Tamil IV | 6 | 3 | 25 | 75 | 100 | 3 |
| II | | English IV | 6 | 3 | 25 | 75 | 100 | 3 |
| III | | Core Paper IV | 5 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Practical III | 2 | 3 | 40 | 60 | 100 | 3 |
| III | | Allied Paper IV | 4 | 4 | 25 | 75 | 100 | 3 |
| III | | Allied Practical II | 3 | 2 | 40 | 60 | 100 | 3 |
| IV | | SBEC II | 2 | 2 | 25 | 75 | 100 | 3 |
| IV | | NMEC II | 2 | 2 | 25 | 75 | 100 | 3 |

| Part | Paper Code | Subject Title | Hours /Week | Credits | University Examination | | | Exam Hrs. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Internal(25%) | External(75%) | Total | |
| **SEMESTER V** | | | | | | | | |
| I | | Core Paper V | 5 | 5 | 25 | 75 | 100 | 3 |
| II | | Core Paper VI | 6 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Paper VII | 6 | 5 | 25 | 75 | 100 | 3 |
| III | | Core Practical IV | 3 | - | - | - | - | - |
| III | | Core Practical V | 3 | - | - | - | - | - |
| III | | Elective I | 5 | 5 | 25 | 75 | 100 | 3 |
| IV | | SBEC III | 2 | 2 | 25 | 75 | 100 | 3 |
| **SEMESTER VI** | | | | | | | | |
| I | | Core Paper VIII | 6 | 5 | 25 | 75 | 100 | 3 |
| II | | Core Practical IV | 3 | 5 | 40 | 60 | 100 | 3 |
| III | | Core Practical V | 3 | 5 | 40 | 60 | 100 | 3 |
| III | | Core Practical III | 2 | 3 | 40 | 60 | 100 | 3 |
| III | | Elective Paper II | 6 | 5 | 25 | 75 | 100 | 3 |
| III | | Elective Paper III | 5 | 5 | 25 | 75 | 100 | 3 |
| IV | | SBEC IV | 2 | 2 | 25 | 75 | 100 | 3 |
| IV | | SBEC V | 2 | 2 | 25 | 75 | 100 | 3 |
| IV | | SBECP I | 3 | 2 | 400 | 60 | 100 | 3 |
| | | Extension Activities | - | 1 | - | - | - | - |
| | | | | **140** | **1120** | **2880** | **4000** | **120** |

**LIST OF CORE PAPERS**

I Physiology and Microbiology

IIFood Science

IIITextiles and Clothing

IV Fashion Designing

V Interior Decoration

VI Basic Dietetics

VII Extension Education

VIII Diet Therapy and Counseling

**LIST OF PRACTICALS**

I Physiology and Microbiology

IIFood Science

IIIFamily Clothing and Garment Construction

IV Interior Decoration and Family Resource Management

V Dietetics and Food Service Management

**LIST OF SKILL BASED ELECTIVE COURSES (SBEC)**

I Food Preservation

II Principles of Nutrition

IIIHealth and Fitness

IV Human Development

V Family Finance and Housing

VI Food Preservation and Bakery (Practical)

**LIST OF ELECTIVE PAPERS**

I Community Nutrition

II Family Resource Management

IIIFood Service Management

**LIST OF NON MAJOR ELECTIVE COURSES (NMEC)**

I Basic Food Science

IIBasic Nutrition

**Eligibility:** Pass in higher Secondary Examination with Home Science or Nutrition or Dietetics or Chemistry or Biology as one of the subjects.

**MODEL PATTERN**
**THEORY**

| University Examination (UE) 75 Marks | Internal Assessment (IA) 25 Marks |
|---|---|

**Question Paper Pattern:**
Maximum Marks - 75 Marks

**Section A (10 X 2 = 20)**
(Answer all questions)
**Section B (5 x 5 = 25)**
(Internal Choice)
**Section C (3 x 10 = 30)**
(Answer any 3 out of 5)

***Answer any three out of five***

**Question paper pattern for skill based elective courses**
Maximum Marks - 75
Answer all the questions (One question from each UNIT)
Internal Choice [5 x 15 = 75]

**Classification of Internal Assessment Structure:**

| | | **Marks** |
|---|---|---|
| Test | - | 15 |
| Assignment | - | 05 |
| Attendance | - | 05 |
| | | 25 Marks |
| Passing Minimum (IA) - 40 % | - | 10 Marks |
| Passing Minimum (UE) - 40 % | - | 30 Marks |
| **Total Passing Minimum** | - | 40 Marks |

**PRACTICAL**

| University Examination (UE) 60 Marks | Internal Assessment (IA) 40 Marks |
|---|---|

Classification of Internal Assessment Structure:

| | | **Marks** |
|---|---|---|
| Practical | - | 25 |
| Record | - | 05 |
| Attendance | - | 05 |
| | | 40 marks |
| Passing Minimum (IA) - 40 % | - | 16 Marks |
| Passing Minimum (UE) - 40 % | - | 24 Marks |
| **Total Passing Minimum** | - | 40 Marks |

# B.Sc. HOME SCIENCE

## SEMESTER - I

## CORE I - PHYSIOLOGY AND MICROBIOLOGY

**OBJECTIVES**

To enable the students to

1. Obtain a better understanding of nutrition and dietetics through the study of Physiology.
2. Gain knowledge about the role of microorganism in health and disease.

**UNIT - I**

**TISSUES** - Classification of tissues, structure and functions of epithelial, muscular, connective and nervous tissue.

**DIGESTIVE SYSTEM** - Structure of digestive system, digestion and absorption of carbohydrates, proteins and fats.

**UNIT - II**

**BLOOD** - Composition, functions and Coagulation of blood - definition, process and factors regulating.

**HEART** - Structure of heart and blood vessels, Blood pressure definition and factors affecting, Definitions of Heart rate and cardiac output.

**RENAL SYSTEM** - Structure and functions of

kidneys, Urine: Composition and formation.

**UNIT -III**

**REPRODUCTIVE SYSTEM** - Structure of male and female reproductive organs, puberty, menstrual cycle, meaning of menopause and structure of mammary glands.

**ENDOCRINE SYSTEM** - Pituitary, thyroid, parathyroid and adrenal glands, Structure, functions of hormones secreted and their abnormality.

**UNIT - IV**

**BACTERIA** - Structure, types, reproduction and nutrition.

**VIRUS** - Structure and life cycle of bacteriophage.

**YEAST**- Structure, reproduction and economic importance.

**PROTOZO**A - Structure and life cycle of Entamoeba histolytica.

**MOULDS** - Type, structure and reproduction.

**UNIT - V**

**INFECTIOUS DISEASES** - Causes and symptoms of the following.

**FOOD BORNE DISEASES** - Salmonellosis, Botulism, Cholera and Typhoid.

**WATER BORNE DISEASES** - Gastro enteritis, Diarrhea, Campylobacter and Giardia lamblia.

**AIR BORNE DISEASES** - Tyberculosis and Pneumonia.

**PARASITIC INFECTIONS** - Amoebiasis and Malaria.

**REFERENCES**

1. Gary.A Thibodeau and Kelvin. T.Patlon, Anthony's Text Book of Anatomy and Physiology, Seventeeth edition, Mosby Publications, Indiana Print, 2004.
2. Anne Waugh and Allison Grant Ross and Wilson, Anatomy and Physiology In Health and Illness, Elsevier Publication, Ninth Edition, 2005.
3. Guyton, A.C, Text Book of Medical Physiology, 4th Edition, W.B. Saunders Co. Philadelphia, 1996.
4. Frazier, W.C, Food Microbiology, McGraw Hill Publication, New York, 10th Edition, 1998.
5. Pelczar, H.J. And Rober. D, Microbiology, McGraw Hill Publication, New York, 10th Edition, 1998.

## B.Sc. HOME SCIENCE

## SEMESTER - I & II

## CORE PRACTICAL - I PHYSIOLOGY AND MICROBIOLOGY

**PHYSIOLOGY**

1. Microscopic Study of Different Tissues - Epithelial, Connective and Muscular.
2. Estimation of Hemoglobin.
3. Blood Grouping and Measurement of Blood Pressure.
4. Determination of Coagulation Time of Blood.
5. Microscopic Structure of Heart, Digestive System, Kidney and Reproductive Organs, Ovary, Uterus, Mammary Glands and Testis.
6. Microscopic Structure of Various Endocrine Glands - Thyroid, Pituitary and Adrenal.

**MICROBIOLOGY**

1. Examination of Yeast, Mould, Protozoa and Pathogenic Bacteria.
2. Examination of Unstained Organism - Hanging Drop Preparation.
3. Examination of Stained Organisms - Simple Staining and Gram's Method of Staining.
4. Testing of milk Purification - Reeducatase test for milk and standard plate count.
5. Common Culture Media and Uses
6. Study of Sterilizing Equipment
7. Cultivation of Organism in the Laboratory - Methods and Equipments.

**MODEL QUESTION PAPER**
**PHYSIOLOGY AND MICROBIOLOGY**

**Time: 3 Hours** **Maximum: 75 Marks**

**PART A (10 x 2 = 20 marks)**
**Answer all Questions**

1. List different types of connective tissues.
2. Where are salivary glands located?
3. What is normal heart rate?
4. Mention any one factor that hastens coagulation of blood?
5. What is hormone?
6. Define Ovulation.
7. Classify Moulds.
8. Name any two viral diseases.
9. Name the causative organism of typhoid.
10. What is food poisoning?

**PART B (5 x 5 = 25)**
**Answer all Questions**

11. (a) Give the structure of muscular tissues. (or)
    (b) Explain the digestion of carbohydrates.
12. (a) List the function of blood. (or)
    (b) Draw the structure of heart.
13. (a) Explain the function of placenta. (or)
    (b) Explain fertilization.
14. (a) Describe the structure of a bacterial cell. (or)
    (b) Explain the reproduction of molds.
15. (a) Explain Clostridium botulinum food poisoning. (or)
    (b) Explain the causes and symptoms of pneumonia.

**PART C (3 x 10 = 30)**
**Answer any three questions out of five**

16. Explain the structure of digestive system.
17. Explain the composition and formation of urine.
18. Explain the structure of female reproductive system and menstrual cycle.
19. Describe the structure and lifecycle of bacteriophage.
20. Elaborate any three water borne diseases.

# B.Sc. HOME SCIENCE
## SEMESTER - II
## CORE II - FOOD SCIENCE

**OBJECTIVES**

To enable the students to

1. Understand the scientific principles underlying food preparation.
2. Develop skill techniques in food preparation with conservation of nutrients and palatability using desirable cooking methods.

**UNIT - I**

**Food** - Definition, Classification based on functions and food pyramid.

**Basic food groups** - Basic 4,5,7 and 11.

**Cooking methods** - Boiling, steaming, stewing, frying, baking, roasting, broiling, pressure cooking and microwave cooking. Loss of nutrients during cooking.

**Sugar cookery** - Stages of sugar cookery.

**UNIT - II**

**Cereals** - Composition and nutritive value of Rice, Wheat, Ragi and

Oats **Parboiling of rice** - Methods and advantages.

**Pulses** - Composition, nutritive value, toxic substances, germination process and its advantages.

**UNIT - III**

**Vegetables** - Composition, nutritive value, classification, pigments and changes in pigments during cooking.

**Fruits** - Classification, composition and nutritive value, Changes during ripening and browning - enzymatic and non enzymatic.

**UNIT - IV**

**Milk and milk products** - Composition and nutritive value, kinds of milk and uses of milk in cookery.

**Meat** - Nutritive value, factors affecting tenderness of meat and rigor mortis.

**Fish** - Classification, nutritive value and selection.

**Egg** - structure, nutritive value, selection and functions of egg in cookery.

**UNIT - V**

**Fats and oils** - Sources, uses, rancidity, smoking point and factors affecting absorption of fats.

**Spices and condiments** - Role in cookery and their medicinal value.

Beverages - Classification, nutritive value, coffee, tea, cocoa and malted beverages.

**REFERENCES**

1. Paul and Paulmer, Food Theory and Application, John Wiley and Sons, New York, 1972
2. Swaminathan.M, Food Science and Experimental foods, Ganesh and Co, Mafras, Reprint 1979.
3. Manay Shakuntala.N and Shadaksharaswamy.M, Food Facts and Principals, New Age International (P) Ltd Publishers, Reprint 1996.
4. Swaminathan.M, Essentials of Food and Nutrition, Vol I & II, Bappo Publications, 1996.
5. Srilakshmi M, Food Science, New Age International (P) Ltd Publishers, Third Edition, 2005.
6. Norman N. Potter and Joseph H. Hotchkiss, Food Science, CBS Publishers and Distributors, Fifth Edition 1997.
7. Swaminathan.M, Food Science, Chemistry and Experimental Foods, Bappo Publishers Company Ltd, 1997.
8. Usha Chandrasekar, Food Science in Indian Cookery, Phoenix Publishers House Private Limited, 2002.

## B.Sc. HOME SCIENCE
## SEMESTER - II
## CORE PRACTICAL II - FOOD SCIENCE

I **a) Grouping of foods** - Basic 4,5,7 and 11

b) Measuring of food - Solids, liquids and butter.

**II Sugar and Jaggery - Experimental cookery.**

a) Different stages of crystallization of sugar and jaggery, preparation of candy, fondant, mysore - pak.

**III Cereals and cereal products:**

a) Experimental cookery of cereal: Steaming, boiling and pressure cooking. Separation of gluten content of wheat.

b) Preparations - Idli, Ragi Adai and Tomato rice

**IV Pulses:**

b) Experimental cookery of dhal - soaked, unsoaked, sprouted; effect of cooking dhal in hard water and with baking soda.

c) Preparations:-

i) Sambar, kootu, black gram dhal vadai

**V. Vegetables and Fruits**

a) Experimental cookery

i) Vegetables - study on the effect of acid, alkali, heat and time on the colour, texture and flavor.

ii) Fruits - Enzymatic and non - enzymatic browning and its prevention.

b) Preparations:

i) Vegatable - Avial and vegetable briyani.

ii) Fruits - Fruit salad and apple milk shake.

**VI. Milk and Milk Products:**

a) Experimental Cookery - coagulation of milk proteins

b) Preparation - Payasam, Mour Kozhambu and Paneer.

**VII Egg:**

a) Experimental Cookery - Factors affecting coagulation of egg protein and foaming.

b) Preparation - Poached egg and omelette.

**VIII Fats and Oils:**

a) Experimental Cookery - Determination of smoking point of common fats and oils.

b) Preparation - Puri, Potato chips, Masal vadai and dough nuts.

**IX. Beverages:**

Preparation of coffee, tea and fruit juices - Orange, Apple juice

**MODEL QUESTION PAPER**

# FOOD SCIENCE

**Time: Three hours** **Maximum: 75 marks**

**PART A (10 x 2 = 20 marks)**

**Answer all Questions**

1. Define Food Science.
2. List out any four cooking methods.
3. What is meant by body building foods?
4. Mention any four millets frequently used in our diet.
5. What is known as enzymatic browning?
6. Point out any four types of milk.
7. What is meant by Rigor Mortis?
8. Mention any two abuses of spices and condiments.
9. What is smoking point?
10. Write the active principles of tea and coffee.

**PART B (5 x 5 = 25 marks)**

**Answer all Questions**

11. a) Classify the food based on nutrients with example. (or)
    b) Explain the importance of parboiling in Rice.
12. a) Enumerate the changes during boiling with vinegar and cooking soda in green leafy vegetable cookery. (or)
    b) Write short notes in skimmed milk and whole milk.
13 a) Explain briefly about the factors affecting tenderness of meat. (or)
    b) How will you select a good egg using house hold method?
14 a) Write short notes on rancidity. (or)
    b) Enumerate the uses of spices and condiments in Indian cookery.
15. a) List any four common food items and their adulterants. (or)
    b) Write any two procedures to identify the common adulterant in food items.

**PART C (3 x 10 = 30 marks)**

**Answer any Three out of Five**

16. Describe in detail about "Basic Seven Food Groups" and justify the seven food groups suitability to ou Indian condition.
17. Pulses are referred to "Poor man's meat". Comment on this statement with example.
18. What are the preliminary treatments given to vegetables and root crops prior to cooking?
19. Discuss in detail about the changes in meat during any four methods of cooking.
20. List any eight spices and condiments usually utilized by Indians and explain the reason for the same.

# B.Sc. HOME SCIENCE
## SEMESTER - III
## CORE III - TEXTILES AND CLOTHING

**OBJECTIVES**

To enable the students to

1. Understand Textiles in relation to selection and use.
2. Understand Textiles in relation to recent trends in consumer goods.
3. To gain knowledge on various Textiles.

**UNIT - I:**

Fibre Definition, Classification of Textile fibres, General properties common to protein, Cellulose, mineral and thermoplastic fibres; Manufacture, uses and properties of Cotton, linen, rayon, silk, nylon, terylene and acrylic.

**UNIT - II:**

Yarn construction - process of spinning, properties of yarn twist and yarn number; classification of yarns - simple, complex, novelty and texturised yarns.

Fabric constructions - weaving, parts of simple loom and weaving operation; Types of weaves - Basic and figure weaves. Other methods of fabric construction - knitting, braiding, felt, lace and nonwoven fabrics.

**UNIT - III:**

Fabric finishes - Mechanical and Chemical finishes and special purpose finishes. Colour in fabrics - Dyeing - classification of dyes - Natural and synthetic dyes - Methods of dyeing.

Design in fabrics - Printing - Hand printing and machine printing.

**UNIT - IV: Family Clothing**

Selection of fabrics - Factors affecting family clothing budget- Factors affecting selection of clothing - Planning a wardrobe for a family - Family clothing for infant, school going, Adolescents and Old age, based on the budget, personality factors and the quality of fabrics - Clothing for different occasion.

**UNIT - V: Care of Clothes:**

Study of water, soaps, blue, starches, bleaches, soapless detergents - Washing of different fabrics, stain removal and dry cleaning - Laundry equipment, Ironing and dryers - Storages.

**REFERENCES:**

1. Erwin M.D, Clothing for Moderns, The Macmillan Co. Ltd, London, 1964.
2. Erwin M.D, Practical Dress Design, The Macmillan Co. Ltd, New York, 1954.
3. Lyle Dorothy, Modern Textiles, John-Willey & Sons, Inc, 1968.
4. Non-Criff R.L, Manmade Fibres, Heywood books, London, 19705.
5. Stoint, Introduction to Textiles,
6. Norma Holton & Jane, Ladder Textiles, The Macmillan Co. Ltd, New York, 1970.
7. Wiggate Isbel, Textiles fabrics and their selection, Prentice Hall, Inc New York, 1970.
8. Dantyage Sush-ella, Fundamentals of Textiles and their care.

## B.Sc. HOME SCIENCE

## SEMESTER - III & IV

## CORE PRACTICAL - III

# FAMILY CLOTHING AND GARMENT CONSTRUCTION

**I. Preparation of samples for the following:**

i) Hand Stitches

ii) Seams and seam finishes

iii) Neck finishes - facing, shape and bias binding

iv) Fasteners - buttons, button holes, press buttons, hooks and eyes

v) Plackets and opening - continuous placket, bound and faced plackets, zipper plackets.

vi) Fullness - darts, tucks, gathers, pleats.

vii) Decorative (embroidery) stitches - Any Ten

**II. Drafting basic blocks for the following garments and constructing the same:**

i) Baby's dress - Jabla (one year old)

ii) Babasuit (shirt with nicker 3 years old)

iii) Girl's frock with collar and sleeve (3 years old)

iv) Saree petticoat (six core)

v) Choli (saree blouse)

**MODEL QUESTION PAPER**

# TEXTILES AND CLOTHING

**Time: 3 hours** **Maximum: 75 marks**

**PART - A (10 x 2 = 20 Marks)**

**Answer all questions:**

1. Define fibre.
2. Write on the properties of queen of fibre.
3. Classify the yarn twist.
4. List the parts of a simple loom.
5. Mention the various purposes of special finishes.
6. Classify the dyes.
7. What is wardrobe?
8. Write on the personality factors influenced in the selection of clothing for infant.
9. How will you remove the stain?
10. What is blue?

**PART - B (5 x 5 = 25 Marks)**

**Answer all the questions:**

11. (a) Classify the textile fibres. (or)
    (b) Give short notes on Thermoplastic fibres.
12. (a) Brief notes on the process of spinning. (or)
    (b) Write the short notes on weaving operation.
13. (a) Discuss on the importance of special purpose finishes. (or)
    (b) Write on the uses of synthetic dyes.
14. (a) Give brief notes on the selection of fabrics for a family. (or)
    (b) How will you select clothings for a marriage function?
15. (a) Give short notes on dry cleaning. (or)
    (b) Discuss about the various cleaning agents used for clothes.

**PART - C (10 x 3 = 30 Marks)**

**Answer any three out of five:**

16. Write in detail about the properties of cellulose and protein fibres.
17. Discuss in detail on the basic weaves.
18. Differentiate Hand printing and Machine printing.
19. Enumerate the factors affecting the selection of clothes.
20. Give brief notes on Laundry equipment and storage of clothes.

# B.Sc. HOME SCIENCE
## SEMESTER - III
## SBEC I - FOOD PRESERVATION

**OBJECTIVES**

1.To enable the students to

2. Understand the principles of preservation

3. Learn about the methods of preservation

**UNIT - I**

**Food preservation** - Importance, principles and methods.

**Food spoilage** - Types, role of micro organism in causing food spoilage and prevention of food spoilage.

**Preservation by using chemicals**: - Classification and mode of action.

**UNIT - II**

**Preservation by removal of water** - Drying and dehydration: Principles, methods (in brief), factors influencing, advantages and disadvantages.

**UNIT - III**

**Prevention by use of high temperature** - Canning: steps, advantages, disadvantages and spoilage of canned food.

Pasteurization and sterilization - principle and types.

**UNIT - IV**

**Preservation by use of low temperature** - Refrigeration: Principle, methods and application

Freezing: Principle, methods and application; preparation of food for freezing; shelf life of frozen food.

**UNIT - V**

**Preservation of addition of sugar** - Jams, jellies and fruit preserves: Procedure, common defects and their causes.

Preservation by addition of salt - Pickling; Curing of meat.

**REFERENCES**

1. Sivasankar B, Food processing and preservation , Prentice-Hall of India (P) Ltd, 2005.
2. Frazier W.C, Westhoff D.C, Food Microbiology, Tata M.C.Graw-Hill Publishing Company Ltd, 2005.
3. Vijaya khander, Text book of Science and Technology, Indian Council of Agricultural Research, New Delhi, 2001.
4. Shirley J.Vangrade, Margy Woodburn, Food Presrvation and Safety, Principles and Practice, Surabhi Publications, reprint 2005.
5. Manoranjan kalia, Sangita Sood, Fooe Preservation and Processing, Kalyani Publishers, reprint 2000.

# MODEL QUESTION PAPER
# FOOD PRESERVATION

**Time: 3 hours** **Maximum: 75 marks**

**Answer all Questions**

**(5 x 15 = 75)**

1. (a) Importance of and principle involved in food preservation explain. (or)

   (b) Bring out the role of micro organisms in causing food spoilage.

2. (a) What are the advantages and disadvantages of dehydration?

   (or)

   (b) Explain the role of chemical preservatives in food preservation.

3. (a) Elucidate the steps in canning

   (or)

   (b)Explain pasteurization.

4. (a) Bring out the methods and principles of refrigeration.

   (or)

   (b)Bring out the methods and principles of freezing.

5. (a) Bring out the methods of preparation of murabba.

   (or)

   (b)Explain the steps involved in curing of meat.

# B.Sc. HOME SCIENCE

## SEMESTER - IV

## CORE IV - FASHION DESIGNING

**OBJECTIVES**

To enable the students to

1. Understand cloth in relation to personality.
2. Apply aesthetic values for personal and family development.

**UNIT - I:**

Importance of clothing construction - economy, comfort and beauty - Use and care of sewing machines.

**UNIT - II:**

Basic construction techniques - Basic stitches temporary and permanent stitches - Decorative stitches - Seams and Seam finishes, plackets, fasteners, fullness finishing necklines - Mending - darning and patching.

Body measurements - Taking body measurements for various age groups. Knowledge of standard measurements for Children, Women and Men's garments.

**UNIT - III:**

Fitting - Basic principles for fitting - Causes for poor fit, Hints on solving fitting problems.

Study on patterns - Different methods of preparing patterns - Drafting method - Flat pattern designing and dress form.

**UNIT - IV**

Pattern alterations Alterations 'n' the basic block, License block, and skill block for good fit and comfort. Introducing fullness in various garments. Methods and types of fullness.

**UNIT - V**

A study of various types of collars and pockets, Method of construction of different types of skirts and sleeves, Fashion - Definition, Sources of fashion, current fashions and fashion trends for various age groups, Study of trimming and decorations - Methods of making the trimmings, Type of trimmings and application in various dresses.

**REFERENCES**

1. Hepmarth M, Dress Designing, The English Universities Press Ltd., London, 1960.
2. Mary Mathews, Practical Clothing Construction, Thompson Press, Madras, 1974.
3. Drawin M.D, Kunchem L.A, Clothing for Moderns, 1969.
4. Lewis Dorras Bowers Mable to Marieta Kettunan, Clothing construcion and Wardrobe planning, The Macmillion co, NewYork, 1957.
5. Virginia stlpe lewis, Comparative clothing construction Techniques, Surjeeth Publications, Y.K.Kolhapur Road, Kamala Nagar, New Delhi, 1984.
6. Mary Jo kallal, Clothing construction , Macmillan Publishing Company, New York, 1985.
7. Geni Stephens Frings, Fashion from concept to consumer, Prentice Hall Inc. Englewood cliffs, New Jersoy, 1982.

**MODEL QUESTION PAPER**

# FASHION DESIGNING

**Time: 3 Hours** **Maximum: 75 mar**

**Part - A (2 x 10 = 20 marks)**

**Answer all Questions:**

1. Write the parts of sewing machine.
2. Name any four tools used for stitching.
3. Differentiate darning and patching.
4. Write the standard measurement for women.
5. Define fitting.
6. Write the uses of patterns.
7. Basic block.
8. List the types of fullness.
9. Define fashion.
10. How will you decorate the garment?

**Part - B (5 x 5 = 25 marks)**

**Answer all the questions:**

11. (a) Write short notes on the importance of clothing construction. (or)
    (b)Draw a sewing machine.
12. (a) Discuss on the decorative stitches. (or)
    (b)Give brief notes on seams and seam finishes.
13. (a) Write on the basic principles for fitting. (or)
    (b)What are the factors to be considered while preparing a pattern?
14. (a) How will you alter a pattern for good fit and comfort? (or)
    (b)Write the usefulness of fullness in garment construction.
15. (a) Give brief notes on the sources of fashion. (or)
    (b)Write short notes on the types of trimmings and their applications.

**Part - C (10 x 3 = 30 marks)**

**Answer any three questions:**

16. Discuss in detail on the uses and care of sewing machine.
17. Enumerate the temporary stitches and permanent stitches.
18. Write in detail on the Drafting method.
19. Give brief notes on the method and types of fullness.
20. Write an essay on current fashion trends for various age groups.

# B.Sc. HOME SCIENCE
# SEMESTER - IV
# SBEC II - PRINCIPLES OF NUTRITION

**OBJECTIVES**

To enable the students

1. Gain basic knowledge of the different nutrients and their role in maintaining health of the community.
2. Develop skills in qualitative analysis and quantitative estimation of nutrients.

**UNIT - I**

**Concept of Nutrition** - Definition of nutrition, health, nutritional status and Reference man and Reference woman - Definition.

**RDA -** Definition, factors affecting RDA and methods used for deriving RDA;

**Carbohydrates** - Functions, maintenance of blood sugar levels, requirement and sources. Dietary fiber - Definition, classification, physiological effects, role of fiber in preventing diseases and sources.

**UNIT - II**

**Proteins** - Definition, composition, nutritional classification of proteins and amino acids, functions of proteins, sources and requirements. Evaluation of protein quality - PER, BV, NPU and chemical score.

**Lipids** - Definition, composition, functions, sources and requirements; Essential fatty acids - Definition, functions, sources and effects of deficiency.

**UNIT - III**

**Energy -** Definition, units of measurement, determination of energy value of foods by direct and indirect calorimetry and physiological fuel value.

**Total energy requirement** - BMR: Definition, measurement (direct and indirect calorimetry), factors influencing basal metabolism; Energy requirement for physical activity: factorial method and indirect calorimetry; Thermic effect of food and factors affecting thermic effects of foods; Factorial method; energy requirement and sources.

**UNIT - IV**

**Macro Minerals -** Calcium and Phosphorous - Functions, requirements, sources and effects of deficiency.

**Micro minerals -** Iron, Iodine, Copper, Fluorine and Zinc - Functions, sources, requirements and effects if deficiency. Sodium and Potassium - Functions, sources, requirements and effects of imbalances.

**UNIT - V**

**Fat soluble Vitamins** - Vitamin A, D, E and K: Functions, requirements, sources and effects of deficiency.

**Water Soluble Vitamins** - Thiamin, riboflavin, niacin, ascorbic acid, folic acid, vitamin B6, vitamin B12: Functions, requirements, sources and effects of deficiency.

**REFERENCES**

1. Sumathi R. Mudambi, Rajagopal, M.V, Fundamentals of Foods and Nutrition, New Age International (P) Ltd, Publishers, Third Edition, 1997
2. Srilakshmi B, Nutrition Science, New Age International (P) Ltd, Publishers, 2004
3. Mangala Kango, Normal Nutrition, Curing diseases through diet, CBS Publications, First edition 2005
4. Paul. S, Text book of Bio-Nutrition, Fundamental and Management, RBSA Publishers, 2003
5. Sue Rodwell Williams, Nutrition and Diet Therapy, C.V.Melskey Co, 6th Edition, 2000
6. Swaminathan M, Essential of Food and Nutrition, Volume I & II, Bappco Publicatons, Madras, 1996

**MODEL QUESTION PAPER**

# PRINCIPLES OF NUTRITION

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all Questions (5 x 15 = 75 marks)**

1. (a) Explain the functions and sources of Carbohydrate.

(or)

(b) Define and classify Carbohydrate.

2. (a) Give Chemical & Biochemical classifications of Proteins. (or)

(b) Give the biological methods used to assess quality of protein.

3. (a) Explain the mechanism involved in maintenance of water balance in body effect of failure in maintenance of water balance.

(or)

(b) BMR determination by direct calorimetry.

4. (a) Explain hydrolysis of fat & function of water.

(or)

(b) How do you compute energy requirement by factorial method.

5. (a) Illustrate the functions of vitamins & deficiency.

(or)

(b) List the functions of vitamin A & Calcium.

# B.Sc. HOME SCIENCE
## SEMESTER - V
## CORE V - INTERIOR DECORATION

**OBJECTIVES**

To enable the students to

1. Understand elements and principles of art and design.
2. Learn to appreciate art.
3. Develop an understanding to the application of art principle in interior design.

**UNIT - I**

Importance of good taste, Elements of designline, direction, size and shape, colour & texture; Design - types and characteristics of good design. Principles of design - Harmony, Proportion balance, emphasis and rhythm.

**UNIT - II**

Colour - Qualities of colour - hue, value and Intensity; colour harmonies, prang colour system.

Advancing and Receding colours, principles in the use of colour in interiors.

**UNIT - III**

Furniture - selection and arrangement of furniture in various rooms. Use and care of furnishing material - draperies and curtains.

Lighting - types, styles and arrangement, Glare and their types.

**UNIT - IV**

Flower arrangement - Principles, Selection of vases, flowers and accessories and types.

Accessories - Types, selection, use and care of accessories.

Picture mounting - points to be considered in hanging picture.

**UNIT - V**

Landscape gardening

Type of gardens, elements of gardening.

**REFERENCES**

1. Varghese, M.A. N.N.Ogale and Srinivasan K, Home Managment, Wiley Eastern Ltd, 1992.
2. Deshpande, R.S. Modern Ideal Homes for India, UNITed Book Corporation, Pune, 1983.
3. Goldstein.M, and Goldstein, V, Art in Everyday life, Macmillan Co, New York, 1960.
4. Deshpande, R.S. Build your own home, Poona UNITed Book Corporation, 1985

**MODEL QUESTION PAPER**

# INTERIOR DECORATION

**Time: 3 Hours** **Maximum: 75 marks**

**PART-A(2X10=20)**

**Answer all the questions:**

1. Define good Taste.
2. What is rhythemic effect?
3. Differentiate hue and value.
4. What is tint and shade?
5. List any four window treatment.
6. Give short notes on Glare.
7. Mention the various type of vases used in flower arrangement.
8. Write the importance of accessories in interior.
9. What is Bonsai?
10. Give the types of stones and tiles used in gardening.

**PART - B (5 x 5 = 25 Marks)**

**Answer all the questions:**

11. (a) Give short notes on the elements of design. (or)
    (b) Write the characteristics of good structural and decorative designs.
12. (a) Write short notes on prang colour chart. (or)
    (b) Write the importance of advancing and receding colour in interiors.
13. (a) Mention the points to be kept in a mind while arranging furnitures. (or)
    (b) Give brief account on decorative lights.
14. (a) Explain the golden rules followed in mounting pictures. (or)
    (b) Differentiate decorative and functional accessories.
15. (a) Write about the Landscape of gardening. (or)
    (b) Describe the types of gardens.

**PART - C (10 x 3 = 30 Marks)**

**Answer any three out of five:**

16. Discuss in detail about the various principles of design.
17. Enumerate the Harmonies of colours.
18. Describe the various factors to be considered in the selection of furniture.
19. Explain in detail about the types of flower arrangements.
20. Write an essay on the elements of gardening.

# B.Sc. HOME SCIENCE

## SEMESTER - V & VI

## CORE PRACTICAL - IV

## INTERIOR DECORATION AND FAMILY RESOURCE MANAGEMENT

### I. INTERIOR DECORATION

1. Evaluation of objects for good and bad design.
2. Visit to various houses, parks, hotels, gardens etc., to observe the application of principles of design and report preparation.
3. Preparation of colour chart and colour schemes for different rooms.
4. Application of design principles in preparation of greeting card, menu card and poster making.
5. Making different types of flower arrangement, making furniture arrangement for various rooms.

### II. FAMILY RESOURCE MANAGEMENT

1. Preparation of a time schedule for oneself.
2. Recording of personal expenditure.
3. Preparation of a budget for one's own family.
4. A group decision making exercise.
5. Examination of labels and advertisement.

# B.Sc. HOME SCIENCE

## SEMESTER - V

## CORE VI - BASIC DIETETICS

**OBJECTIVES**

This paper will enable the students to

1. Know the principles of diet therapy.
2. Understand the modification of normal diet for therapeutic purpose.
3. Understand the role of dietitian.

**UNIT - I**

**Diet Therapy** - Definition, purpose of therapeutic diet, principles and types of hospital diet: clear fluid, full fluid, soft, light, bland and regular diet.

**Dietitian** - Types, qualities, qualification and role of dietitian in managing hospital dietary.

**UNIT - II**

**Nutritional care for weight management** - Obesity and overweight: Identification, etiology, dietary management and behavioral modifications.

**Under weight**: Etiology, assessment and dietary management.

**Nutritional care for febrile condition** - Acute, chronic and recurrent: Malaria, Typhoid and TB - Etiology, symptoms and dietary management.

**UNIT - III**

**Nutritional care for diseases of the Gastro Intestinal tract** - Gastric and duodenal ulcer, diarrhoea, constipation, mal aborption syndrome, hemorrhoids, ulcerative colitis, flatulence and steatorrhea - Etiology, symptoms and dietary management.

**UNIT - IV**

**Nutritional care for disease of liver and biliary system** - Viral hepatitis, cirrhosis of liver, cholelithiasis and cholecystitis: Etiology, symptoms and dietary management.

**UNIT - V**

**Nutritional care for deficiency disorders** - PEM, Nutritional anemia, vitamin A deficiency, Iodine deficiency, osteoporosis and osteomalacia - Etiology, symptoms and dietary management.

**REFERENCES**

1. Mahan, L.K., Arlin, M.T., Krause's Food, Nutrition and Diet Theraphy, W.B.Saunders Company, London Publication, 8th edition, 1992.
2. Robinson, C.H., Chenoweth, W.L. and Garwik, A.E. Normal and Therapeutic Nutrition, MacMillan Publishing Co., 17th edition, 1986.
3. Raheena, Begum, A textbook of Foods, Nutrition and Dietetics, Sterling Publishers, New Delhi, 2004.
4. Joshi, S.A., Nutrition and Dietetics, Tata McGraw Hill Publications, New Delhi, 2004.
5. Srilakshmi B., Dietetics, New Age International (P) Limited Publications, 2004.
6. Paul. S, Textbook of Bio-Nutrition, Curing diseases through diet, CBS publications, first edition, 2005.

**MODEL QUESTION PAPER**
**BASIC DIETETICS**

**Time: 3 Hours** **Maximum: 75 marks**

**PART - A (10 x 2 = 20 marks)**
**Answer all Questions**

1. List four foods that can be included in full fluid diet.
2. Who is a consultant dietitian?
3. Define the term obesity?
4. List the four types of fever with an example.
5. What is mal absorption syndrome?
6. Give the symptoms of ulcer.
7. What is ascities?
8. What is Jaundice?
9. What is Osteolalacia?
10. What is Goitre?

**PART - B (5 x 5 = 25 marks)**
**Answer all Questions**

11. (a) Write a short note on soft diet.

(or)

(b) Write a note on the objectives and principles of diet therapy.

12. (a) Explain the dietary management of underweight.

(or)

(b) Write a note on dietary management of malaria.

13. (a) Give the symptoms and dietary management of constipation.

(or)

(b) Write a note on steatorrhea.

14. (a) Give the causes and symptoms of viral hepatitis.

(or)

(b) Explain the dietary management of nutritional of cirrhosis of liver.

15. (a) Explain the symptoms of Vitamin -A deficiency.

(or)

(b) Explain the dietary management of nutritional anaemia.

**PART - B (5 x 5 = 25 marks)**
**Answer any three questions out of five**

16. Explain the qualities of a Dietitian and their role in a hospital.
17. Explain the dietary management of obesity.
18. Write a detail account on the etiology and dietary management of ulcer.
19. Explain in detail the symptoms and dietary management of cholelithiasis and cholecystitis.
20. Bring out the symptoms and dietary management of PEM.

## B.Sc. HOME SCIENCE

## SEMESTER - V & VI

## CORE PRACTICAL - V

## DIETETICS AND FOOD SERVICE MANAGEMENT

**A. Planning and preparation of a day's diet and calculating the nutrient content of the diet for the following conditions.**

1. Protein calory Malnutrition and anemia.
2. Fever & typhoid.
3. Underweight & obesity
4. Ulcer, Constipation and Diarrhea
5. Diabetes mellitus
6. Hypertension and Atherosclerosis
7. Jaundice, cirrhosis and Renal calculi.

**B. Standardization of at least 2 recipes in each of the following category**

1. Cereal and cereal products
2. Vegetables
3. Fruits
4. Meat, chicken and other fleshy foods
5. Sugar and jaggery
6. Milk and milk products
7. Pulses
8. Nuts and Oil seeds

# B.Sc. HOME SCIENCE
## SEMESTER - V
## CORE VII - EXTENSION EDUCATION

**OBJECTIVES**

To enable students to

1. Understand the concept of Extension Education
2. Be aware of teaching aids and programme planning

**UNIT - I**

Concept and types of Education, Meaning, Need, Types of education formal, Non formal, Adult, Continuing and Extension Education.

**UNIT - II**

Extension education - Concept, aim, Physilosophy and Principles of extension education.

Extension education and its relationship with other social sciences - Home science extension - Meaning, Objectives and role of Home science extension in national development.

**UNIT - III**

Communication and Extension. Approaches for development - Advantages, Individual, Group and mass approaches, Motivation, Methods of extension teaching, Teaching tools, Difference in methods of extension and formal education, Direct contact, demonstration method.

**UNIT - IV**

Programme planning, Meaning - principles, Development of a plan of work - Definition, Analysis of the concept, Importance and scope in Extension. Steps in Programming evaluation - Criteria for judging the plan of the work.

**UNIT - V**

Community development programme - meaning, objectives, types and Principles of community development - Programme in India - Socio - Economic Programmes - IRDP, TRYSEM, DWACRA, ICDS, Social forestry.

Community organisation - meaning, scope, role and characteristics of community organisation - women's club, youth club.

Extension Training Institution - Meaning, Need and importance, principles of training institutions KVK, RETC, NYK.

**REFERENCE:**

1. Devadas, R.P, Facts of Home science education, Rural Institute, 1988.
2. Devadas, R.P, Introduction to Home Science Coimbatore, Avainashilingam Home Science College for women, 1988.
3. Supe, S.V. An Introduction to Extension Education New Delhi, Oxford AD IBH Publishing Company, 1983.
4. Adivi reddy A, Extension Education, Andhra Pradesh, Sree Lakshmi Press, 1987.
5. Dahama OP and Bhatnagar O.P. Education and communication for development, New Delhi, Oxford IBH Publishing Company, 1985.

**MODEL QUESTION PAPER**

# EXTENSION EDUCATION

**PART - A (2 X 10 = 20 marks)**

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all the Questions:**

1. Define Extension education
2. What is the purpose of Extension education?
3. Write importance of home science extension.
4. Mention the relationship of social sciences.
5. Give the importance of motivation.
6. List the teaching tools in Education.
7. Define planning.
8. Write the criteria for judging a plan.
9. Expand TRYSEM and DWACRA.
10. Give the scope of community organisation.

**PART - B (5 X 5 = 25 marks)**

**Answer All The Questions**

11. (a) Give short notes on the concept of extension education. (or)
    (b) Write on the importance of Adult education.
12. (a) Brief notes on objectives and role of Home science extension in National development. (or)
    (b) Discuss the concept and aim of extension education.
13. (a) Bring out the methods of extension teaching. (or)
(b) Write the importance of satellite in communication.
14. (a) Develop a plan of work for a child development programme. (or)
(b) Enumerate on the various approaches and advantages in communication process.
15. (a) Write the principles of community development. (or)
(b) Discuss the role and characteristics of women's club and youth club.

**PART - C (3 X 10 = 30 marks)**

**Answer any three of out five questions:**

16. Elaborate the types of education with example.
17. Give the principles involved in Extension Education.
18. State the importance of Audio visual aids in communication process and their types.
19. Write the steps in programme evaluation.
20. Describe the community development programme ICDS and TYCSEM.

# B.Sc. HOME SCIENCE

## SEMESTER - V

## ELECTIVE PAPER - I

## COMMUNITY NUTRITION

**OBJECTIVES**

To enable the students to

1. Understand the nutritional problems prevailing in our country and their causes.
2. Develop knowledge on implementation of various Government policies and programms to prevent various deficiency disorders.

**UNIT - I**

**Community Nutrition** - Definition, ecology of malnutrition: Dietary factors, economic factors, socio cultural factor and environmental factors; vicisious and virtuous cycle of malnutrition; Definition : IMR and MMR.

**UNIT -II**

**Assessment of nutritional status** - Assessment of nutritional status in a community - direct and indirect methods, their merits and demerits.

**UNIT - III**

**Nutrition education** - Meaning, objectives, types and methods; Principles of planning, execution and evaluation of nutrition education programme; Merits and limitations.

**UNIT - IV**

**Role of National and International organizations to improve the nutritional status of people** - ICAR, ICMR, NIN, CFTRI, FAO, WHO, UNICEF and NNMB.

**UNIT - V**

**Nutrition intervention programmes** - Schemes and programs for various nutritional problems in India: Prophylaxis programs, Midday meal program, SNP and ICDS - Objectives and services.

**REFERENCES**

1. **Agarwal A.N,** Indian Economy, Problems of development and planning, Publicaions, 1981.
2. **Park J.E. and Park K**. Text book of preventive and social medicine, Publications, 1984.
3. **B. Srilakshmi**, Nutrition Science New Age International (CP) Ltd, New Delhi, 2002.
4. **Mahtab, S. Bamji, N. Pralhad Rao, Vinothini Reddy**, Text book of Human Nutrition, Oxford and IBIT Publishing Co Pvt. Ltd, New Delhi
5. **Shukla, P.K.,** Nutritional problems of India, 1982.

**MODEL QUESTION PAPER**

# COMMUNITY NUTRITION

**Time: 3 Hours** **Maximum: 75 marks**

**PART - A (10 X 2 = 20 marks)**

**Answer all the questions**

1. Define community Nutrition.
2. Define malnutrition.
3. How will you assess the nutritional status of preschool children?
4. What are the advantages of diet survey?
5. What is skeletal fluorosis?
6. Bring out the importance of Iodine.
7. What does CARE provide?
8. Write the objectives of ICMR.
9. Write the objectives of prophylaxis program.
10. Write the objectives of ICDS.

**PART - B (5 X 5 = 25 marks)**

**Answer All the Questions**

11. (a) Write the concept of community nutrition. (or)
    (b) Write the causes of malnutrition.
12. (a) Bring out the importance of assessment of nutritional status. (or)
    (b) What are the advantages of clinical assessment?
13. (a) Give a brief account of fluorosis. (or)
    (b) What dietary modification you would suggest to control anemia?
14. (a) Give a brief account of FAO (or)
    (b) Analyze the success of the UNICEF in Tamilnadu.
15. (a) Write an account of Vitamin A Prophylaxis programme. (or)
    (b) Write a note on Mid day meal program for school children.

**PART - C ( 3x 10 = 30 marks)**

**Answer any three of out five questions:**

16. Comment on the concept that "the community has a direct responsibility for the health of individual".
17. Describe the anthropometric indices used in nutritional survey and their importance.
18. With reference to preschool age children explain the prevalence of protein energy malnutrition and explain the preventive processes available.
19. Discuss the role of international agencies in promoting nutrition education.
20. Elaborate on the contribution of the ICDS program for the improvement of the nutritional status.

# B.Sc. HOME SCIENCE
## SEMESTER - V
## SBEC III - HEALTH AND FITNESS

**OBJECTIVES**

To enable the students to

1. Learn about the terms related to health and fitness
2. Comprehend the interaction between fitness and nutrition

**UNIT - I**

**Health** - Concept of Health, changing concepts, definitions of health, dimensions of health, concept of well being and spectrum of health, determinants of health, right to health, responsibility for health and indicators of health.

**UNIT - II**

**Exercise and Health related fitness** - Health related fitness, health promotion and physical activity for health benefits.

**Sports related fitness** - Role of nutrition in sports and nutrition to atheletic performance.

**UNIT - III**

**Body weight and composition for Health and Sports** - Ideal body weight, values and limitations of the BMI, composition of the body; Diet during training, prior to competition, during and after competition; dietary supplements for athletes.

**UNIT - IV**

**Exercise performance** - Energy expenditure during physical activity, carbohydrate metabolism and performance, fat metabolism and performance, effect of exercise

**UNIT - V**

**Exercise programmes** - Resistance exercise training, aerobic exercise, types of exercise, effective weight control - dieting or exercise; weight reduction programme for young athletes.

**REFERENCES**

1. **K. park**, Text book of preventive and social medicine, 15th edition, MIS Banarsidas Bhano Publishers, Jabalpur, 1997.
2. **Melvin H. Williams**, Nutrition for Health, fitness and Sports, 7th edition, McGraw Hill International Edition, 2005.
3. **Michael J.Glbney**, Ian Macdonald and Helen M.Roche, Nutrition and metabolism, Blackwell Publishing Company, Bangalore, Reprint 2004.

**MODEL QUESTION PAPER**

# HEALTH AND FITNESS

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all Questions**

**(5 x 15 = 75 marks)**

1. (a) Explain the concept of health and dimensions of health.

(or)

(b) What are the indicators of health?

2. (a) Explain the role of physical activity in health.

(or)

(b) Bring out the role of nutrition in improving sports performance.

3. (a) Explain BMI and body composition.

(or)

(b) Explain the type of diet recommended during training and prior to competition.

4. (a) Elaborate on the energy expenditure and carbohydrate metabolism during physical activity (or)

(b) Elaborate on the effect of exercise on protein requirement and sports performance.

5. (a) Enumerate the types of exercise.

(or)

(b) Explain the weight reduction programs for young athletes.

# B.Sc. HOME SCIENCE

## SEMESTER - VI

## CORE VIII - DIET THERAPY AND COUNSELING

**OBJECTIVES**

To enable the students to

1. Understand the role of dietitian in preventive, promotive and curative health care.
2. Make appropriate dietary modifications for various disease conditions and counsel the patient based on the patho physiology.

**UNIT - I**

**Nutritional care for metabolic disorders** - Diabetes mellitus: Types, etilogy, symptoms, metabolic changes and dietary management.

Gout, phenyl ketonuria, lactose intolerance, hypo and hyper thyroidism - Causes, symptoms and dietary management.

**UNIT - II**

**Nutritional care for diseases of Cardiovascular systems** - Hypertension, hyperlipidaemia, atherosclerosis, coronary heart disease, congestive heart failure: Etiology, symptoms and dietary management. Relationship between dietary fat and development of cardiovascular diseases.

**UNIT - III**

**Nutritional care for diseases of Kidney and urinary tract** - Nephritis, nephrotic syndrome, nephrolithiasis, renal failure: Etiology, symptoms, dietary management and renal dialysis.

**Nutritional care for Cancer and AIDS.**

**UNIT - IV**

**Food Allergy** - Diagnosis and treatment.

**Surgery, trauma and burns** - Physiological changes, nutritional care and management. Use of food exchange list in diet planning.

**UNIT - V**

**Patient education and counseling** - Assessment of patient needs, establishing rapport, counseling techniques, resources and aids to counseling.

**REFERENCES**

1. **Antia, F.P.,** Clinical Dietetics and Nutrition, Oxford University Press, Delhi, 2001.
2. **Mahan, L.K., Arlin, M.T., Krause's** Food, Nutrition and Diet Theraphy. W.B. Saunders Company, London, 8th edition, 1992.
3. **Williams, S.R.** Nutrition and Diet therapy, Times Mirror/ Mosby College Publishers, New Delhi, 1989.
4. **Raheena Begum,** A Text book of Foods, Nutrition and Dietetics, Sterling Publishers, New Delhi, 1989.
5. **Joshi, S.A.** Nutrition and Dietetics, Tata McGraw Hill Publications, New Delhi, 1992.
6. **Srilakshmi. B.,** Dietetics, New Age Private Limited Publisher, 2002.
7. **Deve, indu**, The basic essentials of counseling, Sterling Publishers Pvt Ltd. New Delhi, 1984.
8. **Barki, B.C., Mukhopadhyay, B.,** Guidence and counseling, A manual, Sterling Publishers Pvt. ltd. New Delhi, 1989.

**MODEL QUESTION PAPER**

# DIET THERAPY AND COUNSELING

**Time: 3 Hours** **Maximum: 75 marks**

**PART - A (10 X 2 = 20 marks)**

**Answer all Questions**

1. What are the symptoms of Jaundice?
2. What is fatty liver?
3. Mention the food to be avoided while planning diet for hypertension.
4. What are the symptoms of Atherosclerosis?
5. What are the causes of nephrotic syndrome?
6. List out the foods to be avoided for the patients suffering from nephritis.
7. Define food allergy.
8. Expand AIDS.
9. What should a person with burns include in his diet?
10. What is meant by post operative care?

**PART - B (5 X 5 = 25 marks)**

**Answer all Questions**

11. (a) Give the dietary management of cholelithiasis. (or)
    (b) Mention the causes of viral hepatitis.
12. (a) What should be the dietary adjustment in heart failure? (or)
    (b) Suggest dietary modification for a person suffering from hyperlipidemia.
13. (a) What is the sequence of events which lead to nephritic syndromes? (or)
    (b) Write on the diets to be avoided and included in nephrolithiasis
14. (a) Give an account of nutrition support in cancer. (or)
    (b) Explain the diagnosis of allergy.
15. (a) Explain the physiological changes of surgery. (or)
    (b) Explain the physiological changes of burns.

**PART - C (3 X 10= 30 marks)**

**Answer any three out of five**

16. Give the definition, etiology and dietary management of cirrhosis.
17. What is atherosclerosis? Explain the dietary modification for this disease.
18. Give the dietary management of dialysis.
19. List the major considerations in dietary management of AIDS. Give a sample diet for the condition.
20. Describe the nutritional management for burns.

# B.Sc. HOME SCIENCE

## SEMESTER - VI

## ELECTIVE PAPER - II

## FAMILY RESOURCE MANAGEMENT

**OBJECTIVES**

To help students.

1. Understand the managerial principles and apply this in the personal and family situations.
2. Recognize the value of resources and their usage.

**UNIT - I**

**Management** - Meaning, scope, managerial concepts - values, goals and standards. Resources - classification of family resources.

**UNIT - II**

Decision making - individual and group, habitual and conscious decisions. steps in decision making, methods of resolving conflicts in daily management.

**UNIT - III**

**Time:** Importance of time guidelines in planning time, schedule

**Energy:** Its importance, fatigue - types and ways of overcoming fatigue. Work simplification - techniques.

Labour saving devices - meaning.

**UNIT - IV**

**Management Process** - Planning, controlling and evaluation

Family income - types, sources - Family budgets - meaning, steps in planning a family budget, advantages of budgeting, factors influencing family budgets.

Financial records -meaning and purpose

**UNIT - V**

**Home maker** - Qualities of home maker

Family Resource Management - meaning, scope its relevance to other disciplines in home science.

**REFERENCES:**

1. Dewett etal, Elements of economics. New Delhi chand and Co, Ltd., 1987.
2. Educational planning group, Home Management New Delhi, Arya Publishing House, 1987.
3. Mariamme Varghuse and nation ogale, Home Management.
4. Gross IH, grandall and Knoll Management for modern Filics Bentice Hall, Inc London 1980.
5. Mann, M. Home Management for Indian Families, New Delhi: Kalyani Publishers, 1976.

**MODEL QUESTION PAPER**

# FAMILY RESOURCE MANAGEMENT

**Time: 3 Hours** **Maximum: 75 marks**

**PART - A (10 x 2 = 20 marks)**

**Answer all the Questions**

1. Define Value.
2. List the types of decision making.
3. What is Schedule?
4. Write the causes of fatigue.
5. Define budget.
6. Write the uses of budget in money management.
7. What is cost of living?
8. Define standards.
9. Give the importance of Consumer Education.
10. List the material resources.

**PART - B (5 x 5 = 25 marks)**

**Answer all the questions**

11. (a) How can we resolve the conflicts? (or)
    (b) Classify the resources.
12. (a) Write the tools of Time Management. (or)
    (b) Discuss on the types of fatigue and ways of overcoming.
13. (a) Write the steps involved in Budget making. (or)
    (b) What are the factors influencing family budget.
14. (a) Write short notes on the standard of living and their impact on family budget. (or)
    (b) Give the scope for family resource management
15. (a) Write the elements used in consumer education. (or)
    (b) How can we create awareness to a home maker as a consumer?

**PART - C (5 x 5 = 25 marks)**

**Answer any three questions out of five**

16. Enumerate the steps involved in Decision making.
17. Discuss in detail about work simplification techniques.
18. Write the Management Process in detail.
19. Bring out the important qualities of a best Home maker.
20. Describe the importance of Time and Energy Management in day to day life.

# B.Sc. HOME SCIENCE

## SEMESTER - VI

## ELECTIVE PAPER - III - FOOD SERVICE MANAGEMENT

**OBJECTIVES**

To enable students

1. With the knowledge of various facts of functioning of food service institutions
2. With the necessary knowledge to become an efficient manager.

**UNIT- I**

**Catering industry** - Definition of catering. Classification of food service institutions according to

a) Function: Profit oriented, service oriented and public health facility oriented.

b) Processing method: Conventional system, commissary system and fast food service systems.

c) Service of food: Self service, tray and waiter - waitress service.

**UNIT - II**

**Floor planning and layout** - Characteristics of typical food service facilities.

**Plan of work areas** - Receiving, storing, food preparation, cooking, serving, dining, dishwashing, pot and pan washing and garbage disposal: flow space relationship. Working heights and dimensions of work centers.

**Equipment** - Classification, factors involved in selection, use and care of major equipment.

**UNIT - III**

Quantity food preparation - Selection, purchasing methods and storage of foods.

**Menu planning** - Definition, principles involved in planning and types of menus.

**Standardization of recipe** - Definition, standard recipe format and uses.

**Standard portion sizes** - Definition, portioning equipments and portion control.

**Use of left over foods.**

**UNIT - IV**

**Management**- Definition, principles and techniques of effective management. Tools of management - Organization chart, work study and work improvement. Use of computers in food service establishments.

**UNIT - V**

**Financial management** - Methods of selection, orientation, training, supervision and motivation of employees.

**REFERENCES**

1. Sethi, M. and Matha, S. Catering Management - An Integrated approach, wiley Eastern Ltd., New Delhi, II Edition 1993.
2. Branson, J.C and Lennon, M.Hotel, Hostel and Hospital Housekeeping, EiLBS (Publication) V Edition 1992.
3. Palacio, J.P. Harger, V., Shugart. G. And Theis, M. West's Introduction to food service, MacMillan Publication Co., New York, XXVII Edition, 1944.
4. Kotschevar, L.H. and Teerell, M.E., Food service planning, Layout and Equipment, MacMillan Publication Co., New York, III Edition, 1985.
5. Splaver, B.R. Successful Carering, Van Norstrand Reinhold, New York, III Edition, 1985.
6. Kinton, R and Cesarani, V., The Theory of Catering ELBS, VII Edition, 1992.
7. Lillicap, D.R and Cousions, J.A. Food and Beverage Service, ELBS, IV Edition, 1994.
8. Maris, M, McGreery, C and Brighton, R. Introduction to catering, Blackwill Scientific Publicatons, London, 1993.
9. Delfakis, H. Scanion, W.C. and Van Burch, J.B. Food Service Management, South Western Publication Co., Cincinatti, Ohio, 1992.
10. Cracknell, H.C. and Nobis, G. Mastering Restaurant Service, MacMillan Master Service, Macmillan Education Ltd, (Pub) London, 1989.

**MODEL QUESTION PAPER**

**FOOD SERVICE MANAGEMENT**

**Time: 3 Hours** **Maximum: 75 marks**

**PART - A (10 x 2 = 20 marks)**

**Answer all Questions**

1. What is management? List the management functions.
2. What do you mean by grapevine communication?
3. How will you store semi-perishable and perishable foods?
4. What is USDA and FDA? When are they started?
5. What are AP and EP? How will you calculate EP?
6. What is menu planning?
7. What are the two classes of Indian cuisine?
8. Enumerate various aspects for assessing the hygiene and sanitation.
9. What is entrepreneurship?
10. What are CPU, Hardware and Software?

**PART - B (5 x 5 = 25 marks)**

**Answer all Questions**

11. (a) How hotels are classified? Explain with examples. (or)
    (b) What is HM-HDPE containers? Discuss the advantages of polyethylene containers.
12. (a) Discuss some of the common methods of informal buying. (or)
    (b) List any four advantages of double entry system.
13. (a) What is standard recipe? Highlight its objective. (or)
    (b) What are the different types of portion control equipment? Give some examples for standard serving portions of some dishes.
14. (a) What are the safeguard measures will you suggest to maintain personal hygiene? (or)
    (b) why are fast food service operations referred to as "fast"? List one recent development that you have observed in fast food service.
15. (a) What are the functions of entrepreneur? (or)
    (b) What are items should be computerized?

**PART - C (5 x 5 = 25 marks)**

**Answer any three questions out of five**

16. How equipments are classified? Give examples for each and list schedule for care of equipment.
17. Discuss the types of storages to be adopted for different food groups.
18. Why is receiving as a function given utmost important and how raw materials are received?
19. What is table service? Explain any five types of table service.
20. In what way entrepreneur precedes manager?

# B.Sc. HOME SCIENCE

## SEMESTER - VI

## SBEC IV - HUMAN DEVELOPMENT

**OBJECTIVES**

To develop in students

1. An understanding of the Physical, Psychological and Social development of the individual from infancy to adulthood so that can be guided effectively
2. Skills in achieving positive human relationships
3. A positive attitude towards understanding and applying scientific aspects behind human development.

**UNIT - I**

How life begins - Conception, stages of pregnancy, parental developmental care of the expectant woman, discomforts during their implications.

Growth and development of Children - Principles of development. Factors that influence development.

**UNIT - II**

Infancy - Physical, motor, social and emotional development. Vocalisation activities, Care of infant, immunization.

Early Childhood - Physical, Motor, intellectual, social and emotional development.

Late childhood - Physical, Motor, intellectual, social and emotional development. Minor ailments.

**UNIT - III**

Adolescence - Physical, emotional, social and intellectual development problems in children.

**UNIT - IV**

Play - Definition, types, theories and values. Learning - Definition, types-trial and error, insight, conditions, imitation. Factors affecting learning. Maturation and learning. Discipline - Meaning, disciplinary techniques, guidelines for inculcating discipline in children.

**UNIT - V**

Methods of child study - case study, observation, experimental methods, Projective techniques and clinical approach.

Behavior problems - meaning, causes and prevention - Hurts other children, Destroy things, uses languages, thumb sucking, bedwetting, masturbation, refusal to eat, lying and stealing.

Exceptional children - Physical and mental handicaps. Crippled mental retardation, gifted children.

**REFERENCES**

1 Hurlock, E.B, Child Development, McGraw Hill, New York 1988.

2 Hurlock, E.B, Development Psychology, A life span approach, New Delhi: Tata McGraw Hill Publishing Company, 1989.

3 Devadas, R.P. and Jaya. N. Text book of child development, McMullan and Co.,1981.

4. Harris J.R. & Liebut, R.M, The Child, New Jersey: Prentice Hall, 1987

5. Jaya N, Low cost play equipment for children, Saradalaya Press, Sri Avinashilingam Education Trust, Coimbatore.

**MODEL QUESTION PAPER**

# HUMAN DEVELOPMENT

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all Questions (5 x 15 = 75 marks)**

1. (a) Enumerate the stages of pregnancy.

(or)

(b) Elaborate the principles of development and factors influenced.

2. (a) Write a note on the growth and development of late childhood. (or)

(b) Discuss the motor intellectual and emotional & social development of early childhood.

3. (a) Explain the problems faced in adolescence stage.

(or)

(b) Write the problems faced by exceptional children.

4. (a) State the types, theories and values of play.

(or)

(b) Give the guidelines for inculcating discipline of child study.

5. (a) Discuss the various behavior problems, causes and prevention. (or)

(b) Bring out the projective techniques in child study.

# B.Sc. HOME SCIENCE

## SEMESTER - VI

## SBEC V - FAMILY FINANCE AND HOUSING

**OBJECTIVES**

1. To help the students to select comfortable and convenient house for a family.
2. To know the rights and responsibilities of a consumer.

**UNIT - I**

**Introduction to Home Economic:** Indian standard of living - ways to improve the standard of living in India.

**Human wants:** Nature and classification, the concept of marginal utility, principles of equi-marginal utility, law of diminishing marginal utility.

**UNIT - II**

**Family income and expenditure:** Types of Income, Methods of handling family income, Family budget, Engle's laws of consumption, Home account maintenance, Institutions for family saving.

**Household purchases**: Functions of money, Rise in prices and methods used to curb it in India, when and how to purchase.

**UNIT - III**

**Consumer Protection:** Consumerism - Need for consumer protection, Right of a consumer, Methods adopted to provide consumer protections.

**The main Indian Taxes:** The influence of taxes on willingness to work and save.

**UNIT -IV**

**House Planning:** Selection of a site, Principles involved in planning a good house, plans for different income groups namely low, middle and high. Housing finance - Financial consideration in housing, Source of finance Government and other agencies Co-operative Banks, Nationalized Banks, Housing Board and NGO

**UNIT - V**

**House and its services:** Lighting in home, importance, types of lights, lighting requirements for various rooms, selection of lamp shades.

**Major Labour Saving devices:** Selection, use and care of washing machines - Vacuum cleaner, refrigerator and mixer.

**REFERENCES:**

1. Deshpande K.S. - "Modern Ideal Homes for India", United Book Corporation, Pune, 1983.
2. Nickell P and Dorsey, J.M. "Management on Family Living", John Wiley and sons, 1978.
3. Despande, R.S. "Build your own home", United Book Corporation, Pune, 1983.
4. Agan, J. "The house and its plan and use" J.P. Lippen Cott and Co, New York, 1970.
5. Mitra K.J, "Economic Micro-Macro" the Work Press Private Ltd., Calcutta, 1975.
6. Dutt R and Sundaram K.P.M, "Indian Economy" S.Chand and Co. Ltd., New Delhi, 1976.
7. Sundaram K.P. and Vaish M.L. "Principles of Economics" Prakasham Mandir, Agra - 3, 1975.
8. Devadas R.P, "Text Book of Home Science", Directorate of Extension, Ministry of Food and Agricultire, New Delhi, 1969.

**MODEL QUESTION PAPER**

# FAMILY FINANCE AND HOUSING

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all Questions (5 x 15 = 75 marks)**

1. (a) Discuss the nature and classification of human wants.

(or)

(b) State the principles of equi-marginal utility and law of diminishing marginal utility.

2. (a) Bring out the methods of handling family income and write a note on Engle's laws of consumption. (or)

(b) Elaborate the various institutions for family saving.

3. (a) Describe the methods adopted to provide consumer protection.

(or)

(b) Discuss on the function of money and rights of a consumer.

4. (a) Explain the role of Government agencies in housing finance. (or)

(b) Describe the major principles involved in planning a good house and draw a house plan for middle income.

5. (a) Enumerate the factors to be considered while selecting a major labour saving device.

(or)

(b) Give short notes in the uses and care of labour saving devices.

## B.Sc. HOME SCIENCE

## SEMESTER - VI

## SBECP I - FOOD PRESERVATION AND BAKERY (PRACTICAL)

- Preparation of Jam, Jelly and Marmalade.
- Preparation of Fruit Juices and Squash.
- Preparation of Pickles.
- Preparation of Fruit preserves - Tuity Fruity (Papaya), Petha (White Pumpkin and Ginger Murabha (Ginger)
- Preparation of Vathal and Vadagam.
- Preparation of bread, cakes, cookies and pastry.
- Preparation of sandwiches and desserts.

# B.Sc. HOME SCIENCE

## COURSES OFFERED BY THE DEPARTMENT OF HOME SCIENCE

## ALLIED PAPER - I

## FOOD SCIENCE

**OBJECTIVES**

To enable the students to

1. Understand the principles of food science
2. Learn the composition of various foods.

**UNIT - I**

**Introduction to Food Science:**

Functions of food, food groups, food exchange system, food in relation to health.

**UNIT - II**

**Properties of Foods:**

Physical properties: Solution, vapour pressure, boiling point, freezing point osmotic pressure, viscosity, surface and interfacial tensions, specific gravity.

**Acids, Bases and Buffers:**

Acids and bases in foods, concept of acids and bases, buffers.

**UNIT - III**

**Chemical bond:**

Octet rule, ionic bond, covalent bond, polar and non polar molecules, hydrogen bond.

**Food Colloids:**

| | | |
|---|---|---|
| Sol | : | Properties, Functions |
| Gel | : | Properties, Structure |
| Emulsion | : | Classification, properties, formulation of emulsion, stability of emulsions. |
| Foam | : | Characteristics, formation of foam, foam stability, factors affecting foam formation |

**UNIT - IV**

**Fats and other lipids:**

Occurrence in foods and composition physical and chemical properties of facts and oils, reactions of facts, phospholipids, lipids in foods

Fatty acid - Classification, Functions.

**UNIT -V**

**Carbohydrates:**

Monosaccharide:- Structure, properties, derivatives, functions of sugars in and Pectic Substances, Changes of Carbohydrates on cooking, Food sources.

**REFERENCES:**

1. **N.Shakuntla Manay, M.Shadeksrawamy**, Foods Facts and principles, 2nd edition, New Age international (P) Ltd, 2001.
2. **B. Srilakshmi**, Food Science 3rd edition, New Age international (P) Ltd, Reprint 2006.
3. **M. Swaminathan**, Food Science, Chemistry and Experimental foods, The Bangalore printing and Publishing Co Ltd, Reprint 2001.
4. **L. Llian Hoagland Meger**, Food Chemistry CBS Publishers and Distributors, reprint 2004.
5. **Norman. N.Potter**, Joseph. H. Hotchkiss, Food Science, CBS Publishers 1996.

# B.Sc. HOME SCIENCE

## ALLIED PAPER - II

## FOOD SCIENCE - II

**OBJECTIVES**

To enable the students to

1. Understand the role of food science
2. Develop competence to carryout investigations in food science

**UNIT - I**

**Proteins in foods:** Chemical and Physical properties, protein structure, theories of gel formation, gelatin, food protein, nontraditional proteins, Nutritional importance, food sources.

**UNIT - II**

**Water:** Water content in foods, role in food preparation.

**Composition and nutritive values:** Rice, Wheat, Rice bran, wheat gram, wheat bread, Ragi, Maize, Barley, Varagu.

**Pulses and Nuts and Oil Seeds**: Nutritive value, germination and toxicity, Nutritive values of fleshy foods and milk and milk products.

**UNIT - III**

**Spices and condiments**: - General functions

Medicinal values - Ajwain, aniseed, asafetida, chilies, cardamom, clove, coriander seed, cumin seed, fenugreek, garlic, mint, onion, mustard, turmeric and pepper.

**Fortification of foods:** cereals and cereal products, dairy products, hydrogenated facts, special dietary foods.

**UNIT - IV**

**Enzymes in Food processing:-** Baking industries carbohydrates, diary industry, fruit products, wine industry.

**UNIT - V**

**Food technology and future foods:** Biotechnology in food, biofortification, nutraceuticals, organic foods, low cost nutrient supplement, space food, packaging of food, nutrition labeling.

Pigments in foods - Chlorophyll, carotenoids, Flavanoids, myoglobin

Effects if cooking in various nutrients - carbohydrates, facts, proteins, vitamins & minerals.

Food Adulteration & hygiene - Definition, common adulterants in different foods contamination and harmful micro organisms.

**REFERENCES**

1. **N.Shakuntala Manay, M.Shadaksraswamy**, Foods facts and principles, 2nd edition, New Age International (P) Ltd, 2001.
2. **B. Srilakshmi**, Food Science, 3rd edition, New Age International (P) Ltd, reprint 2006.
3. **M. Swaminathan**, Food Science, Chemistry and Experimental foods, The Bangalore printing and Publishing Co Ltd, Reprint 2001.
4. **L. Llian Hoagland Meger**, Food Chemistry CBS Publishers and Distributors, reprint 2004.
5. **Norman. N.Potter**, **Joseph. H. Hotchkiss**, Food Science, CBS Publishers 1996.

## B.Sc. HOME SCIENCE

## ALLIED PRACTICAL - I

## FOOD ANALYSIS PRACTICAL

1. Determination of fiber, moisture and ash content.
2. Estimation of Iron, phosphorus, calcium and vitamin C.
3. Tests for adulterants.
4. Demonstration experiments.

   i) Iodine value, saponification value and acid number of oil.

   ii) Estimation of total nitrogen in foods.

# B.Sc. HOME SCIENCE
## ALLIED PAPER - I
## HUMAN NUTRITION - I

**OBJECTIVES**

To enable the student to

1. Understand the role of macronutrients.
2. The basic metabolism of macronutrients.

**UNIT - I**

Introduction to Human Nutrition: Orientation to human nutrition, an integrated approach, a conceptional framework for the study of nutrition, relationship between nutrition and health, nutrient, nutrient: the basics, global malnutrition.

RDA - meaning, RDA of nutrients for different age groups.

**UNIT - II**

Energy Metabolism: Introduction, measurement of food energy, energy intake and expenditure, measurement of energy expenditure, energy requirements, maintenance of body weight, excess energy intake and food sources of energy.

**UNIT - III**

Proteins and Amino acids: Introduction composition, classification, functions, food sources of protein, digestion, absorption, essential amino acid, protein deficiency.

**UNIT - IV**

Carbohydrates: Introduction composition, classification, functions, food sources, digestion, absorption, utilization of blood sugar, dietary

Fiber: Classification, sources, role in health and diseases.

**UNIT - V**

Fats and other lipids: Introduction composition, classification, functions, food sources, digestion, absorption, essential fatty acids, diet and heart ailments: effect of diet in plasma cholesterol, plasma triglycerides.

**REFERENCES**

1. Sumati R.Mudambi, M.V. Raja gopal - Fundamentals of Foods and Nutrition, 4th edition, New Age International (P) Limited, Publishers, 2001.
2. Mangala Kargo - Normal nutrition Fundamentals and Management, RBSA Publishers, 2003.
3. Michael J. Gibney, Hester H. Vorster and Frans J. kok - Introduction to Human Nutrition, Blackwell Publishing, 2003.
4. B.Srilakshmi - Nutrition Science, New Age International (P) Limited, Publishers, 2002.

# B.Sc. HOME SCIENCE
# ALLIED PAPER - I
# HUMAN NUTRITION - II

**OBJECTIVES**

To enable the student to

1. Understand the role of micronutrients.
2. Develop competence to carry out investigations in nutrition.

**UNIT - I**

Fat Soluble Vitamins: Vitamins A, D, E, K - Functions, food sources, recommended daily allowances, effect of deficiency.

**UNIT - II**

Water Soluble Vitamins: Vitamins B complex - Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Vitamin $B_{12}$ and Vitamin C: Functions, food sources, recommended daily allowances, effect of deficiency.

**UNIT - III**

Minerals: Introduction, nature and composition, general functions of minerals, Absorption of minerals. Calcium, Phosphorus, Iron, Iodine, Zinc

Fluoride: Functions, food sources, requirements, effect of deficiency.

**UNIT - IV**

Water and Electrolytes:

Water - Body composition, functions, water balance, food sources, requirement, problems of dehydration and edema.

Electrolytes: Sodium, Potassium - Functions, food sources, requirements utilization, effects of deficiency and excess.

**UNIT - V**

Food guides for selecting an adequate diet: Introduction development of a food guides basic five groups, Food exchange lists, use of the food guide in meal planning and evaluation. Fortification, enrichments, functional foods, phytochemicals.

**REFERENCES**

1. Sumati R. Mudambi, M.V. Raja gopal - Fundamentals of Foods and Nutrition, 4th edition, New Age International (P) Limited, Publishers, 2001.
2. Mangala Kargo - Normal Nutrition Fundamentals and Management, RBSA Publishers, 2003.
3. Michael J. Gibney, Haster H, Vorster and Frans J. Kok - Introduction to Human Nutrition, Blackwell Publishing, 2003.
4. B.Srilakshmi - Nutrition Science, New Age International (P) Limited, Publishers, 2002.

## B.Sc. HOME SCIENCE

## ALLIED PRACTICAL - I

## CLINICAL NUTRITION PRACTICAL

**Practical: 3 Hours**

1. Determination of urinary phosphorus, calcium, urea, ascorbic acid and creatinine.
2. Estimation of cholesterol, Iron, Hemoglobin, glucose and Phospholipids.

# B.Sc. HOME SCIENCE
# NON MAJOR ELECTIVE COURSES (NMEC)
# SEMESTER - III
# NMEC I - BASIC FOOD SCIENCE

**OBJECTIVES**

To enable the students to

1. Learn the composition of various foods.
2. Study the effects of cooking on nutritive value.

**UNIT - I**

Introduction to Food Science - Functions of food; food guide based on basic five groups, cooking - objectives and methods.

**UNIT - I**

**Cereals** - Composition and nutritive value of rice and wheat. Best method of cooking, loss of nutrients during cooking; Advantages of par boiling.

**UNIT - III**

**Pulses -** Composition, nutritive value, best method of cooking, loss of nutrients during cooking; germination and its advantages.

**UNIT - IV**

**Vegetables -** Classification, nutritive value, loss of nutrients during cooking and methods of reducing nutrient loss during cooking.

**UNIT - V**

**Fruits -** Classification, nutritive value and changes during ripening.

Fleshy foods - Meat, fish, egg and milk: Nutritive value.

**REFERENCES**

1. **Sumati R. Mudambi, Shalini M. Rao, M.V. Rajagopal** - Food Science, revised second edition, New Age International (P) Limited, Publishers, New Delhi, reprint - 2006.
2. **N. Swaminathan** - Food Science and Experimental foods, The Bangalore Printing and Publishing Co. Ltd. Bangalore, 1992.
3. **B. Srilakshmi** - Food Science, New Age International (P) Limited, Publishers, New Delhi, reprint - 2006.
4. **N. Shakuntala Manay, M. Shadaksharaswamy** - Foods Facts and Principles, 2nd edition, New Age International (P) Limited, Publishers, New Delhi, reprint - 2005.

# MODEL QUESTION PAPER
## NMEC - 1
## BASIC FOOD SCIENCE

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all the questions**

**(5 x 15 = 75)**

1. (a) Explain basic five grouping.

(or)

(b) Explain any three methods of cooking.

2. (a) Write the nutritive value of rice and wheat.

(or)

(b) Elaborate the advantages of parboiling.

3. (a) Give the nutritive value of pulses and their loss during cooking. (or)

(b) Explain the process of germination and its advantages.

4. (a) Write the classification and nutritive value of vegetables.

(or)

(b) Which nutrients are lost during cooking of vegetables? Give suggestions to reduce nutrient loss during cooking.

5. (a) What are the changes that occur in fruits during ripening?

(or)

(b) Write the nutritive value of milk and egg.

# B.Sc. HOME SCIENCE

## SEMESTER - IV

## NMEC II - BASIC NUTRITION

**OBJECTIVES**

To enable the students to

1. Understand the principles of nutrition
2. Learn about the nutrient and deficiency

**UNIT - I**

**Carbohydrate** - Classification, functions, blood sugar regulation and sources, importance and sources of fiber.

Energy: Definition, Units for measuring energy, Energy value of foods and RDA.

**UNIT - II**

**Lipids** - Composition, classification, functions and sources. Role of lipids in causing heart diseases.

**UNIT - III**

**Protein -** Composition, classification (nutritional and biological) functions, sources and RDA.

**UNIT - IV**

**Minerals**

**Calcium, Phosphorus, Iron, Zinc and Iodine** - Functions, sources, requirement and effect of deficiency.

**UNIT - V**

**Vitamins**

**Vitamin A, D, E, K, B1, B2 & Vitamin C** - Functions, sources, requirement and effect of deficiency.

**REFERENCES**

1. **Mangala Kango** - Normal Nutritin (Fundamental & Management) RBSA Publishers, S.M.S Highway, Jaipur - 302003 L, 2003.
2. **M. Raheena Begum** - Text book of Foods, Nutrition and Dietetics, 2nd revised edition, Sterling Publishers Private Ltd, New Delhi, 2005.
3. **B. Srilakshmi** - Nutrition Science, New Age International (P) Ltd, New Delhi, 2002.
4. Mahtab S. Bamji, N. Pralhad Rao, Vinothini Reddy - Text book of Human Nutrition, Oxford and IBH Publishing Co. Pvt. Ltd, New Delhi, Reprint 1999.

**MODEL QUESTION PAPER**
**NMEC - II**
# BASIC NUTRITION

**Time: 3 Hours** **Maximum: 75 marks**

**Answer all the questions**
**(5 x 15 = 75)**

1. (a) Explain the functions and sources of carbohydrates.

(or)

(b) Give RDA for energy for all age groups.

2. (a) Explain the classification and functions of lipids.

(or)

(b) Bring out the role lipids in heart diseases.

3. (a) Enumerate the classification and functions of protein.

(or)

(b) Write the sources and requirements of protein.

4. (a) Explain the functions and effects of deficiency of calcium. (or)

(b) Bring out the effects of deficiency of iron and iodine.

5. (a) What are the functions and requirements of vitamin - A. (or)

(b) Explain the functions and effects of deficiency of Vitamin - C