

***M.G.S. UNIVERSITY, BIKANER***

***SYLLABUS***

**SCHEME OF EXAMINATION AND COURSES OF STUDY**

**FACULTY OF SCIENCE 2018-19, 2019-20, 2020-21**

***B.SC. HOME SCIENCE***

***Part –I, II, III EXAMINATION***

***बी.एस.सी. गृह विज्ञान***

**पार्ट –I, II, III परीक्षा**

### **Notice**

1. The Ordinances Governing the examination in the Faculties of Arts, Fine Arts, Social Sciences, Science, Commerce, Management. Engineering, Education and Law are contained in separate booklet. The students are advised to go through the same.
2. Changes in Statutes / Ordinances / Rules/ Regulations / Syllabus and Books may from time to time, be made by amendment or remaking, and a candidate shall, except in so far as the University determines otherwise comply with any changes that applies to years he has not completed at the time of change.
3. The syllabus is given in both the languages i.e. Hindi & English, if there is any discrepancy, English version will be authentic.
4. The list of text books/ Recommended books/Reference Books as approved by the various B.O.S. are printed along with the English version only.

**Note:** The decision taken by the Academic Council shall be final.

### **सूचना**

1. कला, ललित कला, सामाजिक विज्ञान, वाणिज्य, प्रबन्ध अभियान्त्रिकी, शिक्षा एवं विधि संकाय की परीक्षाओं से सम्बद्ध अध्यादेश (आर्डिनेन्स) पृथक पुस्तिकाओं में संकलित है। छात्रों को सलाह दी जाती है कि उनको देखें।
2. समय-समय पर संशोधन या पुर्ननिर्माण कर अधिनियमों/ अध्यादेशों/ नियमों/ विनियमों/ पाठ्यक्रमों व पुस्तकों में परिवर्तन किया जा सकता है तथा किसी भी परिवर्तन को, छात्र को मानना होगा जो पाठ्यक्रम के उन वर्गों के लिए लागू हों जिसे परिवर्तन के समय पूरा नहीं किया हो, बशर्ते कि विश्वविद्यालय ने अन्यथा प्रकार से छूट न दे दी हो।
3. पाठ्यक्रम हिन्दी एवं अंग्रेजी दोनों भाषाओं में दिया हुआ है। यदि कोई विसंगति प्रतीत होती है तो अंग्रेजी पाठ्यक्रम को ही प्रमाणिक माना जाय।
4. विभिन्न पाठ्यक्रम मंडलों द्वारा स्वीकृत पाठ्यपुस्तकों/ संस्तुत पुस्तकों/ संदर्भ पुस्तकों की सूची अंग्रेजी पाठ्यक्रम में उपलब्ध है।

नोट:- विद्या परिषद् द्वारा लिए गए निर्णय अन्तिम होंगे।

## Scheme of Examination and Courses of Study

**B.Sc. Home Science, Part I 2018-2019**

Duration of Theory Examinations: 3 hrs.

**Scheme of Examination :****Note :**

The question paper shall contain three sections. **Section A** contains 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3 marks. The candidate is required to answer all questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 5 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 500 words.

Paper No.	Nomenclature of Papers	Max. Marks		Periods/week	
		Theory	Practical	Theory	Practical
<b>Compulsory papers</b>					
I.	Language (Gen. Hindi / English)	100	-	02	-
II.	Elementary Computer Applications	60	40	02	02
III.	Environmental Science	75	25	02	-
<b>Main papers</b>					
i.	Fundamental Science	45	-	02	-
(Two periods for each section)					
ii.	Introduction to Biochemistry & Food Microbiology	45	30	04	04
iii.	Human physiology	45	-	03	-
iv.	Extension and Communication I Introduction to Extension Education	45	30	03	02
v.	Community Health and Family Welfare	45	30	03	03
vi.	Foods and Nutrition I Fundamentals of Foods and Nutrition	45	30	03	03
vii.	Family Resource Management I Introduction to Resource Management	45	25	03	02
viii.	Human Development I Life Span Development	45	25	03	02
ix.	Textile and Clothing I Introduction to Textiles and Clothing	45	25	03	02
<b>Total</b>		<b>405</b>	<b>195</b>	<b>27</b>	<b>18</b>
<b>Grand Total</b>		<b>600</b>			

## Scheme of Examination and Courses of Study

**B.SC. HOME SCIENCE, PART II 2019-20**

Duration of Theory Examinations : 3 hrs.

**Scheme of Examination :****Note :**

The question paper shall contain three sections. **Section A** contains 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3 marks. The candidate is required to answer all questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 5 marks each, one from each unit. The candidate is required to answer 4 questions. The answer shall not exceed 500 words.

Paper No.	Nomenclature	Max. Marks		Periods/week	
		Theory	Practical	Theory	Practical
X.	Advanced Food Microbiology	50	-	04	-
XI.	Extension Education II	50	40	04	02
XII.	Food and Nutrition II (Biochemistry)	50	40	04	03
XIII.	Food and Nutrition III (Food Science)	50	40	04	02
XIV.	Family Resource Management II	50	40	04	03
XV.	Human Development II	50	40	04	02
XVI.	Textiles and Clothing II	50	50	04	03
<b>Total</b>		<b>350</b>	<b>250</b>	<b>28</b>	<b>15</b>
<b>Grand Total</b>		<b>600</b>			

## Scheme of Examination and Courses of Study

**B.SC. HOME SCIENCE, PART III 2020-21**

Duration of Theory Examinations : 3 hrs.

**Scheme of Examination :****Note :**

The question paper shall contain three sections. **Section A** contains 10 questions two from each unit of 1.5 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3 marks. The candidate is required to answer all questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 5 marks each, one from each unit. The candidate is required to answer 4 questions. The answer shall not exceed 500 words.

Paper No.	Nomenclature	Max. Marks		Periods/week	
		Theory	Practical	Theory	Practical
XVII	Education and Communication-III (Extension programme management)	50	40	04	04
XVIII	Foods and Nutrition-IV (Nutrition Management in Health and Disease)	50	40	04	04
XIX	Foods and Nutrition-V (Community Nutrition)	50	-	04	-
XX.	Family Resource Management-III (Housing, Interiors and Space Design)	50	40	04	03
XXI.	Human Development-III (Family Dynamics )	50	40	04	04
XXII	Textile and Clothing-III (Apparel Making and Traditional Textiles)	50	40	04	03
XXIII.	Institutional Management	50	50	03	02
<b>Total</b>		<b>350</b>	<b>250</b>	<b>27</b>	<b>20</b>
<b>Grand Total</b>		<b>600</b>			

**Grand Total of Bsc. I, II and III Year is 600+600+600 = 1800**

# PAPER I - FUNDAMENTAL SCIENCE

Periods/week : 2

Max. Marks. : 45

**Min. Marks.: 16**

## **Note:**

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

### **UNIT-I (Applied Chemistry)**

1. Water-Soft and hard Water, methods of removing hardness of water. Drinking water and laundry water analysis. Total hardness, chlorine content and chloride content.
2. Lubricants-Properties, classification and uses.
3. Dyes-Classification based on application and structure.
4. Fertilizers and manures uses.
5. Freon gas-composition and uses.

### **UNIT-II**

6. Elementary idea of the chemistry of the following :
  - (a) Polymers-Classification and their uses.
  - (b) Bleaching powder, plaster of Paris, cement.
  - (c) Soap, detergent, waxes.
  - (d) Ceramic.
7. Tarnishing of metals, its prevention and removal, metals polishes. Organic coating-paints, pigments, wood polish, shoe polish.
8. Fuels-Classification, calorific value, solid fuel-wood coal. Types and Selection. Liquid fuel-petroleum fractionation. Gaseous fuels-Biogas, L.P.G., oil gas, producer gas, water gas, Non-conventional fuel-solar energy.

### **UNIT-III**

9. Environmental pollution and its effect on human beings. (C,H,) + Pb. Carbon, carbon monoxide and oxide of nitrogen sulphur dioxide, Organic and mineral pollution of water, COD and BOD. Abrasives and adhesives.
10. Uses and hazards of :
  - (a) Cosmetics
  - (b) Food preservatives and their effects on human body.
  - (c) X-ray and isotopes eg. Co60, I131, P32, As 74
  - (d) Common insecticides, pesticides and rodenticides eg. DDT, BHC, Alderin, Gamaxene, ZnO.

- (e) Antiseptics and disinfectants.
- (f) Essential oils.

#### **UNIT-IV (ECONOMIC BOTANY)**

- I. External morphology of typical flowering plants
  - (a) **Seed** : Structure & Germination.
  - (b) **Root** : General character, modification & functions.
  - (c) **Stem** : General Character, modification function.
  - (d) **Leaf** : Shape & Structure.
  - (e) Structure of Typical Flower
  - (f) Fruits.
- II. Cultivation & improvement of
  - (a) **Vegetables**-potato, cauliflower, carrot, tomato, onion.
  - (b) **Fruits**-mango, papaya, guava.
  - (c) **Ornamental Plants** : Rose, Bouganvilleas, coleus & ferns
- III. Name & Distribution of Parts Used.
  - (a) **Fibres**-Cotton, Jute & Flex.
  - (b) **Beverages**-Tea, Coffee, Cocoa.
  - (c) Spices & Condiments-Pepper (black & red), turmeric, asafetida, Bay leaf, clove, garlic, ginger, cinnamon, cumin, fennel, Coriander,
  - (d) **Oil seeds**-groundnut, mustard, coconut, sunflower.

#### **UNIT-V (APPLIED ZOOLOGY)**

- I. Parasitic Protozoa :
  - Entamoeba, Giardia, Leishmania & Trypanosoma
  - (Morphology, pathogenesis, control)
- II. Parasitic Helminthes : Taenia, Ascaris, Pinworm, Hook worm & filarial (External features, Pathogenesis, and control)
- III. Malarial Parasite-life history
- IV. Stored Grain pests : Rice weevil & Khapra (morphology, Life cycle, Economic importance & control.)
- V. Brief account of apiculture, Sericulture, Lac culture & fish culture & Poultry farming, vermin compost.

#### **RECOMMENDED READING**

1. Hand Book of Agriculture : ICAR, New Delhi 1987.
2. B. Choudhary; Vegetables (National Book of India, New Delhi 1979.)
3. J.L. Shreeemale : Economic Botany (Kitab Mahal, Allahabad 1982)
4. Sudhir Pradhan; Economic Botany (Har Anand Publications. New Delhi 1995)
5. Applied chemistry : theory & practice by O.P. Vermani; New age International.
6. Applied Chemistry : G Singh; New age International.
7. Applied Chemistry by V.M. Balsaraf, A.V. Paroar & P.A. Mane.
8. Text books of Applied Zoology by Jobde & Prodip; Discovery Publishing House.

# PAPER-II INTRODUCTION TO BIOCHEMISTRY & FOOD MICROBIOLOGY

Periods/week : 4

Max. Marks. : 45

Duration of Exam : 3 hrs.

Min. Marks. :16

**Note:**

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

## UNIT-I

1. Introduction to Biochemistry – Definition, objectives scope and inter-relationship between biochemistry and other biological science.
2. Water Balance : Positive and Negative water balance, regulation of water balance in the body, Dehydration, ORT & ORS.
3. Fluid : Electrolyte and acid-base-balance.

## UNIT-II

4. (a) Molecular aspects of transport : Passive diffusion, facilitated diffusion and active transport.
- (b) Definition of digestion and absorption.
- © Digestion and absorption of proteins, carbohydrates and lipids

## UNIT-III

5. Carbohydrates : Definition, classification, structure & Functions.
6. Lipids : Definition, Classification, structure & Functions.
7. Proteins : Definition, classification, structure & Functions.

## UNIT-IV (Introduction to food microbiology )

8. Microbiology : Brief history, classification of microorganisms-Moulds, yeasts, bacteria, protozoa, funji & algae.
9. Structure of typical bacterial cell and virus, useful and pathogenic micro organisms.
10. Economic importance of bacteria.



## UNIT-V

11. Microbiology of food : microorganisms responsible for spoilage of fresh meat, processed meat, fish, eggs, fresh fruit and vegetables, pickles, sugar products honey and syrups, bread, ghee & butter.

### RECOMMENDED READING :

1. General Microbiology : Volume II, Dr. C.B. Power & Dr. H.F. Dagainawalal Himalaya Publishing House Mumbai.
2. Mycology, Microbiology & Plant Pathology by Dr. Gyanprakash Sharma. Sakshi Publishing House, Jaipur
3. Funji, Microbiology and Plant pathology by C.B. Gena, B.L. Choudhary & K.C. Sharma, Alka Publication, Ajmer.

## INTRODUCTION TO BIOCHEMISTRY & MICROBIOLOGY : PRACTICAL

Periods/week : 4 (2 Periods for each section)

Max. Marks. : 30

Duration of Exam : 2 hrs.

Min. Marks. : 11

1. Qualitative tests for carbohydrates.
2. Qualitative tests for protein.
3. Qualitative tests for lipids.
4. Identification of Blood groups.
5. Estimation of Hemoglobin by sahli's Hemoglobinometer.

### Distribution of Marks

1. Two qualitative tests = 10 Marks (10 Marks each)
2. One quantitative tests = 10 Marks
3. Record = 5 Marks
4. Viva Voice = 5 Marks

## Paper III - HUMAN PHYSIOLOGY

Periods/ week: 3

Max. Marks: 45

Duration of Exam: 3 hrs

Min. Marks: 16

### Note:

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words. **Objectives:**

This course will enable the students to understand the physiology of human body.

### Contents:

#### UNIT I

General principles of physiology.

Structure and functions of various systems.

Cardiovascular System

Blood and its composition,

Blood groups

Coagulation of blood

Structure and functions of heart

Heart rate, cardiac output, blood pressure and its regulation

Circulation of blood

#### UNIT II

Endocrine Glands – Functions, impact of hypo and hyper functioning

Digestive System

Structure and functions of various organs of the Digestive System,

Digestion and absorption of feed protein, fats & carbohydrates and the role of enzymes and hormones.

#### UNIT III

Reproductive system

a) Structure and functions of sex glands and organs, including hormones.

b) Menstrual cycle

c) Physiology of pregnancy, parturition lactation and Menopause.

Excretory System

a) Structure and functions of kidney, bladder, formation of urine, role of kidney in homeostasis.

b) Structure and functions of skin.

c) Regulation of temperature of the body.

## UNIT IV

### Respiratory System

- Structure of lungs.
- Mechanism of respiration and its regulation
- O<sub>2</sub> and CO<sub>2</sub>
- Vital capacity and other volumes.
- Muscular exercises.

### Nervous System

Functions of different parts of the brain in brief.

Autonomous, Sympathetic and parasympathetic nervous system.

Special Senses.

## UNIT V

### Musculoskeletal System

Types of muscles- functions.

Skeletal system- formation of bone and joints.

### Human Genetics

- Human chromosomes, the inheritance and variation in man.
- Genetic Counselling,

- ❖ डॉ. कमलजीत कौर मान : शरीर रचना एवं क्रिया विज्ञान – दिल्ली पब्लिकेशन
- ❖ कान्ति पाण्डेय, प्रमिला वर्मा : शरीर क्रिया विज्ञान – हिन्दी ग्रन्थ अकादमी
- ❖ पाण्डेय एवं अग्रवाल : शरीर रचना एवं क्रिया विज्ञान
- ❖ वृन्दा सिंह : शरीर रचना एवं क्रिया विज्ञान – पंचशील प्रकाशन

## Paper IV - EXTENSION AND COMMUNICATION-1

### Introduction to Extension Education

Periods./ Week: 3

Max Marks 45

Duration of Exam: 3 hrs.

Min Marks: 16

#### Note:

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Contents :

#### UNIT I

- I. Concept of Home Science
  - a) Definition, Objectives, Components, importance & values of home science
  - b) Role of home science in upliftment of rural & urban families & society.
  - c) Development of home science as a discipline.
  - d) The Home Science association of India (HSAI) – Introduction, History, Aims & objectives, membership - criteria & types.
- II. Education –
  - a) Meaning, Definition and need of education.
  - b) Ways of imparting education i) Formal ii) Non-formal iii) Informal
  - c) Types/forms of education-meaning and characteristics of each i) Adult education ii) Continuing education iii) Distance education.

#### UNIT II

#### III. Extension Education

Meaning & Definition of extension education and Home Science extension.

Philosophy of extension education

Principles of extension education

Basic elements of extension education.

Extension education as developed discipline: Aims and Scope

Extension education and its relationship with other social sciences

**IV. Qualities of an extension worker.**

**UNIT III**

**V. Rural Sociology -About Village**

Types of village, pattern of settlement of village.

Rural institution in India -

Custom, folkways, mores, religion, rituals, beliefs, taboos, rural art. marriage. Social Change-need and importance of change, process of social change, advantages of social change, planned social change.

**UNIT IV**

**VI. Extension teaching approaches & methods**

- a) Concept, characteristics, selection and use of extension teaching approaches & methods.
- b) Classification of extension teaching approaches and methods. i) Individual ii) Group iii) Mass  
Concept, Characteristics, selection use, advantages & limitations of each.

**UNIT V**

**VII. Extension Education Process**

- a) Concept of extension education process
- b) Motivation-Meaning, motivational procedures
- c) Learning-Meaning, Principles, Factors affecting learning process.
- d) Role of motivation and learning in extension education process.
- e) Teaching-steps of extension teaching
- f) General guides to learning and teaching and their implication in extension education.

**PRACTICAL**

Periods./ Week: 2

Max. Marks: 30

Duration of Exam.: 4 hours

Min. Marks: 11

Planning, preparation & presentation of communication aids/ media particularly for women and children

- a) Poster
- b) Chart/Flip chart
- c) Flash cards/ Flip Book
- d) Flannel Graph
- e) Folder/ Pamphlets/ Leaflet
- f) Puppet making.

Planning & arranging any one

Bulletin Board display

Window display

Exhibition

**Distribution of marks:**

1. File and Records	10 Marks
2. Any one graphic communication aid, Puppet	08 Marks
3. Bulletin Boards/ window display, Exhibition	08 Marks
4. Viva Voce	04 Marks
Total	30 Marks

- ❖ श्रीवास्तव, जे.पी. प्रसारिका, अमन पब्लिकेशन, मेरठ
- ❖ दुर्गा प्रसाद, उम्मेदसिंह : कृषि प्रसार के सिद्धान्त, वी.के. प्रकाशन मेरठ
- ❖ कमलेश शर्मा : गृह विज्ञान प्रसार शिक्षण, साहित्य भवन, आगरा
- ❖ बी.डी. हरपलानी: प्रसार शिक्षा, स्टार पब्लिकेशन, आगरा
- ❖ डॉ. पी.एन. कल्ला, डॉ. अचला गक्खड – प्रसार शिक्षा के नए आयाम, हिन्दी ग्रन्थ अकादमी, जयपुर
- ❖ गीत पुष्प शॉ, जायस शीला शॉ, प्रसार शिक्षा – विनोद पुस्तक मंदिर आगरा

## Paper V - COMMUNITY HEALTH & FAMILY WELFARE

Periods./ Week: 3

Max. Marks: 45

Duration of Exam: 3 hrs.

Min. Marks: 16

### Note:

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

### Unit-1

1. Health Concept
  - a) Health (Physical, mental, social and Spiritual Health improving Factors) Positive Health, Community Health, Determinants of Health, Factors affecting Health, causes of poor health
  - b) Yoga & Meditation - Concept, Meaning and Importance
2. Environmental Sanitation

Water- Importance of water, sources of water, types of water soft & hard), Purification of water at domestic level

Ventilation-Importance, impurities in atmosphere and their effect on health, types of ventilation.

Sanitation: Types of refuse, methods/ ways of disposal of refuse (waste). Rural or village sanitation, sanitation, at fairs & festivals.
3. Health Education- Concept, content of health education, objectives principles, role of communication in health education.

### Unit- II

4. Causes, mode of transmission, incubation period, sign & symptom, life cycle, care and preventive measures of the following diseases:
  - a) Water, food and milk borne diseases-cholera, Typhoid, diphtheria.
  - b) Air borne and viral infections- small pox, chicken pox, Whooping Cough, Tuberculosis poliomyelitis
  - c) Disease caused by insect- Malaria.
  - d) Diseases caused by direct- contact- Hydrophobia, venereal disease, Tetanus, trachoma, Scabies, Acquired Immuno Deficiency syndrome (AIDS)
  - e) Worm Infestation (Life- cycle)
    - Ascaris Lumbricoides (Round worm)
    - Ancylostoma Duodenal (Hook Worm)
    - Oxyuris Vermicularis (Thread Worm)
    - Entamoeba Histolytica (Amoebiasis)

5. A) Immunity- Classification of immunity,  
B) Types of immunization, routine immunization schedule, hazards of immunized immunization.

### **Unit III**

#### 6. Health Programmes of India.

Health Agencies/Services:

Primary Health centre

Hospital- Types of hospital,

International Health Organization : WHO, UNICEF, Red Cross Society

#### 7. Maternal and child welfare services

- a) Birth Rate - Causes of high birth rate.
- b) Death Rate- Maternal mortality & morbidity rates, causes of high death rate, prevention of infant and maternal high mortality rate.
- c) Agencies for maternal and child welfare service - VHAI, NIPCCD, DSWB, ICCW.

#### 8. School health services - Objective, aspects of school health service.

### **Unit-IV**

#### 9. Signs and symptoms of Pregnancy.

10. Common ailments during pregnancy and their management- morning sickness, heart burn, indigestion, constipation, piles, leg cramps, sleeplessness, frequency of micturition, edema, Varicose vein

11. Toxaemias of Pregnancy- symptoms, detection and care.

12. Abortions and miscarriage- symptoms, detection and care.

### **Unit-V**

13. Care of expectant mother - Antenatal hygiene and advice regarding diet, dress, cleanliness, bath, exercise, rest, sleep, regulation of bowels, care of teeth, care of breast, mental hygiene, regular medical check up for satisfactory progress and detect signs of abnormality.

14. Preparation for confinement and arrival of new born. When to call an assistance. When to shift.

15. Care during puerperium- lying in period management of diet, regulation of bowel, retention of urine, rest, sleep, care of breast and feeding the baby, exercise during laying in period, ambulation, mental outlook, Puerperal sepsis : causes, prevention and treatment, infection of breasts, cracked nipples, abscess, retracted nipples.

16. Care of new born and the young baby, feeding equipment and its care, minor ailments during infancy and their management- diarrhoea, constipation, flatulence, vomiting, intestinal colics, malnutrition, marasmas, napkin rash, umbilical infection, eyes infection, jaundice, swelling in breasts of new born.

17. Family Welfare (Family Planning)- its advantages and necessity, methods.



## PRACTICAL

Periods./ Week: 2

Max. Marks: 30

Duration of Exam: 3 hrs.

Min. Marks: 11

- I. Aims, Scope and rules of First Aid.
- II. General Principles of First Aid in :
  - a) Burns and Scalds.
  - b) Cuts, Wounds and Haemorrhages.
  - c) Sprains, fractures and dislocations, use of splint.
  - d) Simple unconsciousness
  - e) Electric shock and fire
  - f) Heat stroke and frost bite
  - g) Animal bite-dog and snake bite
  - h) Foreign bodies in the eye, nose and throat.
  - i) Common poisoning.
- III. First Aid Box
  - i. Room for the sick, Bed making procedures for the patient.
  - ii. Essential items for the sick room, bed pan, urinal, bed table, hot water bottle, ice cap, back rest, air ring, glass, measuring glass, spittoon, feeding cup and thermometer.
  - iii. Basic Knowledge about
    1. Recording of temperature (making chart) and pulse rate, blood pressure
    2. Applications of moist inhalations Hot and cold fomentation
    3. Types of enema.
    4. Patients rate of breathing & Patients Discharges ( Knowing the condition of patient ) examining about patient stool urine respiration vomiting.
  - iv. Application of Triangular and Roller Bandages.
  - v. Prepare a scrape book (file) on antenatal care (Pre delivery test, exercise, stages of pregnancy common sign & symptoms during pregnancy, Diet during pregnancy, what to take to the hospital at the time of delivery, emergency delivery at home, delivery by caesarean, Breast feeding, baby bath, postnatal exercise, parenting)
  - vi. Different types of yoga
    - a) Abdomen & breathing exercise
    - b) Asanas in laying position
    - c) Asanas in sitting position
    - d) Asanas in standing position

### Distribution of Marks

First Aid box & File	08 Marks
Spotting	07 Marks
Bandages	02 Marks
Bed making	02 Marks
Viva –Voce	06 Marks
Scarap Book	03 Marks
Yoga & Asanas	02 Marks
<b>Total</b>	<b>30 Marks</b>

डॉ. सत्यदेव आर्य : स्वास्थ्य विज्ञान, हिन्दी ग्रन्थ अकादमी, जयपुर।

डॉ. डी.एस. भरारा: प्राथमिक चिकित्सा, सेंट एम्बुलेंस एसोसिएशन, नई दिल्ली

मनोरमा बैद, डॉ. निधि सिंघल : प्राथमिक सहायता एवं गृह परिचर्या, अजमेरा बुक डिपो, त्रिपोलिया बाजार जयपुर।

बेला भार्गव : जन स्वास्थ्य एवं परिवार कल्याण, जैना पब्लिकेशन, जयपुर।

डॉ. वृन्दा सिंह, जन स्वास्थ्य एवं परिवार कल्याण, पंचशील प्रकाशन, जयपुर।

डॉ. सुधा नाराश्यण। स्वास्थ्य एवं परिवार कल्याण, मातृ एवं शिशु कल्याण कालेज बुक डिपो।

## Paper VI - FOODS AND NUTRITION-I

### Fundamentals of Foods and Nutrition

Periods./ Week: 3

Max. Marks: 45

Duration of Exam: 3 hrs.

Min. Marks: 16

#### Note:

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

**Objectives** : This course will enable the students to

1. Understand the functions of food and the role of various nutrients, their requirements and the effects of deficiency and excess (in Brief).
2. Learn about the structure, composition, contribution and selection of different foodstuffs.
3. Be familiar with the different methods of cooking, their advantages and limitations.
4. Develop an ability to improve the nutritional quality of food.

#### Contents:

##### UNIT I

1. Concept and definition of the terms- nutrition, food, nutrients, malnutrition and health, Relationship between food, nutrition, health and disease. Brief history of nutritional science. Scope of Foods and Nutrition.
2. Functions of Food-Physiological, psychological and sociocultural functions.
3. Concept of Balanced Diet, Basic Food Groups and Exchange lists.
4. Concept of minimum nutrient requirement and Recommended Dietary Allowances. General methods of assessment of nutrient needs for- energy, protein, vitamins and minerals.
5. Factors affecting selection of food & related behaviour of families -availability, agricultural production, food cost and economy, environment, socio-cultural, psychological and religious factors, role of industrialization, urbanization, work pattern, mass media etc. Acceptability of foods- sensory qualities, likes & dislikes, knowledge, attitude & practices regarding food-fads, fallacies and beliefs.
6. Objectives in the study of food-to learn about composition, nutritional contribution, selection of different foodstuffs, retention of nutritive value, development of flavors and palatability, control of economy, improvement of digestibility, preparation of quality and safety, development of special foods for specific needs.

## UNIT II

7. Nutrients: Macro and Micronutrients. Classification, composition, chemistry, properties, functions, sources, digestion, absorption and utilization, Recommended Dietary Allowances, Deficiency and excess of
  - a) Carbohydrate
  - b) Fat
  - c) Protein (including - protein quality-definition, biological & chemical methods of assessment, factors affecting protein quality & methods of improving protein quality of diets.)
  - d) Fiber
  - e) Water

## UNIT-III

8. Minerals & Trace elements-calcium, phosphorous, magnesium, manganese's, iron, copper, zinc, selenium, fluorine, iodine, sodium and potassium.
9. Vitamins
  - (i) Fat soluble vitamins-A, D, E, & K
  - (ii) Water soluble vitamins- Thiamine, riboflavin, niacin, pyridoxine, pantothenic acid, folic acid, cyanocobalamin and ascorbic acid.

### 10. Phyto chemicals

#### 1. Energy Metabolism

Units of measuring energy, fuel value of foods, methods of measuring energy value of foods, calculation of energy value of diets.

Concept of energy balance- components of energy expenditure and factors affecting the same. Measurement and estimation of Basal Metabolic Rate and Energy Expenditure. Energy requirements and recommended allowances.

## UNIT IV

2. Food Preparation
  - a) Basic terminology used in food preparation
  - b) Reasons of cooking food
  - c) Principles of food preparation
  - d) Methods of cooking-classification, procedure, merits & limitations
  - e) Effect of cooking and home processing on food constituents and colour, texture, flavour and nutritive value.
  - f) Improving nutritional Quality of foods- improving bio availability of nutrients and enhancement of quality of diets by i) Germination, ii) Fermentation iii) Supplementation iv) Substitution v) Combination and vi) Fortification and enrichment

## UNIT V

3. Food Service Management (Basic Knowledge)
  - a) Evolution of catering industries.  
Art of cooking.

- b) Quantity purchasing and receiving food
  - storage of food
  - indenting
  - layout of storage area and kitchen
  - quantity food production
- c) Different food service institutions
  - Menu planning
  - Various food services
  - Table setting
  - Management of personnel
- d) Financial management
  - Standardization of recipe
  - Costing and pricing
  - Cost control

### **PRACTICAL**

Periods./ Week: 3

Max. Marks: 30

Duration of Exam: 3 hrs.

Min. Marks: 11

#### **OBJECTIVES:**

Develop skill in food preparation techniques.

Develop skill in methods of cooking for preparation of specific food products.

Learn proper handling, preparation and service of foods.

Be familiar with evaluation of food products for their quality characteristics.

#### **Contents:**

1. Use and care of kitchen equipment
2. Controlling techniques :
  - a. Weights and Measures- Standard and household measures for raw and cooked foods.
  - b. Recipe standardization technique.
  - c. Evaluation of food product for quality characteristics as a sources of specific nutrients.
3. Categorization of foods as rich, moderate and poor sources of energy and nutrients.
4. Preparation, serving and evaluating food items.
  - a. Beverages-tea, coffee, cocoa, fruit juice, punches, milk shakes etc.
  - b. Cereals- breakfast cereals-upma, pohae, variation in paranthas, chapati, rice, pulao, biryani, sandwiches, pastas, pancakes, biscuits, cookies, cakes, etc.
  - c. Pulses- using whole, dehusked and sprouted pulses-chana, rajmah, vadas, dhokla, kadi etc.
  - d. Vegetables- dry vegetables, curries, koftas, baked vegetables, cutlets, etc.
  - e. Salads, Soups and Stews
  - f. Milk, cheese and Khoa preparation- puddings- custards, kheers, ice creams

- g. Eggs-hard and soft boiled, poached, scrambled. Omelette and egg-nogs, etc.
- h. Meat, fish and poultry (Optional)
- i. Desserts-halwas, souffles, baked and steamed desserts, other hot and cold desserts.
- j. Snacks-Savoury: mathri, kachories, pakoras, etc. Sweets: ladoos, gunjias, malpuas.

#### **Distribution of Marks**

a) Preparation of two dishes	10 Marks
i) Quality characteristics	05 Marks
ii) Method of work & cleanliness	05 Marks
iii) Serving	03 Marks
b) Files and Records	05 Marks
Viva-voce	02 Marks
<b>Total</b>	<b>30 Marks</b>

डॉ. मुक्ता अग्रवाल : भोजन एवं पोषण – अजमेरा बुक डिपो, जयपुर।

डॉ. निधि अग्रवाल, संगीता धौलपुरिया – आहार एवं पोषण विज्ञान, अग्रवाल साहित्य सदन, श्रीगंगानगर

सी.गोपालन, भारतीय खाद्यान्नों का पोषण मान, आहार विज्ञान

तरला दलाल : पूर्ण सैट भोजन बनाने की विधि, वकील एण्ड फेफेयर्स, मुम्बई

अंजली शरण : व्यंजन कोश तीन खण्ड, अचार मुरब्बे एवं कन्फेक्शनरी, स्वादिष्ट व्यंजन – बजरंग प्रकाशन, नई दिल्ली

## Paper VII - FAMILY RESOURCE MANAGEMENT-I

### Introduction to Resource Management

Periods./ Week: 3

Max. Marks: 45

Duration of Exam: 3 hrs.

Min. Marks: 16

#### Note:

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### UNIT-I

1. Introduction to Management
  - i) Basic concept of Management
  - ii) Similarities and differences in business and family resource management
  - iii) Objectives of management- Management and change, Achievement of goals
  - iv) Principles of Management
  - v) Functions of Management
  - vi) Management by objectives
2. Management as a system
  - i. Definition
  - ii. Elements
  - iii. Characteristics
  - iv. Advantages and limitations of system approach.
  - v. Application in family resource management
3. Obstacles to the improvement of management
  - Lack of awareness of management and resources
  - Failure to evaluate results of management
  - Seeking readymade answers to problems.
  - Lack of information
4. Family characteristics influencing management
  - i. Life style
  - ii. Type of family
  - iii. Stage of family life cycle

- iv. Size of family
- v. Occupation
- vi. Education

## UNIT II

### 5. Factors Motivating management

Goals- Definitions, importance, type, changing goals,

Values-Definitions, importance, sources, classification, characteristics, hierarchy, changing values.

Standards- definition, classification- quantitative, qualitative, conventional and non conventional., changing standards.

Resources in the family- definition, types, characteristics, factors affecting the use of resources.

## UNIT III

### 6. Decision making- Meaning, type of decision, modes of decision-making, techniques and tools for decision making, role of decision making in management.

### 7. Management process- Meaning and elements of process planning, controlling and evaluation.

a) Planning- definition, importance, objectives of planning, characteristics of planning, types of planning, steps/ process of planning, essentials of good planning, limitations of planning.

b) Controlling-definition, importance, objectives, characteristics, steps/ process of controlling, essentials of good controlling, levels of controlling, limitations of controlling.

c) Evaluation- importance, relationship to goals, types- forma informal, overall and detailed, techniques of self evaluate Evaluation of the whole process of management.

## UNIT IV

### Management of specific Resources

### 8. Management of time-Importance, goals, attitude towards time-management, time norms, leisure time, tools in time management-work curve, peak load, rest-period. Process of time-management-planning-steps in making time plans, controlling, evaluation, factors affecting time management.

### 9. Management of Energy-

a) Work physiology- introduction and definition,

b) Types of muscular work- Static and dynamic, source of energy for muscular work- ATP, CP & food energy physiological functions, modified during muscular work- oxygen consumption, energy expenditure, lactic acid level in blood, pulmonary ventilation, cardiac output, stroke, volume and heart rate, body temperature, rate of perspiration. Factors influencing physiological reactions during work, age, sex, body build, posture, nutrition, physical fitness, nervous system, training and adoptive, intensity and duration of work, attitude, climate, clothing.

c) Muscular fatigue- causes and remedial measures, importance of rest, use in improving work efficiency. Work study, its application in work, physiology, avoidance of fatigue.

## UNIT V

### 10. Work place environment- concept, Factors affecting- heat, cold, noise, lighting, vibration, atmospheric pollution. Work simplification technique- introduction, with special reference to kitchen-work heights, space dimension of different work and storage areas, anthropometric measurement of worker and its application to kitchen, layout



designing, placement of kitchen tools & equipment, principles of kitchen storage, dimensions of kitchen storage areas.

11. Management process applied to problems of energy, bodily discomfort and fatigue-planning, controlling-Body mechanics, keeping body parts aligned, using muscles effectively, rhythm, considering center of gravity, taking advantage of momentum. Mundels classes of change. Evaluation of energy use.
12. Major sources of energy-renewable and non-renewable uncertainties with non-renewable energy sources, alternate energy sources and energy conservation measure.

### PRACTICAL

Periods./ Week: 2

Max. Marks: 25

Duration of Exam: 3 hrs.

Min. Marks: 09

Note:- Students are expected to do survey for exercises 1-3 and present report. All exercises carry equal marks.

1. Practical identification of values and goals of selected families.
2. To evaluate the time schedule of selected families.
3. To study the time management practices of selected families.
4. Develop pathway and process charts of various household activities.
5. Application of managerial process for various events eg. (i) of conference, (ii) formal informal party (iii) party games (iv) festival celebration

Principle used in preparing –

smokeless chulah

haybox

solar cooker

solar dryer

आशा पारीक, चन्द्रकला मेहता : गृह प्रबन्ध, रिसर्च पब्लिकेशन, जयपुर।

मंजू पाटनी, गृह प्रबन्ध, विजय बुक सेंटर, जयपुर

डॉ. कैथरीन एस. सिंह, गृह सज्जा एवं गृह व्यवस्था, विनोद पुस्तक मंदिर आगरा

## **Paper VIII - HUMAN DEVELOPMENT-I**

### **Life span Development**

Periods./ Week: 3

Max. Marks: 45

Duration of Exam: 3 hrs.

Min. Marks: 16

#### **Note:**

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

Contents:

#### **UNIT I**

1. Introduction to Human Development
  - a) Concept, Meaning & Definition, Nature
  - b) Need & Importance
  - c) Dimensions of Human Development
2. a) Methods of Studying Human Development
- b) Principles of Human Development
- c) Genetic & Environmental influences on Development

#### **UNIT II**

3. Physical Changes & Development from conception to old age (Pre-natal, Infancy, Childhood, Adolescence, Adulthood & old age)
4. Motor Development from Infancy to Maturity- Reflexes, Sequence, Hand & Leg skills, Handedness.

#### **UNIT III**

5. Speech and Language development
  - a) Pre speech & speech forms of communication,
  - b) Major tasks in learning to speak,
  - c) Hazards in Speech development
6. Cognitive Development (Infancy to Adulthood)
  - a) Cognition, Cognitive concepts
  - b) Jean Piaget's Theory of Cognitive development,
  - c) Relation between Language and cognition.

## UNIT IV

### 7. Moral Development-

- a) Moral behaviour, Morality
- b) Pattern of moral development
- c) Piaget's & Kohlberg stages of Moral development.

### 8. Discipline

- a) Meanings essentials of discipline.
- b) Techniques & evaluation.

### 9. Social Development

- a) Meaning, Importance, Pattern Hazards of social development.
- b) Social adjustment
- c) Eriksson's theory of psychosocial development.

### 10. Emotional Development-

- a) Pattern of emotional development
- b) Characteristics of children's emotions
- c) Emotional catharsis & Hazards of Emotional Development.

## UNIT V

### 11. Play Development-

- a) Meaning, Contributions, & Characteristics
- b) Types of play activities.

### 12. Development of Creativity-

- a) Meaning, Values & Development
- b) Expressions & Hazards of Creativity.

### 13. Personality Development-

- a) Meaning, Development, Determinants
- b) Sigmund, Freud's Theory of Psychosexual development,
- c) Changes in interests from Infancy to old age.

## PRACTICAL

Duration of Examination 3 hrs

Max Marks 25

Periods/Week: 2 per batch

Min. Pass Marks 09

1. Assessment of Growth and Development through Anthropometry.
2. Psychometric Testing- use of common Intelligence and personality Tests.
3. Use of different methods of studying Human Development.
4. Preparation and use of teaching aids for promoting various developments.
5. Planning and Implementing activities promoting various developments.

### **Distribution of Marks**

1. Anthropometry	03 Marks
2. Psychometric Testing	03 Marks
3. Methods of studying Human Development	03 Marks
4. Teaching Aids	04 Marks
5. Activity planning & Implementation	04 Marks
6. File & Record	05 Marks
7. Viva Voce	03 Marks
Total	25 Marks

सुरभि पुरोहित : मानव विकास के सोपान, अजमेरा बुक डिपो, जयपुर

कविता कुरडिया: बाल विकास

**Paper IX - TEXTILES AND CLOTHING- I**  
**Introduction of Textiles and Clothing**

Periods./ Week: 3

Max. Marks: 45

Duration of Exam: 3 hrs.

Min. Marks: 16

**Note:**

The question paper shall contain three sections. **Section A** contains 5 questions two from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions, one from each unit with internal choice. Each question shall be of 3.5 marks. The candidate is required to answer any 4 questions. The answers should not exceed 200 words. **Section C** shall contain 5 questions of 7 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

**Contents:**

**UNIT I**

1. Textile fibres and their properties

- a) Classification of fibres, terminology in textiles
- b) History, Molecular structure, production and properties- primary and secondary and uses of-cotton, linen, jute, wool, silk, rayon, polyamides, acrylics, olefin, elastomeric fibres.

**UNIT II**

2. Yarn Construction

- a) Basic principles of yarn construction
- b) Mechanical spinning ( cotton, wool and others )
- c) Chemical spinning (wet, dry, melt and other methods )
- d) Types of yarns-Classification and manufacture (Simple, complex, sewing thread)
- e) Textured yarn-Classification and manufacture (Simple, complex, sewing thread)
- f) Properties of yarns-yarn numbering Systems, strength and twist

**UNIT III**

3. Introduction to clothing

- a) Importance of clothing
- b) Social and Psychological aspects of clothing
- c) Functions of clothing
- d) Theories and origin of clothing
- e) Clothing in relation to status, culture and rituals
- f) Individuality and conformity

**UNIT IV**

4. Fashion

- a) Terminology, sources, fashion, cycle and season
- b) Factors favouring fashion cycle and season
- c) Customer demand and fashion marketing

## UNIT V

### 5. Principles of Clothing Construction

- a) General principles of clothing construction drafting and making of paper patterns.
- b) Body measurements- importance of taking body measurements and its relation to sizes and different types of garments,
- c) Preparation of fabric before cutting
- d) Preparation layout, pinning, marking and cutting
- e) Equipment and supplies used in clothing construction, their maintenance, problem faced, remedies with specific reference to sewing machine.

## PRACTICAL

Periods/Week: 2

Max Marks: 25

Duration of Exam: 3 hrs.

Min. Marks: 09

1. Fibre identification- visual, microscopic, burning and chemical.
2. Thread count, yarn slippage and dimensional stability.
3. Measurement and interpretation of yarn count- direct and indirect system.
4. Hand stitches-(Sample) i) Functional - Temporary and permanent  
ii) Decorative
5. Seams and seam- finishes (Sample)
6. Fullness plackets, fasteners (Sample)
7. Collars, sleeves, pockets ( Simple and variation) ( Sample)
8. Patch work and darning ( Sample)
9. Introduction to sewing machine and its function.
10. Practical related to unit V of theory syllabus .
11. Basic bodice block-child and adult.

### Distribution of Marks:

1. Record & File	10 Marks
2. Fiber identification	02 Marks
3. Thread count	03 Marks
4. Hand stitches, seams & seam finishes	03 Marks
5. Sample of item no. 6,7,8	05 Marks
6. Viva -Voce	02 Marks
<b>Total</b>	<b>25 Marks</b>

नीरजा यादव: वस्त्र विज्ञान एवं परिधान साहित्य भवन, आगरा

मंजू पाटनी : वस्त्र विज्ञान एवं परिधान

बी.के. बख्शी: वस्त्र विज्ञान की रूपरेखा एवं धुलाई कला, विनोद पुस्तक मंदिर, आगरा

प्रमिला वर्मा: वस्त्र विज्ञान एवं परिधान, हिन्दी ग्रन्थ अकादमी, भोपाल

# Bsc. Home Science Part - II

## PAPER X - ADVANCED FOOD MICROBIOLOGY

Periods/week : 4

Max. Marks. : 50

Duration of Exam : 3 hrs.

Min Marks: 18

### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

### UNIT-I

1. Introduction and History of Microbiology.
2. Initial contamination of fresh food.
3. Microbial spoilage of foods :
  - (a) Effects of chemical properties on spoilage composition (carbohydrate, proteins and lipids), Acidity, Moisture and osmotic pressure.
  - (b) Effect of storage conditions on spoilage : Oxygen & Temperature.
  - (c) Types of food spoilage with some examples of causative organisms.

### UNIT-II

4. Fermented Foods :
  - (a) Fermentation process, list of fermented food products and their products.
  - (b) Products Made by Microbial Processes :
    - (i) Alcoholic beverages.
    - (ii) Manufacture of various chemicals
    - (iii) Therapeutic compounds antibiotics, vitamins & amino acids.

© Detailed Discription of these fermented food products sauerkraut, pickles, Idli, Ensilage

### UNIT-III

5. Food Poisoning
  - (a) Naturally occurring toxicants in food stuffs.
  - (b) Staphylococcal poisoning.
  - (c) Salmonellosis.
  - (d) Perfringens poisoning.
  - (e) Streptococcal poisoning
  - (f) Mycotoxins
  - (g) Algal poisoning.

#### UNIT-IV

6. Microbiology of Milk & Milk products :
- (a) Sources of micro organisms in milk.
  - (b) Types of microorganisms in milk.
  - (c) Microbiological examination of Milk.
  - (d) Pasteurization of milk
  - (e) Dehydration of milk.
  - (f) Manufactured dairy products.
  - (g)

#### UNIT-V

7. Industrial Microbiology :
- (a) General types of industrial processes.
  - (b) Types of fermentation processes.
  - (c) Food & food additives.
  - (d) Alcoholic fermentation.
  - (e) Production of Vinegar.

#### **RECOMMENDED READING :**

1. General Microbiology : Volume II, Dr. C.B. Power & Dr. H.F. Dagainawalal Himalaya Publishing House Mumbai.
2. Mycology, Microbiology & Plant Pathology by Dr. Gyanprakash Sharma. Sakshi Publishing House, Jaipur
3. Funji, Microbiology and Plant pathology by C.B. Gena, B.L. Choudhary & K.C. Sharma, Alka Publication, Ajmer.



## **Paper XI - EXTENSION AND COMMUNICATION II**

### **Community Development- Perspectives and Approaches**

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### **Note:-**

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### **UNIT I**

##### 1.Communication

- a) Meaning and objectives, type of communication '
- b) Models, key elements of communication their role in communication process
- c) Barriers in communication ways to over come them

#### **UNIT II**

##### 2.Teaching Method

- a) Classification of teaching method
- b) Concept, use, importance & limitation of teaching method
- c) Selection of teaching method

#### **UNIT III**

##### 3. Community Development

- (a) Meaning and Definition of Community, Development and Community Development.
- (b) Objective's, Philosophy and Community Development work in India since independence.
- (c) Scope and organizational set up of community development/extension programmes in India.

4. Panchayati Raj In India- Concept, Philosophy objective & Challenges, Problems, structural organization, History and role in community development.

#### **UNIT IV**

##### 5. Community Development Programme Approach

- (a) Multi- Purpose
- (b) Target Group
- (c) Growth Centered
- (d) Area
- (e) Minimum needs
- (f) Antyodaya.
- (g) Integrated

6.Critical reflection and method of socio- economic analysis. (a) Rapid Rural Appraisal (b) Participatory Rural Appraisal (c) Survey, Case studies, Observations By participant & C.D. worker

## UNIT V

### 7. Women and Development Approaches

- (a) 'Welfare' approach- women's role as wives and mothers emphasized.
- (b) 'Anti-Poverty' approach- women's income generation programmes integrating women in development. '
- (c) 'Efficiency' approach- emphasis on women's key role in production.
- (d) "Equity" approach- combating patriarchy and exploitation, subordination and oppression of women.
- (e) "Empowerment" approach- process of women discovering in power within themselves to tackle the problems in their life situations.

### 8. Scope of Home Science Extension Education in Women Development and Community Development.

## PRACTICAL

Periods./ Week: 2

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

1. Assess following from the point of view of developing awareness among people regarding health standard of living and other aspect
  - a) T.V.programme, radio program -educational .recreational
  - b) Social and commercial advertisement
  - c) Article of magazine
  - d) Develop a script as above mention aspect and media.
2. Developing skill in using handling and care of various instrument / equipment used for communication:-
  - a) Overhead projector (O.H.P.)
  - b) Slide projector
  - c) Public speaking equipment
  - d) Television
  - e) V.C.R./V.C.D/LC.D
  - f) Computer
3. Planning; preparing and presentation of the following-
  - a) Demonstration-method and result demonstration
  - b) Puppet show
  - c) Role play / Dramatization
4. Visit to place where computer is used for offset printing and screen printing for leaflet folder or cards.
5. Prepare transparencies, slides for slide projector and L.C.D. slides.

### Distribution of Marks

1. File & Record	10
2. Demonstration	10
3. Role play/ Puppet Play	08
4. Develop a script write & article	08
5. Viva-Voce	04
Total	<b>40</b>

### **List of Books**

1. Dhama, O.P. & Bhatnagar, O.R: Extension and Communication for Development, Oxford and IBH Publishing Co. New Delhi, 1985
2. Extension Education in Community Development, Directorate of Extension Ministry of Food and Agriculture, Government of Delhi.1961
3. Supe, S.V. An Introduction to Extension Education, Oxford &IBH Publishing Co. Pvt. Ltd, New Delhi, 1980
4. Waghanare, S.K.: Teaching Extension Education, Prashant Publisher, V.allabh Vidhyanagar.1980
5. Singh, R. Text book of Extension Education, Sahitya Kala Prakashan,Ludhiana,1987
6. Stenley, John: People in Development: A Training Manual for Group, SEARCH, Bangalore India, 1982
7. Desai, V: Rural Development(Volumes1-6) Programs and Strategies Himalaya Publishing House,Mumbai,1988
  
8. Patanayak R: Rural Development in India, Amol Publication, New Delhi, 1990
9. Reddy.A: Extension Education, Sri Lakshmi Press, Bapatia, 1987
10. Baidhynath M: Poverty, Unemployment and Rural Development, Himalaya Publication House Mumbai 1991
11. Devidas.R.R: Text Book of Home Science, NCERT, New Delhi,1980
12. Mukherjee N.: Villagers' Perception of Rural Poverty Through the Mapping Method of Participatory Rural Appraisal or Participatory Learning Methods: PRA/PALM Series, No .2.Service Road, Domlurlayont. Banglore-56007111 MVRAD.1992
13. Singh.K.: Principles of Sociology, Prakashan Kendra, Lucknow.1980
14. Thingalaya, N.K. Rural India- Real India, Himalaya Publishing House, Bombay, 1986
15. Alminyso Social Change and Development Sage Publications Pvt. Ltd. Madras 1990
16. Desai V. A study of Rural Economics System Approach Himalaya Publishing House New Delhi 1990
17. Mann Peter H., Methods of Social Investigation Basic Blackwell, 1985

### **Journals :**

Changing Villages, PPS Gussain for consortium on Rural Technology, D-320 Laxmi Nagar New Delhi-110092

Journal of Rural Development, The national Institute of Rural development, Rajendranagar, New Delhi-110092

Social Welfare, Central Social Welfare Board, Samaj Kalyan Bhavan, B-12, Tona Crescent, Institutional Area South of 11T, New Delhi-110016

## Paper XII - FOODS AND NUTRITION-II

### Nutritional Biochemistry

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Objectives:

The course lays the foundation for understanding the functioning of metabolic processes at cellular level and the role of various nutrients in these processes. This course will enable student to:

1. Develop an understanding of the principles 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 are applicable to human nutrition.

#### Contents:

##### UNIT I

1. Introduction to biochemistry- Definition, objectives scope and interrelationship between biochemistry and other biological science.
2. Carbohydrates- properties of mono, di-and poly-saccharides
3. Lipids-
  - (a) Physical and chemical properties with reaction of different functional group of lipids. Hy-drogenationoffats. Significance of acid value, iodine value and saponification value.
  - (b) Classification and structure of phospholipids, glycolipids and sterols.
  - (c) Lipoproteins- types, composition, role and significance in diseases.

##### UNIT II

4. Proteins- properties of amino acids essential and non-essential, peptides and proteins. Function of proteins.
5. Enzymes- Definition, types and classification of enzyme kinetics including of coenzymes, specificity of enzymes, isohyets, Enzyme kinetics including factors affecting velocity of enzyme/catalysed reactions. Enzyme inhibition.
6. Molecular aspects of transport- passive diffusion, facilitated diffusion and active transport.

##### UNIT III

- 7 . Vitamins- Chemistry and biochemical role of vitamins-fat soluble-A,D,E and K and water soluble-B<sub>1</sub>, B<sub>2</sub>, niacin, B<sub>6</sub> and C.

8 . Mineral- Biochemical role of inorganic elements- calcium, phosphorus, magnesium, iron, copper, sodium, potassium, iodine, fluorine and zinc.

#### UNIT IV

10. Intermediary metabolism- General considerations, Elementary study of intermediary metabolism of carbohydrates, lipids and proteins-glycolysis, gluconeogenesis, glycogenesis, glycogenolysis, regulating blood glucose level, oxidation and biosynthesis of fatty acid, synthesis and utilisation of ketone bodies, ketosis, cholesterol metabolism, general reactions of amino acid metabolism-deamination, transamination, decarboxylation and entry of amino acid into TCA cycle, urea cycle, Citric acid Cycle (TCA)

#### UNIT V

11. Biological Oxidation electron transport chain, oxidative phosphorylation energy conservation, high energy phosphate bonds.
12. Introduction to genetic control, of metabolism- Nucleic acids- types, composition and structures. Replication, transcription, genetic code. Elementary knowledge of biological of proteins.
13. Hormones- biological role of hormones- Pituitary, adrenal Cortex and Medulla, thyroid, Parathyroid and Pancreas.

#### PRACTICAL

Periods./ Week: 3

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

This course will enable the student to-

- 1 Quantitative analysis of carbohydrate.
2. Quantitative analysis of amino acid.
3. Estimation of lactose in milk.
- 4 Determination of Acid value, Saponification value and Iodine number of natural fats and oil.
5. Estimation of ascorbic acid content of foods by titrimetric method and colorimetric method.

#### Distribution of Marks

i. Files, Record etc.	10 marks
ii. Quantitative analysis (two)	
a) Principles & methods	10 marks (05 marks each)
b) Observation & calculation	10 marks (05 marks each)
c) Results & precautions	10 marks (05 marks each)
Total	40 marks

**Note :** Atleast one observation of each experiment should be checked by one of the examiners.

#### Reference:

1. Bell, GH, Davidson, JN and Smith, DE.: Text Book of Physiology and Biochemistry, ELBS & Churchill living stone.
2. Berry, A.K.: A Text Book of Biochemistry, Tata Me graw Publishing Co. Ltd. New Delhi.
3. Conn, E.E. Stumpf P.K. Brueing, G. and Doi, R.H.: Outlines of Biochemistry, John Willy & Sons, N. York.

4. Devlin, T.M. (1986): 2nd Ed. **Text** book of Biochemistry with Clinical Correlations, John Wiley and Sons.
5. Indian Standards Institution, (1985): ISI Handbook of Food Analysis, Parts I- XI, Manak Bhawan, Mew Delhi.
6. Lehninger, A.L., Nelson, D.L and Cox, M.M. (1993): 2nd Ed. Principles of Biochemistry, CBS Publishers and distributors.
7. Mazur, A. and Harlow, B.: Text Book of Biochemistry, WB Saunders Co, Philadelphia.
8. Murray, R.K., Garnner, D.K., Mayes, P.A. and Rodwell, V.W. (1993): 23<sup>rd</sup> Ed. Harper's Biochemistry. Lange Medical boot's.
9. Oser, B.I. (1965): 14th Ed. Hawk's Physiological Cherrstry, McGraw Hill Book Co.
10. Rao, K.R.: Textbook of biochemistry, Pentice4 Hall of India Pvt. Ltd. New Delhi.
11. Stryer L. (1995): Biochemistry, Freeman WH and Co.
12. Sundararaj, P. and Siddhu, A., (1995): Qualitative Tests and Quantitative Procedures In Biochemistry- A Practical Manual, Wheeler Publishing.
13. Varely, H., Gowenlock, A.H. and bell, M. (1980): 5<sup>th</sup> Ed. Practical and Clinical Chemistry, Vol 1, William Heinemann Medical Books Ltd.
14. West, I:S, Todd, W.R , Mason, H.S. and Van Bruggen, J.T. (1974): 4th Ed Text book of Biochemistry, Amerind Publishing Co. Pvt. Ltd.
15. White, A., Handler P., Smith E.L,Stelten,D.W (1959): 2<sup>nd</sup> Ed. Principles of Biochemistry, MC Graw Hill Book Co.
16. William, S.: 16<sup>th</sup> Ed. JAOAC, Official method of analysis of the Association of Official Analytical Chemists.
17. Swaminathan, MS (1985): Essentials of Food and nutrition VI: Fundamentals Aspects VII: Applied Aspects. Bangalore Printing Co. Ltd.

## PAPER XIII - FOOD AND NUTRITION-III

### Food Science

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

**Objective :** This course will enable the students to

1. Get acquainted with the composition of different foodstuffs.
2. Understand the chemistry of foods.
3. Apply the theoretical aspects in ensuring food quality.

#### Contents:

#### UNIT I

1. Introduction to Food Science and chemistry
  2. Physio-chemical properties of foods- colloids, osmotic pressure, hydrogen ion concentration (pH), bound water in foods.
  3. Sensory Evaluation- Definition, use of Sensory analysis in product evaluation, methods of sensory evaluation (in brief).
  4. Carbohydrate foods.
- (a) Starchy foods-
- (i) Structure of starch cell
  - (ii) Changes produced in starch cell during cooking
  - (iii) Factors requiring control during starch cookery.
  - (iv) Various preparations using starchy foods.
- (b) Cereals
- (i) Structure and composition
  - (ii) Processes done before cooking- milling, polishing, parboiling, flaking and parching, roasting.
  - (iii) Various ways of using cereals- whole grain, flour-coarse, fine & refined convenience foods, cereal food products.
- (c) Sugars-
- (i) Various types of sugar products- composition, manufacturing processes and use.
  - (ii) Properties of sugar.
  - (iii) Sugar cookery-behavior of sugar in concentrated solutions, uses and various preparations.

## UNIT II

### 5. Protein foods-

#### (A) Animal Sources:

##### (a) Milk and milk products:

Kinds, composition, nutritive contribution.

Preparation of milk products.

Processing techniques- Pasteurization, Homogenization.

Use of milk in food preparation- effect of heat, acid, enzymes and salt various uses.

##### (b) Eggs:

Structure, composition and nutritive value, measures of quality and grading of eggs.

Egg Cookery- factor affecting whipping quality of eggs and heat coagulation of egg protein. **Uses** of egg in cookery. Methods of cooking egg and egg dishes.

##### (c) Flesh foods: (meats, fish and poultry) Kinds, composition and nutritive value structure of muscle

Postmortem change and **aging** of meat, factors affecting tenderness.

Meat cookery changes during cooking. Curing process.

## UNIT III

#### (c) Vegetable Sources:

##### (a) Legumes and Pulses:

(i) Structure, composition; effect of methods like soaking, germination and fermentation, effect of soda during cooking.

(ii) Various preparations, incorporation of pulses in high protein vegetable mixes.

(b) Nuts and Oilseeds- Nutritive Value and importance.

### 6. Fats and Oils:

(a) Kinds (edible), composition and properties.

(b) Manufacturing process-separation/ extraction, refining process and hydrogenation.

(c) Importance in cooking

(d) Change in fats and oils on heating. Storage of used oils.

(e) Rancidity of fats.

## UNIT IV

### 7. Protective Foods: Fruits and vegetables

(a) Classification, composition and importance in diet.

(b) Change occurring during maturation and ripening.

(c) Pigments present.

(d) Cooking of vegetables and change that take place during cooking: effect of heat, acid and alkali.

(e) Pectin, gum and applications in food processing.

8. Condiments, spices, herbs, colouring and flavouring agents. Uses in Indian Cookery.

9. Beverages: type, nutritive contribution and preparation.



10. Introduction to special foods: Novel foods, convenience foods, space foods, and uncommon & non-conventional foods.

#### UNIT V

11. Food additives: types and functions.

12. Food adulteration: definition, common adulterants and efforts to control food laws and standards.

13. Food Safety:

(a) Food borne infections, infestations and intoxication-causes

(b) Sources of contamination.

(c) Preventing spread of diseases through food and handling.

14. Food preservation:

(a) Definition

(b) Causes of spoilage.

(c) Importance of preserving food.

(d) Principles of food preservation.

(e) Method of food preservation-at home and commercial.

#### PRACTICAL

Periods./ Week: 2

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

1. Principles and method of working in food laboratory of kitchen. Organoleptic evaluation of foodstuffs.

2. Appliances, equipments and tools used in food preparation- use and care.

3. Weight and measures of dry ingredients, solid fat, liquids.etc.. Standard weight and measures, weight and their equivalent measures.

4. Market survey of availability and cost of foods.

5. Determination of percentage of edible portions of food.

6. Cooking methods - various preparations using different cooking methods.

7. Starch and Cereal Cookery:

Various preparations showing.

(i) Dextrinisation, gelatinisation and thickening ability

(ii) Gluten formation and factors influencing its formation.

8. Sugar-Cookery:

(a) Preparation showing syrups of various strengths.

(b) Preparation in which:

(i) Size of crystals is controlled.

(ii) Crystal formation is prevented.

(iii) Some functions of sugars are shown.

9. Pulses, Nuts and oilseed:

(a) Effect of nature of water, acid and alkali on texture and doneness of pulse their use and preparation of selected recipes.

(b) Ways of making complete proteins.

10. Cooking with fats and oils: studying different factors affecting fat absorption. Suitability of different products.

11. Milk cookery: preparations using milk and milk products.
12. Egg Cookery(optional)
  - (a) Preparation showing functions of egg in cooking- as foaming, coating, binding, flavouring and colouring agent.
  - (b) Effect of time, temperature, salt and acid on coagulation of egg protein.
  - (c) Egg white foam-factor contributing to volume and stability.
  - (d) Various ways of using **egg**: boiled, poached, fried, scrambled, plain and puffy, omelets, **egg curry**, etc.
13. Vegetable Cookery:
  - (a) Effect of acid, alkali, **heating**, covering and cooking on the colour and doneness of vegetable.
  - (b) Preparation of Selected common recipes.
14. Cooking of Flesh foods; Preparation of selected common recipes using Meat, fish and poultry. (Optional)
15. Frozen desserts: Souffle and Ice creams.
16. Preparation of Jams, Jellies, Pickles, Preserves, sauces etc.
17. Caked Products: Cakes and Biscuits.
18. Food Adulteration: Qualitative testing of some common foods for Adulteration (Demonstration).
19. Visit to food-processing unit.

#### Distribution of Marks

1. File & Records	10
2. Planning (2 problems)	08
3. Preparation-	05
4. Method of work & Cleaning	03
5. Service	02
6. Identification of (a) starch grains (2)	04
(b) adulterants in given food	04
7. Viva voce	04
Total	40

#### Reference:

- B. (1997): Food Science, New age International (P) Ltd. Publishers, N. Delhi.
- Charley, H.: Food science, John Wiley and Sons.
- Dowell, P. Bailey A (1980) The Book of ingredients, Dorling Kinderley Ltd. London.
- Huges 0 Bennion M (1970) Introductory Food, 5th Ed MacMillan Publishing Co.
- Lawies S. (1998) Food Commodities, Heienmenn Ltd. London
- Me Willams M: Experimental Foods laboratory Manual, Surjeet Publication New Delhi.
- Me Willams M. Fundamentals, Jon Wiley and Sons.
- Morr, ML And Ir. Milter T: An Introductory foods a laboratory Manual of food preparation and Evaluation.  
MacMillanPublishing Co.
- Padamanabhan, D: The Spice National Council of Education Research and training.
- Paul P.C. and Palmer, H.H: Food Theory and application, John Wiley and Sons
- Peckham, G.C.: Foundations of food preparation. Macmillan Publishing Co.
- Philip, T.E. (1988) Modern Cookery for teaching and the trade 4th Ed Orient Longman Bombay.

Pooler, N.N Food Science CBS Publishers and distributions N. Delhi.

Pruthi J.S. (1979) Spices and Condiments National book trust New Delhi

Pyke M.: Food Science and Technology Johan Z Murry London

Rajalakshami, R.: Applied Nutrition Oxford & IBH Publishing Co. Pvt. Ltd. N. Delhi

Robinson, C.H. Lawler, M.R. Chenoweth W.L. and Garwick A.E. (1986) normal and Therapeutic Nutrition, 17<sup>th</sup> Ed., MacMillan Publishing Co.

Swaminathan, M.S.Essentials of Food And Nutrition VI: Fundamentals Aspects VII: Applied Aspects.

Sethi, M an Rao, ES (2001): Food Science, Experiments and Applications. CBS publishers and distributors, N Delhi.

Srilakshmi Khader, V (2001): Textbox of Food Science and Technology, ICAR, N. Delhi

## Paper XIV - FAMILY RESOURCE MANAGEMENT II

### Consumer Economics

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### UNIT I

1 Family as an economic unit.

Economic goals of family.

2. Consumer Economics

i). Meaning and definition.

ii). Consumer- definition consumerism, rights and responsibilities of consumers.

3. Measures of living and consumption.

i). Place of living, level of living, standard of living; plane of consumption. Level of consumption standard of consumption, cost of living.

#### Unit II

4. Income-

(a) Definition, types and **sources** of incomes real money, psychic, contributors to family **income**, national, personal and disposable income, (only definitions)

(b) Factors influencing variation in family expenditure.

(c) Management of income- Budget-definition, importance, steps in making budget, type of budget.

(d) Saving and investment- Meaning, objective, type characteristic, Criteria for judging good investment and saving.

(e) Credit- meaning sources, types and cost of credit

5. Market- Definition, Types **of** markets- segmentation and characteristics, functions, channels of distribution.

6. Consumer in the market

(a) Consumer buying habits: Convenience goods, specialty goods.

(b) Buying motives- selective, rational, emotional patronage.

(c) Factors affecting consumer decisions in the market-good buy manship.

(d) Consumer product and promotion, packing.

#### Unit III

7. Consumer buying Problems.

Adulteration, faulty weights and measures, other malpractices in market pricing, brand, labeling, installment buying. Legal problems in buying and paying for goods and service-Guarantee and warrantee contracts, installment buying contracts, cash and credit buying

8. Consumer Protection Services-

(a) Role of different organizations/ agencies towards consumer-Ministry of law and justice, Consumer Guidance Society of India, Consumer cooperatives, Govt. and municipals agencies, Educational institutions, Consumer education and research center.

(b) Standards-benefit to consumer & manufacturer, Certification-Role of certification.

**Unit IV**

9. Consumer Protection- legislation and law- Introduction to consumer protection movement, importance and scope of law in consumer protection. Important laws for consumer protection Consumer representation. Basic Social and statutory laws and their implications.

10. Taxation- Need, types cannons of taxation- Principles, basis calculation of income tax filling of tax returns.

Insurance its types & function

Saving & Investments

**UNIT V**

11. Principals of Arts and element of design application in life,

Colour Schemes and its importance in interior design

12. Selection, care and maintenance of furniture and furnishing

13. Flower arrangement different type

**PRACTICAL**

Periods./ Week: 3

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

**Marks Distribution**

Note: - Student are expected to submit

Files and reports for exercise. 10 Marks

Minor Problem

(i) Budgeting of different income group 5 Marks

(ii) Napkin folding/ Flower arrangement 5 Marks

(iii) Rangoli/Alpalna 5 Marks

Major Problem

(i) Pot painting 05 Marks

(ii) Colour schemes its application in design 05 Marks

(iii) Viva voce 05 Marls

Total 40 Marks

1. House hold equipment- Market survey of equipment in terms of availability brands, performance and cost. Survey of Consumer using the above product with regards to problems the experience and their view in relation to equipment use. Identification of materials and finishes of different equipment and their characteristics. Prepare budget for families of various income groups.
2. House Keeping- Setting for Indian traditional (North India South Indian style) and continental meals- formal table setting. Buffet arrangements Setting for Indian traditional meals.
3. Napkin folding: napkin: Selection of size, material and enrichment principles for napkin folding types of napkins for different occasions.
4. Flower arrangement
  - (a) Basic equipment
  - (b) Vase and containers.
  - (c) Preparing plant material
  - (d) Shaping an arrangement
5. Basic of scale and perspective drawings
6. Preparation of wall hanging

**Reference:**

- Leiland, J. Gordan Stewart, M. Lee (1974) Economics and Consumer-7th ed D'Von Nostrand Co. N.York
- Om Welers (1974): Who Buys-A study of the consumer
- Sherlekar, S.A. (1986): Track Practtices and consumers, Himalayan Publishing house (Unit I,VI)
- Kolter Philip, Armstrong Gray^992): Principles of Marketing 5<sup>th</sup> ed Prenctice Hall ofIndia, N Delhi.
- Dacid H. Bangs, Jr: The market planning guide 3<sup>rd</sup> Ed. Gangotera Pub
- Sarkar A: Problems of **Consigner** in Modern India, Discovery Publishing House.
- Jones, Bridget (2000) Entertain in istyle, London: Annes Publishing Ltd.
- Gill, Robert, W. (1984) Rendering with paper and Ink 2<sup>nd</sup> Ed.
- Willar, Mak (1960) Know how **to** draw, London B.T. Batifort Ltd.
- Chaudhary Rohit (editor) English lettering and alphabets, New Delhi, Gaurav Publishing House.

## Paper XV - HUMAN DEVELOPMENT-II

### Principles of Early Childhood Care and Education (ECCE) and Special child

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Content:

#### UNIT I

1. Early Childhood Education (a) Nature and meaning

(b) Need and importance of ECCE, Objectives of Early Childhood Care and Education

2. Contribution of Great Educators & Psychologists (Western & Indian) towards Early Childhood Education.

a), Rousseau, Dewey, Jean Piaget, Benjamin Bloom, Montessori, Susan.

b) Swami Dayanand, Swami Vivekanand, Rabindranath Tagore, Gandhi, Aurobindo, Gijubhai, Tarabai etc.

3. Types & Curriculum Models of Early Childhood Education.

a) Kindergarten, Montessori, Nursery, Open, Pre-basic & Balwadi types

b) Child Development, Verbal/Cognitive, Sensory/ Cognitive, Verbal / Didactic Models.

#### UNIT II

4. Organization of Early Childhood Care & Education Centers.

a) Site, Building, Classrooms, Staff

b) Curriculum, Equipments

c) Records & Registers, Supervision & Evaluation

d) Parent Participation & Parent Education

e) Early Childhood Education Training Programmes.

5. Educational Media. Materials and Aids of ECCE

a) Play materials. Learning materials

b) Media & Aids

c) Art Education and Activities for the Pre-school Child.

### **UNIT III**

#### **6. Child with Special Needs**

- i. a) Introduction and scope of special education, Meaning and concept of children with special needs
  - b) Classification and conceptual foundations of education of exceptional children.
  - c) Organizations working for children with special needs
  - d) Normalization and Attitudes towards exceptional children.
- ii. The Mentally challenged and the gifted Children -
  - a) Introduction, definition, classification
  - b) Causes, characteristic, prevention,
  - c) Educational considerations, management, intervention and rehabilitation.
- iii. Children with sensory disabilities - The visually and Aurally impaired and children with communication disorders-
  - a) Introduction, classification
  - b) Causes,, characteristics, prevention
  - c) Educational considerations, management
  - d) Intervention and rehabilitation.

### **UNIT IV**

#### **7. The Learning Disabled, Emotionally disturbed and Children with Behavioural Disorders**

- a) Introduction, Classification
- b) Causes, Identification, characteristics
- c) Treatment, prevention
- d) Educational and special considerations
- e) Intervention, management and rehabilitation.

### **UNIT V**

#### **8. Children, with physical disabilities and neurological impairments-**

- a) Introduction & Classification
- b) Causes, characteristics & identification
- c) Educational, and special considerations
- d) Management, intervention, rehabilitation and treatment.

### **PRACTICAL**

Periods./ Week: 2

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

- 1. Preparation of Creative Albums, Picture Books and Children's Literature for Early Childhood Education.
- 2. Story Telling. Techniques & Aids
- 3. Daily, Weekly & Monthly Planning for an ECCE center.



4. Planning & Implementing developmental activities for Pre school children & Children with special needs.

5. Visits & Report presentation of

- Early childhood Care & Education Centers

- Nursery Schools

- Anganwadi

- Institutions of Children with special needs.

**Distribution of Marks**

1. File& Record	10
2. Preparation of creative Albums, Picture, Books and Children's Literature	05
3. Story Telling	05
4. Planning of ECCE center	05
5. Developmental Activities	05
6. Visits & Report presentation	05
7. Viva voce	05
<b>Total</b>	<b>40</b>

**References:**

1. Grewal, J.S. (1986) Early Childhood Education, Foundations & Practice 1984, National Psychological Corporation Agra.
2. Kaul, V. Bhatnagar, R. (1992): Early Childhood education A trainer's hand book, New Delhi, NCERT.
3. Murlidharan, R., Asthama, S. (1991): Stimulation activities for young child'ren, New Delhi: NCERT
4. Swaminathan, M. (1984): Play activities for young children, New Delhi. UNICEF.
5. Devnes, R., Kohlberg, L. (1987): Programs of early education, New York: Longman.
6. Huck, C. (1974) Children's literature in elementary school, New York: Holt, Rinehart & Winston.
7. Gill, S.I. (1993): Child Care Programs in India: Changing trends. In Saraswathi, S.S. & Kaur, B. New Delhi, Sage Publication.
8. Kaul, V. (1991): Early Childhood Education Programme. New Delhi: National Council for Educational Research & Training.
9. Lawton, J.T. (1988): Introduction to child care & early childhood education London: Scott. Foreman & Company.
10. National Policy on Education 1 New Delhi Ministry of Human Resource Development.
11. Kulkarni, S.S. (1988): Parent Education: Perspectives and approaches, Jaipur Rawat Publishers.
12. Tuizard, B., Mortimore, J. & Burchell, B. (1981): Involving parents in nursery & infant schools, London: Grant Me Intyre.
13. Mohanty, J & Mohanty, B. Early Childhood care & Education (ECCE) 1996, Deep & Deep Publication, New Delhi.
14. Berdine, W.H., Blackhurst, A.E. (1985): Introduction to special education (Second ed) Lexington, Harper Collins.
15. Hallahan, D. P. & Kauffman, J.M. (1991): Introduction to exceptional children (5th ed) Boston, Allyn & Bacon.

16. Luring, J & Burn, G. (eds) (1978): Integration of handicapped children in society, London, Routledge & Kegan Paul.
17. Werner, D. (1994): Disabled village children (Indian ed.) New Delhi, Voluntary Health Association of India.
18. Philip, M.& Duckworth, D. (1985): Children with disabilities & their families: a review of research Windsor, Berks: NFER-NELSON Publishing Co.
19. Achenbach, T.M. (1982): Developmental Psychology, (2nd ed) New York, John Wiley.
20. Tinberger, N. & Tinberger, E.A. (1983): Autistic Children- New Hope for a cure, London, Alien & Unwin.
21. Chazan, M., Laing, A.F. & Davies, D. (1991): Helping five to eight year olds with special educational needs, Oxford: Basil Blackwell.
22. Berdine, W.H. & Cegelka, P.T. (1980): Teaching the trainable retarded, Ohio: Bell & Howell.
23. Smith, D.D. (1981): Teaching the Learning Disabled, New Jersey: Prentice Hall.
24. Suran, B.G. & Rizzo, J.R. (1979): Special children: an Integrative approach London: Scott, Foresman & Co.
25. Taylor, R. L. & Sternberg, L. (1989): Exceptional Children: Integrating research and training, New York: Springer Verlag.
26. Narasimhan, M.C & Mukherjee, A. K. (1986): Disability: a continuing challenge, New Delhi: Wiley Easter
27. Bhargava, M. (1994): Introduction to exceptional children - their nature & educational provisions, New Delhi: Sterling.
28. Fimian, M.J., Pafard, M. & Howell, K.W. (1984): Teacher's guide to human resources in special education: paraprofessionals, volunteers & peer tutors, London: Allyn & Bacon.
29. NCERT (1987): Planning & Management of IED programme, New Delhi: National Council of Educational Research & Training.
30. Chattopadhyay, A. (1986) All India directory of educational & vocational training Institutes for the handicapped, New Delhi: Patriot Publishers.
31. Bhargava, M. Introduction to exceptional Children-their nature & educational provisions, Sterling Publishers Pvt. Ltd.
32. Dash, B.N. Education of Exceptional Children; Ajanta Prakashan, Delhi.

## PAPER XVI - TEXTILES AND CLOTHING II

### Textiles and Laundry Science

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Contents:

#### UNIT I

##### 1. Fabric construction

###### a. Weaving

- i) Terms used in weaving.
- ii) Loom and its parts
- iii) Types of Weaves - Construction, properties and usage - plain, twill, satin and sateen
- iv) Introduction to complex weaves - huck a back, honey comb. leno, mock leno - colour and weave effect.

###### b. Knitting Technology, Types of knits, Designing of knits

###### c. Blends Definition, properties and stages of blending

###### d. Felting

##### 2. Fabric Finishes

###### a. Introduction and need

###### b. Preparatory processes - Singeing, desizing, scouring, bleaching, heat setting.

###### c. Routine finishes-beetling, calendaring, carbonization, permanent setting, mercerization sizing, softening, antishrink, weighing.

###### d. Special purpose finishes - flame retardant, water repellent, antistatic, moth proofing, permanent press.

#### UNIT II

##### 3. Dyeing and printing a. Theory of dyeing

##### b. Classification of dyes on the basis of substrates

##### c. Stages of dyeing, equipment used, advantages and limitations

##### 4. Printing

###### a. Dyeing vs Printing

###### b. Styles of printing

###### c. Methods of printing

### UNIT III

#### 5. Laundry Science

##### a. Introduction

##### i) Classification and introduction to laundry process

(1) Wet and (2) Dry Cleaning

##### ii) Materials and equipments in laundry

iii) Water - Hard and soft water - Temporary and permanent hardness, Problems caused by hard water, Methods of Softening Water for laundry purposes

iv) Soap and detergents-Classification, chemical nature, manufacturing, prosperities and their cleansing action.

### UNIT IV

#### 6. Laundering aids

a) Bleaches: blues, stiffening **agents**, solvents and absorbents their types, methods of preparation and uses.

b) Stain removal - types and methods

c) Care and storage of laundered clothes

7. Tie and dye textiles-techniques of dyeing used in different state bandhani, patola, ikat, pochampali

8. painted and mordant dyed textile techniques of printing pichwai, patta, madhubani

### UNIT V

#### 9. Introduction to family clothing

10. biological, psychological .sociological aspect of clothing influence the need and environment on clothing behavior

11. appearance and personality

12. clothing and family budget

13. wardrobe planning -factors to be considered and clothing needs for different age groups

### PRACTICAL

Periods./ Week: 3

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

1. Identification of weaves and their design, interpretation on graph.

2. Evaluation of color fastness

3. Preparation of samples and article of tie and dye, batik and printing techniques.

4. Preparation of knitting samples by various methods and pattern reading and prepare an article for child or adult

5. Preparation of starches by various stiffening agents and their uses.

6. Drafting, cutting and stitching of Jhabala, bib, panties, Payajama, salwar, Kurta etc

7. Removal of stains

8. Introduction to computer aided designing for weaving software's.

9. Visit to textile mills, museums and garment factories.

10. Berwal, Rekha: Textiles & Laundry – Practical Manual, Pragati Prakashan, Hissar-125001.

<b>Distribution of Marks:</b>	<b>50 Marks</b>
1. Record & File	10
2. Identification of weaves	05
3. Tie.& Dye/ block Printing/ Batik (any one)	05
4. Knitting sample	05
5. Stain removal (2)	05
6 stitching of one garment	15
7 viva voce	05
<b>Total</b>	<b>50</b>

**References:**

1. Joseph. Marjory L: Introductory Textile Science Holt, Tichard and Winston, N. York.
2. Wintage, Isabel B.: Textiles Fabrics and Their Selection Prentice Hall, Inc. Englewood Cliffs, N. Jersey.
3. Joseph. Marjory L: Essentials of Textiles Hold. Rinehart and Winston, New York.
4. Hess, Katherine Paddock: Textiles Fabrics and Their Uses Oxford & IBH Publishing Co. N. Delhi.
5. Corbman Bernard: Textiles fiber to Fabric: McGraw Hill Book Company New York.
6. Hollen Norma, Saddle Jane, Angford Anna -Textiles; Macmillan Publishing Co. Inc. N. York.
7. Deulkar Durga : Household Textile and Laundry Work: Atma Ram & Sons N. Delhi.
8. Dhatyagi: Sushella : Fundamental of Textiles and Their Care Orient Longmans, Bombay.
9. Smith Betty F. and Block Ira-Textile in Perspective - Prentice Hall INC Englewood elife Jersey.

# Bsc. Home Science Part-III

## PAPER XVII - EXTENSION AND COMMUNICATION – III

### Extension Programme Management

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Content:

#### UNIT I

1. Extension Programme Design
  - a) Concept, Objectives and components of extension programme design.
  - b) Principal of extension programme design.
2. Scope of extension programme in development
3. Characteristics of a good programme

#### UNIT II

4. Programme Planning
  - a) Nature and role of planning.
  - b) Importance of planning.
  - c) Principles of planning.
  - d) Process of planning an extension programme.
5. Abilities needed by planners

#### UNIT III

6. Programme Execution/Implementation
  - a) Steps in Programme Execution/Implementation
    - i) Publicity ii) Develop a plan of work iii) Evaluation during implementation
  - b) Aspects in programme execution/implementation.
  - c) Problems in programme execution/implementation.

#### UNIT IV

7. Programme Evaluation
  - a) Meaning and Definition of evaluation.

- b) Objectives and purposes of evaluation.
- c) Aspects of evaluation.
- d) Criteria for effective evaluation.
- e) Steps in evaluation.
- f) Tools & techniques of evaluation.

#### **UNIT V**

#### 8. Programmes for Rural and Urban development

- a) Five year plans and their focus.
- b) On going national rural and urban development programmes for women and children -DWCRA, ICDS, WDP, KVK, TRYSEM & others.

#### 9. Role of NGOs in developmental efforts

- CAPART, CHETNA, CARE, SEWA & others.

### **PRACTICAL**

Periods./ Week: 4

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks:15

1. Study development projects in the selected area in terms of their monitoring and evaluation practices & critically examine the process of monitoring and evaluation.
2. Planning organization, implementation and evaluation of a need based extension programme for women & children in selected community in relation to any one
  - a) Literacy                      b) Income generation
  - c) Health                        d) Maternal & Child care
  - e) Social evils and            f) any other
3. Presentation of the report.

#### **Distribution of Marks**

1. File and Records	10 marks
2. Report	15 marks
3. Planning, implementation and evaluation of a need based programme	15 marks
<b>Total</b>	<b>40 marks</b>

#### **References:**

- Singh, R, Text Book of Extension Education, Sahitya Kala Prakashan, Ludhiana, 1987.
- Supe, S.V., An Introduction to Extension Education, Oxford & IBH, New Delhi, 1984.

- Wooford, J.C.G. Edwin, A. and Cummines' K.C., Organizational Communication-The keystone to Managerial Effectiveness, McGraw Hill Tokyo, Japan, Kkgkusha Ltd.
- McGrath, E.H., Basic Managerial Skills for all, Xavier Labour Relations Institute, Jamsedpur 1978.
- Team Technologies in corporation, a Teams & Project Design, Team Up work book 3810, Concorde Parkway Suite 1600, Chantilly P.A. 22021. USA, 1980.
- Dhama, O.P. & Bhatnagar, O.P., Extension and Communication for Development, Oxford & IBH Publishing Pvt Ltd., New Delhi, 1985.
- Extension Edu. in Community Development, Directorate of Extension. Ministry of Food and Agriculture, Government of India, New Delhi, 1961.
- Sandhu, A.S., Extension Programme Planning, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi. 1996.

**Journals :**

1. Changing Villages, PPS Gussain for Consortium and Rural Technology, D-320, Laxmi Nagar, New Delhi - 11092.
2. Journal of Rural Development. The National Institute of Rural Development Rajendernagar, Hyderabad - 500029.
3. Social Welfare, Control Social Welfare Board, Samaj Kalyan Bhavan, B-12, Tona Crescent, Institutional Area. South of I IT & New Delhi-110016.
4. Kurkshetra, Director, Publication, Division, Ministry of 1 and B, Government of India, Patiala, Patiala House, New Delhi -110001.
5. Yojana, Director, Publications, Division, Patiala Hose, New Delhi 110001.
6. Indian Journal of Extension Education. The Indian Societies of Extension Education, Division of Agricultural Extension I A.R.I., New Delhi, 110012.



**Paper XVIII - FOODS AND NUTRITION - IV**  
**Nutrition Management in Health and Disease**

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

**Note:-**

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

Objectives : This course will enable the student to

1. Understand the concept of an adequate diet and the importance of meal planning.
2. Know the factors affecting the nutrient needs and RDA during life cycle and learn Dietary Management for various age groups.
3. Gain knowledge about dietary management in common ailments.

**Contents :**

**UNIT I**

1. Meal management - Concept and definition-resources, goals and values in meal management. Factors to be considered while planning diet.
  - (a) Nutritional Adequacy - planning of nutritionally balanced diet.
  - (b) Food cost and economy - matching meals to family income. Characteristics of meals for low, moderate and liberal cost, food budgets, economizing in meal management.
  - (c) Matching meals to available time and energy.
  - (d) Acceptability of meals-
    - (i) Sensory factors-eye appeal, taste, aroma, flavour, texture, temperature etc.
    - (ii) Physiological satisfaction- hunger, appetite and satiety value.
    - (iii) Likes and dislikes.
    - (iv) Other factors- availability, variety, food habits, tradition, culture, religion, food fads and fallacies.

**UNIT II**

2. Nutrition through the life cycle.
  - a) Nutrition for adults- at different activity levels and socio economic levels.
  - b) Pregnancy- physiology of pregnancy, factors affecting pregnancy outcome, importance of adequate weight gain during pregnancy, .nutritional requirements during pregnancy and modification of diet. Deficiency of nutrition's and its impact. Common problems of pregnancy and their management- nausea, vomiting, pica, food aversion, pregnancy induced hypertension (PIH). Adolescent pregnancy.
  - c) Lactation- nutritional requirements and dietary management. Galactogogues.

### UNIT III

d) Infancy- nutritional requirements. Breast feeding-colostrums- importance in feeding. Advantages of exclusive breastfeeding. Nutritional and other advantages of breast-feeding. Bottle feeding- circumstances under which bottle-feeding is to be given. Care and sterilization of bottles/Preparation of formula-modification of non-human milk for infant feeding. Mixed feeding- breastfeeding and artificial feeding, weaning. Introduction of complementary foods, food supplements at various stages.

e) Nutritional needs and dietary management of infants, preschool, school going children and adolescents. Establishment of good food habits.

f) Nutrition during old age-physiological changes, nutritional needs and dietary modification.

### UNIT IV

3. Basic concept of diet therapy-meaning and importance of therapeutic nutrition. Modification of normal diet for therapeutic purposes. Full/regular diet, bland diet, soft and fluid diets. Methods of feeding patients- normal and artificial. Psychological factors in feeding and the problems involved. Dietitian qualities to be possessed, role and responsibilities.

4. Energy modification and nutritional care for weight management-identifying underweight, overweight and obese. Modifying and controlling weight.

5. Predisposing factors, clinical **features** and dietary management of

a) Febrile diseases-acute and chronic

b) Gastrointestinal disturbances-

I) Gastritis, gastric and duodenal ulcers, constipation and diarrhoea.

II) Malabsorption Syndrome- Celiac Sprue and Tropical Sprue.

c) Hepatitis, cirrhosis of liver, cholecystitis

### UNIT V

d) Diabetes mellitus

e) Hypertension, atherosclerosis

f) Glomerulonephritis- acute and chronic.

g) Inborn Errors of Metabolism- Phenyl Ketone urea and Maple Syrup Urine disease.

h) Gout.

6. Interaction between Immunity, Nutrition and Infection.

### PRACTICAL

Periods./ Week:4

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

#### Objectives-

This course will enable the students to

1. Plan and prepare nutritionally adequate diet in relation to age, activity levels physiological state and socio economic status.

2. Make therapeutic modification of normal diet for common disease condition **Contents-**

1. Market survey for availability and cost of foods.

2. Calculations and weighing of portions of foods containing same level of a nutrient - energy protein, retinal or its equivalent, thiamine, riboflavin, niacin, ascorbic acid, iron and calcium.
3. Finding out the cheaper sources of nutrients, calculating how much of the nutrient a rupee can buy from different sources.
4. Food exchanges for energy, protein, fats and carbohydrates.
5. Food presentation and table setting.
6. Planning and preparation of diets for different age groups at different socioeconomic and activity levels in relation to special nutrient requirements. a) Adult b) Pregnancy c) Lactation d) Infancy e) Preschool child
7. Planning and preparing modified diets  
a) Soft b) Fluid c) Bland d) High protein e) Calorie restricted
8. Planning and preparing modified diets for  
a) Fever          b) Diarrhoea          c) Constipation d) Hepatitis          e) Hypertension          f) Atherosclerosis g) Diabetes mellitus h) Glomerulo nuphritis i) Obesity
9. Planning and preparing low cost nutrient rich dishes.

#### **Distribution of Marks**

i. Files, Records etc.	10 marks
ii. Planning	
(a) Diet	04 marks
(b) Menu for a given occasion	03 marks
iii. Preparation of two dishes	10 marks
iv. Service	04 marks
v. Method of work	04 marks
vi. Viva voce	05 marks
Total	40 marks

#### **References :**

- Robinson, CH And Lawler, MR : Moral and Therapeutic Nutrition MacMillan Publishing Co.  
 Kinder F.: Meal management. MacMillan Publishing Co.  
 IHE (Gupta, S.Seth. R., Khanna, Kamud & Mahna R): The art and science of cooking- A Student manual Blaze Publishers & distributors Pvt. Ltd.  
 LIC - Basic Food Preparation-A Complete Manual Orient-long man  
 Sethi, M. Malhan, S (1993): Catering Management: An integrated approach Wiley Eastern New Delhi.  
 Passmore R & Eastwood MA: Human Nutrition and dietetics (earlier by Davidson and passmore) ELBS/Churchill Living stone. Saunders Company.  
 Martin, EA, Nutriton in Action Oxford and IBH Publishing Co.  
 Me. Laren DSA Colour Atlas of nutritional disorders. Welfare Medical Publication Ltd. London.  
 Shukia P.K.: Nutritional Problems of India Prentice. Half of India Pvt. Ltd., New Delhi.  
 Goodhari R.S. Shill M.P. : Modern Nutrition in health and disease KM Veghese Co. Mumbai.  
 Antia PF : Clinical Dietetics and Nutrition Oxford Univ. Press.  
 Rajalakshmi R: Applied Nutrition Oxford & IBH Publishing Co. Pvt. Ltd. ew Delhi.  
 Gopalan C : Nutrition- Problems and Programmes in South East Asia, SARC Regional Health **Papers** No 15 WHO Regional Office for south east Asia, N. Delhi.

## Paper XIX - FOODS & NUTRITION – V

### Community Nutrition

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Objectives :

This course is intended to introduce students nutritional problems prevailing in the country, their causes and implications and government policies & programme for control & prevention of the same. This course will enable the students to-

1. Understand the factors that determine the availability and consumption of food.
2. Be familiar with the common nutritional problems of the community their causes, symptoms, treatment and prevention.
3. Get exposed to the schemes, programmes and policies of Government of India to combat malnutrition.
4. Be familiar with the common nutritional and health problems in the country and various regions.
5. Understand the concept of nutritional status and its relationship to health know the methods used for assessment of nutritional status.

#### Contents:

##### UNIT I

1. Concept – Health, community health and community nutrition.
2. Food Availability - factors affecting food availability and its consumption.
  - a) Agricultural Production
  - b) Post - harvest handling/marketing and distribution
  - c) Population d) Economic e) Region f) Socio- cultural g) Industrialization and other factors.
3. Current situation in India (National and regional level-rural & urban) with regard to food availability, mortality and morbidity due to nutritional problems.

##### UNIT II

4. Nutritional Problems of the community and implication for public health-
  - (a) Malnutrition- Definition types i.e. due to deficiency, excess, toxicity and imbalance: factors contributing to Malnutrition
  - (b) Common problems, causes (nutritional & non nutritional), incidence, clinical features, prevention and dietary treatment of
    - i) Protein energy Malnutrition

- ii) Nutritional Anaemias (special emphasis on Iron deficiency anaemias-IDA)
- iii) Iodine Deficiency Disorders (IDD)
- (iv) Vitamin A Deficiency (VAD)
- (v) Fluorosis
- (vi) Rickets, Scurvy, Beriberi, Ariboflavinosis, Pellagra and other problem? common in the state.

### UNIT III

#### 5. Nutritional Assessment and Surveillance-

- (a) Meaning, Objectives and importance
- (b) Methods of accessing nutritional status-Need Importance methods and their interpretation-
  - (i) Direct - clinical examination, nutritional Anthropometry, biochemical tests & biophysical methods.
  - (ii) Indirect - Dietary surveys. Vital statistics - mortality rates, morbidity, ecological factors, socio- economic factors.
- (c) Surveillance systems

### UNIT IV

#### 6. (a) Schemes and programmes to combat nutritional problems in India-

Objectives, focus (intervention strategies), target group, mode of implementation of-

- i) Prophylaxis programme.
  - ii) Mid Day Meal programme.
  - iii) ICDS
  - iv) Other programmes from various sectors like agriculture, health, economic, environment etc.
- (b) Role of National & International agencies in promoting good nutrition.

### UNIT V

#### 7. Nutrition and health Communication-

- (a) Objectives- principles and scope of nutrition and health education.
- (b) Themes and messages in Nutrition & Health education.
- (c) Nutrition Education Programmes-planning, implementation & evaluation.
- (d) Participatory Training.

#### 8. Nutrition Policy in India and Plan of Action.

##### **References :**

1. Nutrition issues in developing countries for the 1980's & 1990's. National Academy Press, Washington D.C.
2. NNMB Reports
3. DGHS Reports
4. Census Reports
5. National family and Health Survey (1993). Indian Institute of Population Sciences Mumbai. I
6. Acharya K.C.S. (1983), Food Security System in India. Concept Publishing Co.
7. Scrimshaw N.S. Behar M. (1976): Nutrition and Agricultural Development- Significance and potential for topics plenum Press, New York.
8. All official reports and statistics for the areas covered in the syllabus.  
Documents from respective Ministries implementing various schemes programmes.

## Paper XX - FAMILY RESOURCE MANAGEMENT- III

### Housing, Interiors and Space Design

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### UNIT I

1. Introduction to fundamentals of art.

- i) Design - definition types - structural and decorative.
- ii) Elements of design, colour, texture, pattern, light, space
- iii) Principle of design - Proportion, balance, emphasis, harmony, rhythm, repetition

2. Residential Space Design

- i) Functions/need of housing : protective, economic, affectional, social status etc.
- ii) Factors influencing housing needs - family size. structure, activities, stages of family life cycle, living habits, income, values, standards goals.
- iii) Factors influencing selection and purchase of site for house building -
  - a) Legal aspects
  - b) Natural features of the site : vegetation, site. soil types, drainage, contour (shape) orientation.
  - c) External Service : Supply of sewage and electricity, sanitation easy accessibility to work place, school, health care centre, fire protection, transportation, proper roads & approach.

3. House Planning/Space designing

- (a) Types of houses: tenements, apartment, duplex & row houses.
- (b) Principles of planning the residential space aspect, prospect, *W-tOj^* grouping of rooms, privacy, orientation, circulation, flexibility, spaciousness, aesthetics, economy, ventilation, service.

#### UNIT II

- 4. a) Types of doors and windows
- b) Landscape and gardening - importance factor and principles of landscape planning.
- c) Construction materials used in building a house.
- d) Financial and legal considerations - availability of funds, for housing.

- (i) Housing development finance corporation, cooperative bank, cooperative housing society, LIC loans from provident fund, finance corporation of India. HUDCOO etc.
  - (ii) State and central Housing scheme.
  - (iii) Housing problems causes and remedial measures
- e) Housing by laws

### UNIT III

#### 5. Introduction to Interior Designing - Furniture and furnishings.

- (i) Structure system with relation to interior space, renovation factors to be considered while designing interior space.
  - (ii) Basic' needs : Ergonomics consideration, psychological, aesthetic, occupational and professional development needs.
  - (iii) Analysis of clients specific requirements.
  - (iv) Location
  - (v) Space requirement
  - (vi) Availability of materials
  - (vii) Design Principles
  - (viii) Budget
  - (ix) Various surface treatments for interior space
    - (a) Window treatments
      - (i) Hard-blinds, shades, cornices
      - (ii) Soft - curtains and draperies
      - (iii) Window accessories curtains, rods, rings, frills, chords etc.
      - (iv) Flooring materials- hard and soft floor covering.
      - (v) Walls treatment paints, wallpaper, wood panelling
      - (vi) Ceiling treatments false ceiling and decorative ceiling
      - (vii) Furniture - furniture design based on anthropometric dimensions constructional features, materials and finishes, selection of furniture for comfort, rest and relaxation. Upholstered furniture - material techniques and design
      - (viii) Furnishing fabrics - typeset obtains draperies, cushion-covers, slip covers, bed and table linen, selection and use, window treatment, accessories-types, selection, arrangement and their role in interiors.
- Factor influencing furnishing decisions - application of elements of art and principles of design in interior decoration.

### Unit IV

#### 6. Illumination - purpose, types of light - natural artificial, glare, reflection and inadequate lighting, **lining** standards for various tasks, unit of measurement.

Lighting in interiors - importance, types of lighting.

Suitable for various activities, effects created through lighting for different areas, selection, design of fixture, cost and care.

#### 7. Computer Aided Interior Designing - Introduction to CAD

## UNIT V

8. (a) Kitchen Modular Design - Kitchen as an important unit of a house, functions and types of kitchen.  
(b) Principles of kitchen planning - orientation and location, size, shape, ventilation, light, socio-economic status, type of family, culture, cost and aesthetics, storage needs, work centre and work triangle, colour scheme.

### PRACTICAL

Periods./ Week: 3

Max. Marks:40

Duration of Exam: 3 hrs.

Min. Marks: 15

#### Marks Distribution

Note :

- i) Students are expected to submit project report for exercise 1. (07)  
ii) Architectural model making of selected interior space. (07)

#### Minor Problem

- i) Development of design and construction of draperies,  
Curtains, window treatment (anyone) (07)  
ii) 3 D Home, Auto CAD (07)

#### Major Problem

- i) Developing house plan for families with different composition and income with standard specification- with interior space planning in terms of colour, furnishing, furniture Ornaments. (12)

**Total 40**

1. Market survey of (a) building materials (b) furnishings in terms of availability, suitability, material & labour cost.
2. Developing house plans for families with different composition and income with standard specification.
3. Interior space planning for different areas of a house in terms of colour, furnishing, furniture, arrangements.
4. Development of design and construction of curtains, draperies, window treatment.
5. Architectural model making of selected layout - work center and storage unit.
6. Orientation to computer software related to interior design -3D Home, Auto CAD.



**References:**

1. Agan Tessle, The house aits plan and use. New Delhi, Oxford and IBH Publishing Company.
2. Broadbent G., Bunt R & Chgarles Zeks, 1980, Sign, Symbol and Architecture, New York: John Wiley & Sons.
3. Desnpande 1991 Build Your Homes, Poona, United Book Corporation.
4. Deshpande 1991 Modern Ideal Homes of Indian Poona United Book Corporation.
5. Fredrick, S. Meritt, 1982, Building Design and Construction and Handbook, NewDelhi.
6. Joseph D Falcone, 1987, Principles and practices of Residential Construction, New Jersey: Prentice Hall.
7. Mills, Edward D (ed) 1985, Planning the Architects 'Handbook' 10th ed Butterworths.
8. Raja Rao T.N. Subramanyam Y 2000. Planning of Residential Building New Delhi, Standard Publishers.
9. Bhatt Pranav and Goenka Shamita (1990) The foundation of Art and Design: Bombay: Lakha Book Depot.
10. Birrel. Veria Leonce (1967) Color & Design: A basic text Vol I&II)
11. Digest submitted in requirement for the degree of education in teacher College Columbian University.
12. Gillet Mary (1981) The Decorating Book, London.
13. Goldstein H & Goldstein V (1967) Art in Everyday Life. New Delhi Oxford & IBH Publishing Co.
14. Halse Ablert O (1978) The use of color in interior (2nd ed) New York, McGraw Hill Books Comp. Ltd.
15. Harbargrsen. Gaiihgm (1980): Design Concepts. Allyn & Bacon Inc.
16. Bryan Lawson (1980): How Designer think. Arch tectural Press Ltd.
17. All you need to know about design & Decorating Marshall Carendish Books Ltd. 1985.
18. Thomson C.H. (1970) Home with character (3rd ed) Lexingron, Massachusetts D.C. Health & Co.

## Paper XXI - HUMAN DEVELOPMENT - III

### Family Dynamics

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

Contents:

#### UNIT-I

1. Personality development-Meaning, theoretical approaches to personality.
2. Determinants of personality.
3. Development of personality.
4. Measurement of personality.

#### UNIT-II

5. Theories of human development.
  - (a) Abraham Maslow : Humanistic theory of personality.
  - (b) B.F. Skinner-Behaviouristic learning theory of personality.
  - (c) Alder's theory of personality.
  - (d) Jung's Analytical theory.
  - (e) Freud psycho-analytic theory.

#### UNIT-III

6. Family-Definition, characteristics, function & family life cycle.
7. Marriage-Mate Selection, marital adjustments.
8. Human rights-Introduction.
9. Changing status & future role of women.

#### UNIT-IV

10. Parent education-meaning
11. Discipline technique of parents.
12. Approaches of parent education.
13. Child-parent relationship.

#### UNIT-V

14. Guidance & Counselling-meaning, Need, importance & types.
15. Agencies working for children & youth- ICCW, NCERT, NIPCCD, UNICEF, SOS, Children Village VHAI, YMCA.

16. Agencies working for women & aged-SEWA, CHETNA-Sahali Helpage India, ISCW, Senior citizens Association.

### PRACTICAL

Periods./ Week: 4

Max. Marks: 40

Duration of Exam: 3 hrs.

Min. Marks: 15

1. Two Teaching Aids on any topic related to family and Child welfare.
2. A study and Seminar Presentation or any relevant issue of Human Development.
3. A Survey and Report Presentation of Agencies working for family and child welfare
4. Use of pre-prepared check lists, interview schedules and standardized tests for study of Human Development.

#### Distribution of Marks

1. Preparation of 2 Teaching Aids	10
2. Seminar Presentation	05
3. Survey & Report presentation of Agencies for family & child welfare	05
4. Preparation of check lists. Interview schedule & tests	08
5. File& Record	08
6. Viva Voce	04
Total	40

#### References:

1. Landis, J.T. & Landis M.G.: Building a successful Marriage 1968, Prentice Hall London.
2. Kaplan P.S. & Stein J: Psychology of Adjustment 1984, Wadsworth California.
3. Sachdeva D.R. & Bhushan, V: Introduction To Sociology, Kitab Mahal, Allahabad.
4. Choudhary D.P: Child Welfare and Development, Atma Ram & Sons, Delhi.
5. Pothen's : Divorce its causes and consequences in Hindu Society, 1986, Vikas, New Delhi.
6. Kalabagh (Edr.) Women and Development 1991, Discovery, New Delhi: Vikas Publishing House.
7. Augustine, J.N.(Ed.) (1982): The family in Transition, New Delhi: Vikas Publishing House.
8. Coleman, J.C. (1986): Intimate Relationships, Marriage and the family Chicago: Macmilan Publishing Co.
9. Hutter, Mark (1981): The changing family: Comparative Perspectives, New York: John Wiley & Sons.

10. Antony M.J.(1989): Women's Rights New Delhi: Hind Pocket books Pvt. Ltd.
11. Gupta.J.L.(1988): Challenges to the fair Sex-Indian Women: Problems, Plights and Progress.
12. Acchpal, B. and Verma, A. (1988): Towards Better Families : An Integrated Approach to Family Life Education, Baroda.
13. TISS (1994): Enchanging the Role of Family as Agency for Social and Economic Development, Bombay, TISS.
14. Devadas T.S. (1979): Hindu Family & Marriage, Madras: University, Bombay.
15. Mehta, P. (1977): The Indian Youth, Emerging problems & issues, Bombay, Somaiya Publications.
16. UNICEF (1990): Children & Women in India: & situation Analysis.
17. Govt. of India, Ministry of Human Resource Development, Department of Women & child Development, National Perspective Plan on Women.
18. Govt. of India, Profile of the Child in India: Policies & Programme, New Delhi: Ministry of Social Welfare.
19. Jain S.C. (1986) The Law Relating to Marriage and Divorce, Delhi: Surjeet Book Depot.
20. Kapadia K.M. (1966): Maaarrige & family in India, Bombay: Oxford University Press.
21. Rao, V.V.P. & Rao, V.N. Marriage, The family & women in India, New Delhi, New Delhi Heritage Publications 1982.
22. Rao, Asha et al (1986): Children in Difficult Situation in India: A Review Bombay, Tata Institute of Social Sciences.
23. TISS (1991): Research in Families with Problems in India, Vol. I&II Bombay TISS
24. Verma U.S. & Singh M. (1988): Legal rights for women & Families New Delhi: Women's Legal Aid Centre.

## Paper XXII - TEXTILE AND CLOTHING -III

### Apparel Making & Traditional Textiles

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

#### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

#### Contents :

#### UNIT I

##### 1. Family Clothing

- a) Wardrobe planning
- b) Clothing Budget according to needs of the family and factors influencing needs
- c) Selection of suitable fabrics and garments for Children Infant, toddler and School going and for children with special needs

#### UNIT II

- 2. a) Selection of suitable fabrics and garments for Adolescent, men and women
- b) Selection and buying fabrics for various uses in the home-Classification, selection, factors and care.
- c) Consumer problems and their remedies

#### UNIT III

##### 3. Design

- a) Elements of design - line, colour and texture
- b) Principles of design - balance, proportion, rhythm, emphasis and harmony
- c) Structural and applied design in relation to fabric and apparel.

#### UNIT IV

##### 4. Traditional Textiles of India

- a) Dyed and printed textiles
  - i) Kalamkaari ii) Patola of Gujrat and Tie & Dye of Rajasthan iii) Pochanpally, Telia – rumals of Andhra Pradesh
  - iv) Ikats of Orissa
- b) Woven textiles of India
  - i) Brocades ii) Shawls of Kashmir
  - iii) Muslins of Bengal
  - iv) Silk of Karnataka, Kashmir, Murshidabad, Varanasi
  - Assam and Tamilnadu
- v) Cotton of Kerala

c) Embroidered Designs

Kashida of Kashmir, Kantha of Bengal

Kasuti of Karnataka, Phulkari of Punjab

Chickankari of U.P. Embroidery of Kutch and Kathiawar

#### UNIT V

5. Paper pattern and layout

a) i) Difference between drafts, design drafts and paper pattern

ii) Different type of layouts, crosswise, longitudinal, open and combination

iii) Layouts on different fabrics widths and fabric types (directional checks, strips and bold prints)

iv) Calculation of material required

b) Methods of pattern making c) Drafting, flat patterns principles and rule

d) Draping

#### PRACTICAL

**Periods./ Week: 3**

**Duration of Exam: 3 hrs.**

**Max. Marks: 40**

**Min. Marks: 15**

1. Drafting and construction of -

(a) Frock - A line, gathered party wear

(b) Skirt of minimum two designs/style

(c) Skirt top

(d) Saree blouse

(e) Churidar/Salwar

(f) Ladies Kameez/Kurta with different neck line.

(g) Nightwear (Nighty/Night suit)

2. Development of paper- patterns

3. Embroidery - making of samples for Traditional embroideries and any one household article.

4. Visiting the textile museums.

#### Distribution of Marks

1. Records and files 10 marks

2. Traditional Embroidery sample (any one) 10 marks

3. Construction of any one garment (complete) 20 marks

**Total 40 marks**

#### References :

1. Lewis, Bowers and Keltunen - Clothing construction and wardrobe planning - Macmillan Co. New York.

2. Thompson and Rea - Clothing for Children - Johan Wiley & Sons.

3. Wintage B. Isabel - Textile fabrics and their selection - Prentice Hall, Ney York.

4. Latze, Alpha and Hosletter Helen P-The Wild World of Clothing The Ronald Press Company, New York.

5. Dongarkamy, Kamla S. The Romance of Indian Embroidery -Thacker & Co. Mumbai

6. Pandit Savitri - Indian Embroidery - Its Variegaled Charms.

## Paper XXIII – INSTITUTIONAL MANAGEMENT

Periods./ Week: 4

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

### Note:-

The question paper shall contain three sections. **Section A** contains 5 questions one from each unit of 2 marks each. The candidate is required to answer all the questions. The answers should not exceed 50 words. **Section B** shall contain 5 questions one from each unit with internal choice. Each question shall be of 4 marks. The answers should not exceed 200 words. The candidate is required to answer any 4 questions. **Section C** shall contain 5 questions of 8 marks each, one from each unit. The candidate is required to answer 3 questions. The answer shall not exceed 350 words.

### UNIT-I

1. Meaning, objectives & importance of Institutional Management.
2. Management of hospitality Institutes : Planning, organizing, directing, coordinating, controlling & evaluating in Hospitals, hotels, restaurants, café and outdoor catering.
3. Types of Decisions.
4. Principles of Management.
5. Tools of Management :
  - (a) Job description
  - (b) Job specification
  - (c) Work Schedule
  - (d) Job Analysis
  - (e) Production and Service Analysis Statements.

### UNIT-II

6. Personnel Management :
  - (a) Personnel Administration
  - (b) Recruitment and Selection
  - (c) Induction
  - (d) Employee Facilities and Benefits.
7. Training and Development : Stages of developmental progress.
8. Leadership Style

### UNIT-III

9. Communication in Institutions :
  - (a) Types of Communication : Simple Pattern, Circular manner, Wheel Pattern, Y Pattern, Grapevine communication.
  - (b) Communication Gap between employees.
10. Management of Social Institutes.
11. Challenges and problems faced by institutions.

### UNIT-IV

12. Book Keeping and Accountancy
  - (a) Definition of financial management & management accounting.
13. Books of account :
  - (a) Cash book
  - (b) Ledger
  - (c) Purchase book
  - (d) Sales book
  - (e) Purchases returns book
  - (f) Sales return book.

- (g) Journal
- 14. Trial Balance
- 15. Profit and Loss Account.

#### **UNIT-V**

- 16. Food Service
  - (a) Styles of service : Waiter service, Self service, Vending.
- 17. Menu Planning : Types of Menus.
- 18. Equipment and layout.
- 19. Purchasing : Purchasing methods.
- 20. Types of contacts between the buyer and seller.

#### **PRACTICAL**

Periods./ Week: 2

Max. Marks: 50

Duration of Exam: 3 hrs.

Min. Marks: 18

- 1 Developing a project for different food service institutions in the city.
- 2 Planning & preparation of different types of Food service menus
- 3 Layout of kitchens of different food service institutions.

#### **References :**

- 1. Food service Management by Mohini sethi; New age International Publishers.
- 2. Food Service in Institutions by Bessic Brooks West.
- 3. College & University food service Manual by Paul Fairbrook, John Milano
- 4. Industrial Food Service and Cafeteria Management by Mickey Larnar.
- 5. Guide to food service management by frances cloyd from publications of the National association of college and university food service. Boston.