

# B.Sc. (Home Science) III Year Examination 2016

## FOODS AND NUTRITION – III

### PAPER I: MEAL PLANNING AND DIET THERAPY

Time ; 3 Hrs.

M.M. : 50

#### **Unit I:** Meal Planning and Budgeting:

- Essentials of Meal Planning
- Planning the Food Budget
- Master food plans
- Sample menu for the day's meal
- Factors influencing Food intake and food habits:
  - Physiologic factors that determine food intake
  - Environmental and behavioral factors
  - Influencing food acceptance
  - Nutrition during pregnancy and lactation
  - Physiological and Biochemical changes in pregnancy
  - Nutritional considerations
  - Complication of pregnancy
  - Lactation-Nutritional consideration and diet
  - Nutrition during infancy
  - Nutritional requirement, Breast feeding, Bottle feeding, Solid foods

#### **Unit II:** Nutrition for children and teen agers

Diet for per-school Child, School going child and teen agers

Therapeutic Nutrition:

1. Introduction
2. Purpose of modified diets
3. Tem approach to nutritional care
4. Factors of consider in the study of diet therapy
5. Effect of illness on food acceptance and utilization

#### **Unit III:** Enteral and parenteral Nutrition

1. Therapeutic modifications of the normal diet for consistency, energy, nutrient, bulk etc.
2. Parenteral nutrition
3. Formula diets (tube-feeding)
4. Obesity-causes, prevention and treatment, caloric diet
  - a. Under weight –causes, dietary modifications
  - b. General Dietary considerations in Gastrointestinal diseases, eating disorders  
Peptic ulcer-Etiology symptoms & treatment
  - c. Diet in diarrhea and constipation

#### **Unit IV:** 1. Diet in hepatitis and cirrhosis

2. Fevers-classification, metabolism & General dietary considerations, Diet in tuberculosis & typhoid
3. Diabetes Mellitus-Nature, classes, characteristics, metabolism in diabetes, dietary modification
4. Diet in Anemia

#### **Unit V:** 1. Atherosclerosis-Risk, role of diet Hypertension- Prevention: role of diet and dietary modification

2. Dietary management of heart diseases, modification of the diet
3. Kidney diseases: Glomerulonephritis, nephrotic syndrome and nephrosclerosis
4. Gout-nature, symptoms, treatment modification of the diet

- Purine restricted diet.
5. Cancer-Dietary modification

### Reference Books

Robinson: Normal and Therapeutic Nutrition  
Kinder, F.: Meal Management  
Davidson, S. Passmore: Human Nutrition and Dietetics  
Swaminathan, M.: Advance Nutrition  
Shills, M.E. and Young, V.R.: Modern Nutrition in Health and Disease  
Anita, F.P.: Clinical Dietetics and Nutrition  
Falkner and Tanner: Human Growth a Comprehensive Treatise, vol. I, II and III

### MEAL PLANNING AND THERAPEUTIC DIET PRACTICAL

M.M- 25

Internal – 10

External - 15

Time- 2p/w

Note : Stress should also be laid on decoration, presentation and serving of meals

1. Use of Nutrition value Tables and/ or Exchange lists for calculation of diets
2. Planning (calculate protein and calorie), preparation and serving of a day's meal for
  - a. An adult man and women (moderate worker)
  - b. Adolescent girl (calculate iron also)
  - c. Old age individual
  - d. Packed lunch for a Pre-School Child providing day's 1/3 protein and ¼ calorie
  - e. Pregnant and lactating mothers (calculate iron and calcium also)
  - f. A low cost meal for a hard worker-
  - g. Adult women, planned with special attention to the inclusion of foods for prevention of dietary deficiency diseases
3. Planning, preparation and serving of therapeutic diets for-
  - a. Constipation
  - b. Diarrhea
  - c. Peptic ulcer
  - d. Obesity
  - e. Diabetes
  - f. Hypertension
  - g. Fever
4. Meals for special occasions- Birthday party , festival celebration or journey
5. Diet survey of a family or a particular age group
6. Formulating recipes and preparing home made infant foods

### FOODS AND NUTRITION IV: FOOD SCIENCE (FN IV) PAPER – II

Time ; 3 Hrs.

M.M. : 50

#### Unit I:

Carbohydrate foods:

1. Cereals.
  - a. Structure and composition.
  - b. Processes done before cooking-milling, polishing, parboiling, flaking, parching roasting.

- c. Various ways of using cereals-whole grain flour coarse fine and refined, convenience cereal food products.
  - d. Selection Storage and care.
2. Sugars:
- a. Various type of sugar products – composition, manufacturing process and uses.
  - b. Properties of sugar.
  - c. Sugar Cookery- various behaviour of sugar in concentrated solutions and its uses.
  - d. Storage and care.
3. Starchy food:
- a. Structure of starch cell.
  - b. Changes produced in starch cell during cooking.
  - c. Factors required control in starch cookery.
  - d. Various preparation using starch food.

## Unit II:

Protein foods:

Animal sources.

- a. Milk and Milk Products:
  - i. Kinds, composition, nutritive contribution.
  - ii. Preparation of milk products.
  - iii. Processing techniques-Pasteurization, homogenization.
  - iv. Use of milk in food preparation- effect of heat and acid, various uses.
  - v. Selection of milk and milk products, care of milk in the home.
- b. Egg:
  - i. Structure, composition and nutritive value measures of quality and grading of eggs.
  - ii. Egg cookery factors affecting whipping, quality of eggs and heat coagulation of egg protein, uses of eggs in cookery, methods of cooking eggs and egg dishes.

## Unit III:

(A) Flesh foods (meat, fish and poultry).

- i. Kinds, composition and nutritive value, structure of muscle.
- ii. Postmortem changes and ageing of meat, factors affecting tenderness.
- iii. Meat Cookery-change during cooking.
- iv. Curing process.
- v. Selection and storage at home.

(B) Vegetable sources.

Legumes and pulses.

- 1. Structure, composition, cooking methods, effect of soaking, germination and soda during cooking.
- 2. Various preparations, incorporation of pulses in high protein vegetables mixes.

Nuts and Oil seeds-Nutritive value and importance.

## Unit IV:

Fats and Oils:

- a. Kinds (edible), composition and properties.
- b. Manufacturing Process-separation/extraction, refining process and hydrogenation.
- c. Importance in Cookery.
- d. Changes in fats and oils on heating.
- e. Rancidity of fats.
- f. Selection and care during storage.

Protective foods-Fruits and vegetable.

- i. Classification, composition and importance in diet.
- ii. Pigments present.
- iii. Cooking of vegetable and changes that take place during cooking: effect of heat and alkali.
- iv. Selection and storage at home.

Condiments and spices herbs, colouring and flavouring agents, uses in Indian cookery.

#### Unit V:

1. Beverages – Types, nutritive contribution and preparations.
2. Introduction to special foods – Novel foods, convenient foods, space foods, uncommon and non-conventional foods.
3. Food Additives-types and functions.
4. Food Safety.
  - a. Food borne infections, Source and Prevention.

#### Reference Books

Norman, P.N.: Food Science

Palmer: Food Theory and Application

Charley, H: Food Science

Shakuntala Manay: Food Science

Marry and Benin: Introductory Food

Griswald: The Experimental Study of Food

Peckam, G.C.: Foundation of food preparation

Meyer, L.H.: Food Chemistry

Shadaksha Swamy: Food foundation

#### FOOD SCIENCE PRACTICAL

Time ; 3 Hrs.  
M.M. : 20

1. Weights and measures and cooking methods (to be revised)
2. Cereal Cookery- various preparation showing
  - A. Dextrinization- chapatti, bread, toast
  - B. Gelatinization-corn Starch cooking (custard), Kadhi, plain rice
  - C. Separation of grains by use of fat and dry heat-field rice, lapsi etc.
  - D. Gluten formation and factors affecting its formation soft puri, crisp puri
4. Sugar Cookery
  - a. Preparations showing syrups of various strength
  - b. Preparation in which
    - (i) size of crystal formed is controlled
    - (ii) Preparation of bura
    - (iii) Crystal formation of sugar is prevented
  - c. Some function of sugar are shown  
(Rawa- Ladoo, Batasha, Syrups, Sugar Candy)
5. Pulses, nuts and oil seeds
  - a. Effect of nature of water (hard and soft), acid and alkali on texture and doneness of pulses
  - b. Ways of making complete protein
6. Milk Cookery- Preparations using milk and milk products – Khoya and Paneer
7. Egg Cookery – preparations showing functions of Egg in cooking foaming, leavening, coating, binding, flavoring and colouring
8. Cooking of flesh foods – various preparations using meat, fish and poultry

9. Vegetable Cookery- Effect of acid, alkali, heat and covering on the color and doneness of vegetables
10. Sensory evaluation
11. Planning and preparing nutrient rich dishes, (one serving) providing- one third of day's requirement of Protein, Calcium, iron, vitamin A, thiamine, Riboflavin, niacin and ascorbic acid, calculate calorie and cost of the above dishes
12. Visit to a food processing unit
13. Preparation of a Nutrition educational aid

**HOME MANAGEMENT III:(H.MGT.III) FAMILY ECONOMICS  
PAPER- III**

M.M. : 50  
Time: 3 Hrs.

**Unit I:** Family Economics

1. Human wants : origin characteristics and classification
2. Consumer behavior
  - a. Law of Diminishing marginal utility
  - b. Law of substitution
  - c. Indifference curve
  - d. Consumer surplus
3. Markets : Types of Market, types of purchasing

**Unit II:** 1. Family accounting

- a. Budgeting definitions, importance and steps in planning a budget
  - b. Record Keeping- short and long term methods of account keeping
- 2 Saving and Investment
- a. Importance of saving
  - b. Factors determining saving
  - c. Characteristics of investment
  - d. Types of savings and channels of investment
  - e. Institutions of savings

**Unit III:** 1. Legal aspects of property ownership (special reference to women)

- a. Inheritance of property
  - b. Trust and will
- 2 Tax – (A) Definition, Cannons of taxation  
(B) Classification Proportional and progressive tax, direct and indirect tax, specific and Advance tax  
(C) Main taxes in India- Income tax, corporation tax, Excise duty, custom duties, wealth tax, gift tax, entertainment tax, agricultural income tax, professional tax

**Unit IV:** Consumer Economics

1. Consumer education: Rights and responsibility
2. Programmes for consumer protection
3. Agencies for consumer protection
4. Standardization
  - a. Labelling
  - b. Adulteration control
5. Sales promotion techniques
6. Factors influencing consumer demands  
Customs and tradition, conspicuous, consumption, fashion advertisement, malpractices, price, income and credit opportunities

**Unit V:** Home maker as an Entrepreneur advantages and additional responsibilities

- a. Areas of entrepreneurship for a Home scientist, Daycare centers, crèche, child guidance centers, nursery school, resources centers

- Nutritional advisor, preservation units, mobile food vans and hot lunch vans
- Designing and preparing children's garments, boutique
- b. Market research : Process and advantages (in brief)
- c. Arranging for finances Banks and Institutions
- d. Determinants of pricing, common channels of distribution and its selection
- e. Nature of selling and sell positions

**Reference Books**

Home Economics  
 Home Management: Gross & Crandle  
 Marketing: M.C. Denial C.

**HOME MANAGEMENT IV: (H.MGT.IV) HOUSEHOLD EQUIPMENT  
 PAPER- IV**

M.M. : 50  
 Time : 3 Hrs

**Unit I:** 1. Materials used for household equipment:

- a. Basic materials properties, suitability and maintenance
- b. Metals used for cooking utensils and serving utensils

**Unit II:** 1. Electricity: Generation, transmission, current, wiring the home, circuits, motors, safety devices, electrical accessories

2. Heat: Production and transmission, measurement, control, specific heat and latent heat

**Unit III:** P Principles involved in operation of the following household equipment and selection, use care and maintenance:

1. Small Kitchen tools measuring cups and spoons, Sifters and strainer  
 Beaters and mashers  
 Knives and forks  
 Cutters and Slicers  
 Peelers and graters
2. Pressure cookers, Solar Cooker
3. Kettles and Coffee Percolators
4. Toasters
5. Ovens and Gas Tandoor
6. Cooking Range

**Unit IV:** Mixers and Blenders

Refrigerator  
 Thermos flask and Ice Boxes  
 Brooms and Brushers  
 Vacuum Cleaner

**Unit V:** Washing machine

Irons  
 Electric water heaters  
 Room coolers, Fans  
 Room heaters  
 Hair dryer  
 Radio and T.V.  
 Bathroom fixtures and Accessories

**HOME MANAGEMENT PRACTICAL**

Internal Marks : 10  
 External Marks : 20

1. Drawing of sectional elevations, Lighting treatment
2. Introduction to concept of Landscaping
3. Development of designs and construction of any two
  - a. Cushions, curtains, carpets, Door mats, Rugs, Table mate
  - b. Wall Painting, Pictures form designs
  - c. Crafts out of fiber, Fabric, coir clay metal
4. Flower arrangement for different places & occasions
5. Floor decoration Different type Alpana, Rangoli
6. Meter reading, fixing fuse, gas cylinder fitting, plug & different circuit series and parallel
7. Constructional details of Kitchen and Storage units
8. Furniture layout of commercial area any two relevant office, shop, clinic, parlour, nursery school
9. Developing a project proposal keeping in mind the techno economic feasibility for establishing an enterprise
10. Present/ organize /demonstration/seminar on the developed project in the class

### **HUMAN DEVELOPMENT III: (HD III) MARRIAGE AND FAMILY PAPER- V**

M.M. – 50  
Time – 3 Hrs.

**Unit I:** Long term goals and motives in life;

- a. Marriage
- b. Singlehood
- c. Co-living-nature
- d. Forms and importance of marriage, mate selection: Self and Arranged, points to keep in mind for mate selection

**Unit II:** Adjustment and success in marriage:

- a. Marital adjustment : Meaning, importance and factors influencing it
- b. Interpersonal and intrapersonal adjustment in marriage:
  1. Sexual and emotional
  2. Work and money
  3. In-law relationship
  4. Friends

**Unit III:** Conflicts in marriage:

- a. Causes of disharmony in marriage
- b. Divorce and desertion : consequences and influence
- c. Widow-hood, Remarriage : Consequences and influence
- d. Marriage and Family Counselling : Concept, Types and availability of Family courts

**Unit IV:** Family

- e. Meaning Definitions and Importance of Family
- f. Types of family
- g. Functions of family
- h. Roles : Meaning, definition and Importance of Roles in family

**Unit V:**

- a. Social change and family Implications for child in context of composition and relationship
- b. Parental Practices : Dimension of control and Responsiveness
- c. Family life cycle : The eight stages and their development tasks
- d. Rights of children, Parental Responsibilities

**Reference Books**

Dutt: A book of Marriage and Family



D'souza, Alfred: Happiness in Marriage  
Nurlock, E.: Development Psychology  
Devdas & Jaya: A Text book of Child Development Goode: the Family  
Knox Fabif: Exploring Marriage and the Family  
Rice, F. Philip: Contemporary Marriage  
Kuppu Swamy: Social Change in India  
Kapadia: Marriage and Family in India

## **HD IV: PRE-SCHOOL CHILDREN: EDUCATION, GUIDANCE & COUNSELING**

### **PAPER- VI**

M.M. – 50  
Time – 3 Hrs.

#### **Unit I:**

- a. Changing ideas of childhood.
- b. Historical Development of Pre-School Education in west : Brief Mention of Methods and Philosophies of comenius, Roussean, Pestalozzi, Froebal, Montessori and Dewey.
- c. Pre School Education in India: Brief Mention of Methods and Philosophies of Montessori, Tagore, Gandli, Giju Bhai bhadaka & Tara bai Modak.

#### **Unit II:**

- a. Curriculum Models for Pre School:
  1. Child Development Model.
  2. The verbal/cognitive Model
  3. The Sensory /cognitive Model.
  4. The Verbal/Didactic Model.
- b. Nursery School Building and Equipment.
- c. Planning a day's activity for a Nursery School and Role of Nursery School Teacher.

#### **Unit III:**

- a. Children with Special Need: Definitions, causes & Need for Early Detection and Intervention.
- b. Types of Disabilities: Characteristics.
  1. Sensory Deficits-visually & Hearing impairment
  2. Mental Retardation.
  3. Learning Disabilities.
  4. Common behavioral Problems of Children. Causes and Prevention.

#### **Unit IV: Child Guidance and Counseling.**

- a. Concept, aims, scope, Principles of guidance & counselling with Reference to Child Development.
- b. Competencies of Child guidance worker & Counselor.
- c. Process of Child Guidance and Counseling.

#### **Unit V: a. Different Techniques of Guidance and Counseling.**

- 1). Behavior Modification.
  - 2). Play Therapy
  - 3). Case Study
- b. Other Counseling.
- 1). Marital Counseling
  - 2). Family Counseling
  - 3). Adolescent & Vocational Counseling
- c. Salient Requirement of Setting of Child Guidance and Child Counseling related to Physical, Financial & Personnel.

#### **REFERENCE BOOKS**



Grewal, J.S.: Early Childhood Education foundation and Practice  
 Agrawal: Theory and principles of Education philosophical and sociological bases of education  
 Gedkar, Somaiya: Disabled in India 1983  
 Groock Shank: Psychology of Exceptional Children and Youth 1955  
 Dapur, S.: Changing Status of working women in India 1974

### **Practical (HD)**

M.M. – 25  
 Interval – 10  
 External - 15

1. Use of basic tests:
  - Intelligence test WISC & WPPSI.
  - Baleys Scale of Infant Development.
  - Projective test CAT and TAT
2. Preparing One educational Maternal for Children with special need
3. Interview Adolescent Children and their parents for
  - a. Sex Differences in socialization
  - b. Effects of family size on Parental Practices
  - c. Effects of Maternal employment
  - d. Sibling relations
4. Preparation of report along with reference writing
  - a. Visits to Institution of child Welfare. SOS Village, Orphanage, School for blind deaf and dumb.
  - b. Arranging Video Films, Slide Shows: Preparing a Report of these visits/films
  - c. Story Telling and Conduction of activities for Pre-School Children.
5. Presenting a Lecture/Demonstration/Seminar on issues related to guidance & Counselling

#### **Examination Scheme**

1. Preparation of Education Material for children with special need -4
2. Spotting on Basic Tests - 4
3. Story telling/ conducting Activities for children - 4
4. Viva – 3

### **CLOTHING AND TEXTILE III: (CI.T.III) FAMILY CLOTHING AND HISTORIC TEXTILES PAPER- VII**

Time 3 Hrs  
 M.M. 50

- Unit I:** a. Psychological and Sociological influence of clothes  
 b. Design defined and applied to clothing appearance  
     i. Design Structural and decorative  
     ii principles of design-harmony, rhythm, proportion and emphasis  
     iii Elements of design-color, line, form, texture and shape

- Unit II:** a. Selection of suitable fabrics and clothing according to  
     i.) Age ii.) Fashion iii.) Occupation iv) occasion v.) Climate  
 b. Selection and buying of fabrics for various uses in the home  
     i) Linen ii) Floor Coverings iii) Draperies, Curtains and upholstery

- Unit III:** a. Buying of readymade garments:  
     i) Appearance: Size, Design, line and color  
     ii) Fabric: durability, ease of care  
     iii) Workmanship- Cutting, sewing, fitting  
 b. Clothing Budget and consumer problems related to textiles

c. Informative labeling and standardization

**Unit IV:** a. Common fitting, problems and their remedies

b. Principle of drafting, commercial paper pattern and draping

c. Mending and renovation

d. Concept, meaning, nature, need and scope for entrepreneurship

**Unit V:** Traditional textiles and embroideries of different states of India

a. Kashmir Shawls and Carpets

b. Punjab-Phulkari

c. Bengal-Kanthas, Baluchars, Jamdani

d. U.P. Brocades and Chikankari

e. Gujarat-Patola, Sind and Kutch embroidery

f. Rajasthan-Bandhani

g. Andhra Pradesh-Pochampali and Kalamkari

h. Karnataka-Kasuti

i. Orissa-Ikat

### Reference Books

Sherie Doongaji and Roshni, Deshpande: Basic Processes of Clothing Construction

Pandit, Savitri; Manual of Children's Clothing

Thomson and Rea: Clothing for Children, John Wiley & Sons, N. York

Carson: How to Look and Dress, McGraw Hill Co., N. York

Erwin: Clothing for Moderns, McGraw Hill Co., N. York

Flugen, J.: Psychology of Clothes

Ryan, M.S.: Clothing Study in Human Behavior

Ryan, M.S.: Individuality in Clothing

### CLOTHING PRACTICAL

M.M: 30

Internal : 10

External : 20

1. General Principles for Clothing construction:

a. Study of body measurements in relation to height and age

b. Taking body measurements for different types of garments

c. Importance of drafting and making paper patterns

d. Placing and cutting of pattern

e. Calculating the amount of material required for different garment

f. Preparation of fabrics, straightening shrinking and pressing

2. Drafting, cutting and stitching of the following garments.

a. Children-jhabla, jangia, Romper, Baba suit and frock

b. Lady's Salwar, Kameej, Saree, Petticoat and Blouse

c. Man's/boy's Pajama (plain and Churidar)

3. Renovation

4. Traditional embroidery on articles-any two

5. Knitting- any two of the following to be knitted

Baba suit, cardigan, pullover, sock on two or four needles

### REFERENCE BOOKS

Doongaji, S. and Deshpandey, R: Basic Process of Clothing Construction

Pandit, S.: Manual of Children's Clothing

## EXTENSION EDUCATION II: EXTENSION EDUCATION IN HOME SCIENCE AND RURAL DEVELOPMENT PAPER – VIII

**Unit I: Community Development**

- h. Concept and characteristics of community
- i. Family, Groups, culture and neighborhood concept and characteristics
- j. Social change- Change and progress, Dimensions of social change, factors and direction of social change, acceptance and resistance of social change
- k. Social problems- basic understanding of social problem
- l. Social control- concept and forms of social control
- m. Community Development – Definition, philosophy, principle, and objectives of community development

**Unit II: Extension System in India**

- a. Extension efforts –
  - Before Independence
  - After Independence
- b. Front Line Extension System
- c. Extension system of Ministry of Rural development
- d. Department of science and technology
- e. Role of non governmental organizations
- f. Government and non government collaboration

**Unit III: Support Structure and their Function**

- a.
  - i. Panchayat Raj Institution in India
  - ii. Zila Parishad
  - iii. State social welfare board
- b. Rural developmental Programmes, agencies and voluntary organization in rural development-
  - 1. Developmental Programmes for farm sector- FAO, NAREGS, TRYSEM
  - 2. Developmental Programmes for non farm sector- ICDS, SGSY, NIPCCD, WHO, DWACRA,
  - 3. Developmental agencies- RUDA, NABARD, ATMA, CAPART

**Unit IV: Extension Program Planning**

- a. Meaning, importance and criteria of Extension Program Planning
- b. Principles of Extension Program Planning
- c. Program Planning
  - (i) objectives in extension programme- level, determination of need, interest and writing of objectives
  - (ii) Steps of programme planning
  - (iii) Evaluation- meaning, types, uses and conduction of evaluation

**Unit V: women development**

- 1. Problems faced by rural women- education, social problems, gender, female feticide, and economic dependency
- 2. Need and types of women empowerment
- 3. Economic empowerment
  - a. Self help group- meaning, principle and characteristics
  - b. Formation and organization and maintenance of records for self help group
  - c. Entrepreneurship development –
    - (1) Enterprise
    - (2) Steps in setting up a small enterprise
    - (3) process of entrepreneurship development
    - (4) characteristics of entrepreneur
    - (5) misconception about entrepreneurs

**Reference :-**

Dhama, O.P. & Bhatnagar, O.P. : Education and Communication for Development, 1987  
Dhama, O.P. & Bhatnagar, O.P. : Communication for Development, 1991  
Mandal, S. & Ray, G.L., A text Book of Rural Development, 2007,  
Ray, G.L., Extension Communication and management, 1999, Nays Prakashan, Calcutta  
Reddy, A.A. , Extension Education, 1976, Shree laxmi press, Bapla, A.P  
Extension Education in Community Development, Directorate of Extension Education, GOI, New Delhi

### **EXTENSION EDUCATION PRACTICAL**

M.M : 20  
Internal- 10  
External 10

- i. Care and Use of Projectors
- ii. Survey of rural community and need assessment
- iii. Develop a rural developmental programme
- iv. Implementation of developed training programme
- v. Evaluation of the implanted programme

### **FOODS AND NUTRITION V: (F.N. - V) COMMUNITY NUTRITION PAPER- IX**

M.M. : 50  
Time : 3 Hrs.

#### **Unit I**

1. The community
  - a. Concept of community
  - b. Concept and scope of community nutrition
2. Factors affecting food availability and intake- Agricultural production, population, economic, regional, social, education, distribution, religious and industrialization

#### **Unit II:**

1. Food storage
  - a. Methods of storage of food grains
  - b. Agents causing losses of food grains and prevention
  - c. Fumigation of grains
2. Food adulteration
  - a. Meaning of food adulteration and food laws
  - b. Common food adulteration and health hazards
  - c. Agencies checking food adulteration

#### **Unit III:**

1. Nutritional problems of the community causes and incidence of nutritional problems in infancy, per-school children, adolescents, pregnant and lactating mothers and old age
2. Nutritional assessment and methods of identification of nutritional problems
  - a. Techniques of dietary surveys, limitations and interpretation of data
  - b. Anthropometric biochemical and clinical techniques, limitation and interpretation

#### **Unit IV:**

1. Nutrition Education
  - a. Meaning of nutrition education and its importance
  - b. Organization of nutrition education programmes for the community, problems encountered in organizing a programme and how to solve them
  - c. Communication methods
  - d. Communication aids
  - e. Evaluation and follow-up

#### **Unit V:**

1. Role of various agencies
  - a. National ICMR, ICAR, CSIR, NIN etc.
  - b. International WHO, FAO, UNICEF, CARE, UNESCO etc.
  - c. Voluntary agencies
  - d.
    1. Various nutritional; programmers run by the Government, ICDS, applied Nutrition Programme
    2. Food fads and fallacies

**Reference Books**

Shukla, P.K.: Nutritional Problems of India

Gopalan, C: Nutritional problems and programmes in South East Asia

Jelliffe: Assessment of Nutritional problems

Briggs, G.M. and Clloway, D.H.: Nutrition and Physical Fitness

Jelliffe: Assessment of Nutritional status of the community

Gopalan, C: Nutrition and health care problem and policies, Nutrition foundation of India Series – I

P.A.O Manual of food nutrition policy, 1970

Agarwal, S,N.: Population