Undergraduate Programme in Home Science- Nutrition, Food Service Management and Dietetics

Model Curriculum and Syllabus

(With effect from the Academic Year 2020-21)

February 2020

Model Curriculum and Syllabus for
B. Sc Home Science- Nutrition, Food Service Management and Dietetics

(With effect from the Academic Year 2020-21)

I. Preamble

Home Science is a broad area with a focus on inter-disciplinary perspectives. Subjects which fall under the umbrella of Home Science include Foods and Nutrition, Textiles and Clothing, Community Nutrition, Food Service Management and Dietetics, Interior Decoration and Human Development. The branch of Nutrition, Food Service Management and Dietetics offers a wide array of courses which can impact the lifestyles of people ranging from healthcare to setting up entrepreneurial ventures in areas such as food and hospitality sectors, textiles or as Interior decorators. Thus, this programme offers courses which can synergistically promote the quality of lives of the community as a whole. Nutrition professionals are in high demand due to the fast-paced lifestyle, and an increasing incidence of lifestyle related disorders affecting all sects of the population. With an increasing awareness to lead healthier lifestyles, a well-trained Nutritional professional can contribute in designing community-based intervention programs for the betterment of the society. For a Home maker, this programme will give an insight into management of different resources in an everyday situation. Globalization has created a market for jobs with different skills in the areas of food industries, which will help the professional growth of college students. This programme can also facilitate action-based research in the various fields, and contribute to the development of the economic growth of a community. The course curriculum for this programme has been planned in such a way so as to facilitate job oppurtunities after the completion of the course, as well as applying for specialization courses at the post-graduate level.

Programme Learning Outcome

The Programme learning outcome is as follows:

- Understand and appreciate the role of interdisciplinary sciences in the development and well- being of individuals, families and communities.
- Identify different food commodities and understand its role and use in various preparations.
- Learn about the sciences and technologies that enhance quality of life of people.
- Understand and gain knowledge about the various types of food outlets, human relation and behavior at work, management of resources.
- Gain hands-on experience for developing entrepreneurial ventures in the areas of foods and nutrition.
- Acquire skills needed to train as dietitians in clinical settings, and as nutrition counsellors in different organizations.
- Critically appraise, plan and execute the preparation of therapeutic diets for different conditions.
- Interact effectively with clients to give dietary advice in the context of socio-economic and cultural background.

- Develop an understanding of Human development and Family studies with a life span perspective.
- Apply elements and art pertaining to principles of design in interiors and provide solutions to create new ideas and innovation.
- Acquire professional and entrepreneurial skills in the various fields of Home Science.

Nature and Extent of the Programme

Home Science has adopted an ecological approach in its curriculum that engages the student through teaching, research and extension. Nutrition, Food service Management and Dietetics is a programme that enhances the quality of life in a wholistic manner. Students develop professional skills in areas relating to food, nutrition, textiles, housing, product making, communication technologies and human development. The programme offers courses such as Physiology, Biochemistry, nutrition which will help students understand the human system in an effective manner to plan diets for various clinical conditions, and thus provide opportunities for serving in hospitals as dietitians. Courses related to Food service management offers an insight into different food outlets, their organization, and management of human and financial resources. Courses such as Interior decoration, Child development and Textiles opens up avenues for entrepreneurial ventures. Thus, the programme offers a wide scope for various career options, and also paves the way for specialized post graduate programmes.

Aim of the Programme

This is an academic programme which is socially and technologically relevant. The programme focuses on providing a sound contemporary base for the students and prepares them for various careers in the field of Home science. It also equips students to take up entrepreneurial ventures related to food, nutrition counselling, textiles, interior decoration and human development. The programme also offers courses which can help students prepare for competitive exams.

Graduate Attributes

Some of the characteristic attributes of B.Sc. Home Science-Nutrition, Food Service Management and Dietetics include

- Develop effective communication skills through presentation of seminars and group discussions.
- Develop core competencies in the field of Home Science.
- Enhance skills that build confidence, self-esteem and interpersonal relationships.
- Acquire in depth knowledge and skills by participating in various competitions, seminars and workshops.
- Develop leadership, and managerial skills needed for entrepreneurial ventures.
- Observational and cognitive skills for promoting research-based ventures.

UNIVERSITY OF MADRAS

B.SC. DEGREE COURSE IN HOME SCIENCE – NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

W.E.F. 2020-2021 and thereafter

REVISED SCHEME OF EXAMINATION:

SEMESTER – I

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
PART I – LANGUAGE PAPER I	3	6	-	25	75	100
PART II – ENGLISH PAPER I	3	6	-	25	75	100
CORE PAPER I – HUMAN PHYSIOLOGY	4	4	2	25	75	100
CORE PAPER II – MICROBIOLOGY	4	4	2	25	75	100
ALLIED PAPER I – CHEMISTRY -I	5	4	2	25	75	100
PART IV - * BASIC TAMIL/ADVANCE TAMIL/NON – MAJOR ELECTIVE	2			25	75	100
SOFT SKILLS – I	3			50	50	100

SEMESTER- II

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
PART I – LANGUAGE PAPER II	3	6	-	25	75	100
PART II – ENGLISH PAPER II	3	6	-	25	75	100
CORE PAPER III – FOOD SCIENCE	4	4	2	25	75	100
CORE PAPER IV – HUMAN NUTRITION -I	4	6	-	40	60	100
ALLIED PAPER II – CHEMISTRY -II	5	4	2	25	75	100
PART IV - * BASIC TAMIL/ADVANCE TAMIL/NON – MAJOR ELECTIVE	2			25	75	100
SOFT SKILLS – II	3			50	50	100

SEMESTER – III

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
PART I – LANGUAGE PAPER III	3	6	-	25	75	100
PART II – ENGLISH PAPER III	3	6	-	25	75	100
CORE PAPER V– FAMILY MEAL MANAGEMENT	4	4	2	25	75	100
CORE PAPER VI – HUMAN NUTRITION - II	4	6	-	25	75	100
ALLIED PAPER III – BIO-CHEMISTRY	5	4	2	25	75	100
PART IV – SOFT SKILLS - III	3			50	50	100
ENVIRONMENTAL STUDIES	2			EXAMINATIONS WILL BE HELD IN IV SEMESTER		

SEMESTER IV

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
PART I – LANGUAGE PAPER IV	3	6	-	25	75	100
PART II – ENGLISH PAPER IV	3	6	-	25	75	100
CORE PAPER VII – DIET THERAPY	4	6	-	25	75	100
CORE PAPER VIII – NUTRITION AND DIETETICS PRACTICAL	4	-	6	40	60	100
ALLIED PAPER IV – PRINCIPLES OF INTERIOR DECORATION	5	6	-	25	75	100
PART IV – SOFT SKILLS - IV	3			50	50	100
ENVIRONMENTAL STUDIES	3			25	50	100

SEMESTER – V

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
CORE PAPER IX – HUMAN DEVELOPMENT	4	4	2	25	75	100
CORE PAPER X – FOOD SERVICE MANAGEMENT - I	4	4	2	25	75	100
CORE PAPER XI – FOOD PRESERVATION	4	4	2	25	75	100
CORE PAPER XII – SPORTS NUTRITION	4	4	2	25	75	100
ELECTIVE PAPER I – FUNDAMENTALS OF TEXTILES AND CLOTHING	5	4	2	25	75	100
PART IV – VALUE EDUCATION	2					

SEMESTER - VI

COURSE COMPONENT / TITLE OF THE PAPER	CREDITS	THEORY HOURS	PRACTICAL HOURS	MAXIMUM MARKS		
				INTERNAL MARKS	EXTERNAL MARKS	TOTAL
CORE PAPER XIII – PRINCIPLES OF RESOURCE MANAGEMENT	4	6	-	25	75	100
CORE PAPER XIV – FOOD SERVICE MANAGEMENT - II	4	6	-	25	75	100
CORE PAPER XV – COMMUNITY NUTRITION	4	4	2	25	75	100
ELECTIVE PAPER II – ENTREPRENEURSHIP DEVELOPEMENT	5	6	-	25	75	100
ELECTIVE PAPER III – FAMILY MANAGEMENT AND COUNSELLING	5	6	-	25	75	100
PART IV – EXTENSION ACTIVITIES	1			-	-	-

CORE PAPER I: HUMAN PHYSIOLOGY

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: I**
Credits: 4 **Semester: I**

Subject Code:

OBJECTIVES
a) To enable students to understand the structure and physiology of various organs in the body.
b) To help students obtain a better understanding of the principles of nutrition and dietetics through the study of physiology.

LEARNING OUTCOMES
At the end of the course, students will be able to
1. Explain the structure and function of cells and tissues.
2. Analyze the functions of important physiological systems including the cardio-respiratory, renal, reproductive and metabolic systems
3. Interpret how these separate systems interact to yield integrated physiological responses to challenges such as exercise, muscle contraction and reflex actions.
4. Assess the hypo and hyper secretions of the different endocrine glands.
5. Recall how the development and progression of structural systems contributes to the body's overall function.

UNIT I
CELL----Cell structure and functions of the organelles, cell division
TISSUES----Classification, structure and functions of epithelial tissue, connective tissue, muscular tissue and nervous tissue
SENSE ORGANS-----Structure of eye and physiology of vision

UNIT II
BLOOD---Functions of Blood, Classification of WBC and its functions, Structure of RBC and its functions.
HEART AND CIRCULATION---- Anatomy of the heart,conducting system of the heart, types of circulation,cardiac cycle, blood pressure - definition and physical factors affecting blood pressure,ECG.

UNIT III
RESPIRATORY SYSTEM
Anatomy and physiology of respiratory organs, Gaseous exchange in the lungs
DIGESTIVE SYSTEM
Anatomy of gastro-intestinal tract.Digestion and absorption of carbohydrates, proteins and fats.

UNIT IV
EXCRETORY SYSTEM
Structure of kidney, structure of nephron, physiology of urine formation.
NERVOUS SYSTEM
Nervous system ----structure of a neuron, structure and functions of brain (cerebrum, brain stem, cerebellum), functions ofspinal nerves and cranial nerves.

UNIT V

ENDOCRINOLOGY-----Pituitary, thyroid, parathyroid, adrenal and pancreas functions, hypo and hypersecretions.

REPRODUCTIVE SYSTEM----Anatomy of the male Reproductive System, Anatomy of the Female Reproductive System, menstruation.

PHYSIOLOGY PRACTICALS

1. Microscopic studies of different tissues epithelial tissue, connective tissue, muscular tissue and nervous tissue
2. Microscopic study of blood, WBC, RBC estimation
3. Haemoglobin estimation
4. Blood pressure
5. Respiratory rate and pulse rate

Demonstration Experiment: Identification of blood groups

TEXT BOOK:

Guyton AC and Hall JE,Text book of medical physiology.

REFERENCE BOOKS:

1. Chatterjee, C.C - Human Physiology – Volume I & II, 11th edition, 1992.
2. Ross and Wilson Anatomy and Physiology in Health and Illness, Anne Waugh, Allison
3. Wynn Grant, Janet S. Ross, 11th edition.
4. SaradhaSubramaniam. Text book of human physiology.
5. Lecture notes on human physiology, M. M. Muthiah Vol II, 1991.
6. Human Anatomy, B. D. Chaurasia (Vol 1, 2, 3)
7. 6.JOHNSON, Leonard R,Essential Medical Physiology

CORE PAPER II: MICROBIOLOGY

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: I**

Credits: 4 **Semester: I**

Subject Code:

OBJECTIVES

To enable the students to:

1. Gain knowledge on the role of microorganisms in health and disease
2. Understand the diversity in microbiology and the scope of Microbiology
3. Acquire knowledge about the role of microorganisms in contamination and spoilage of various foods.

LEARNING OUTCOMES

At the end of the course, students will be able to

1. Know the different types of microorganisms and their characteristics.
2. Understand the factors affecting the growth curve of microorganisms.

3. Learn to prevent the contamination and spoilage of different types of foods.
4. Able to take measures to prevent microbial food poisoning.
5. Explore the beneficial effects of microorganisms in soil, air, water and sewage.

UNIT I

Introduction to microbiology and its relevance to everyday life-general characteristics of microorganisms-bacteria, virus, yeasts, moulds, algae, protozoa- Morphology, classification, motility, nutrition, respiration and reproduction.

UNIT II

DESTRUCTION OF BACTERIA a) Sterilization i) Application of dry heat- burning, flaming and hot air oven. ii) Application of moist heat- boiling, pasteurization, steam steriliser and autoclave. iii) Sterilization with the use of filters iv) Electromagnetic radiation b) Disinfection -properties and various types of disinfecting agents.

UNIT III

FOOD MICROBIOLOGY

GENERAL PRINCIPLES UNDERLYING SPOILAGE Principles of food spoilage by micro-biological, physical and biological factors Chemical changes caused by Microorganisms, fit or unfit food for consumption -causes of spoilage - classification of food by the case of spoilage - factors affecting -kinds and numbers of micro-organisms in food - growth and chemical changes - caused by microorganisms.

CONTAMINATION AND SPOILAGE FOODS: a) Cereal and Cereal products and baked products. . b) Fruits and vegetables and their products c) Fleshy food 1. Meat, 2. Poultry, 3. Fish d) Eggs e) Milk and Milk Products f)fats and oils.

UNIT IV

MICRO-ORGANISM CAUSING INFECTION, RESISTANCE AND IMMUNITY i) Different modes of spread of infection. ii) Reaction of the body to infection cellular and chemical defences - phagocytoses -antigens - antibody- 2 examples of antigen antibody reactions. iii) Immunity - active and passive immunity. Antibiotics - use of antibiotics, spectrum of activity, mode of administration, complication arising due to constant use of antibiotics. Brief knowledge of any four common antibiotics

UNIT V

MICRO-BIOLOGY OF FOOD POISONING, FOOD INFECTIONS AND FOOD BORNE DISEASES, i) Microbial food poisoning by Staphylococci, Salmonella food poisoning group and clostridium botulinum (Botulism).Measures to prevent microbial food poisoning. ii) Food infections -food borne diseases - Dysenteries, Typhoid, Cholera.

PRACTICALS

1. Know the parts of microscope, type and its principle
2. Identification of prepared slides-- Algae, Yeast, moulds, Protozoa and Bacteria.
3. Examination of Unstained Organisms, wet methods and hanging drop preparations.
4. Examination of stained Organisms- Simple Staining and gram staining.
5. Common culture media and uses.
6. Direct microscopic count of Organisms in milk. Standard plate count in milk. Reductase test for milk. Methylene Blue Reduction test.

DEMONSTRATIONS

1. Study of sterilising equipment.
2. Cultivation of Organisms in the laboratory methods and equipment.

RELATED EXPERIENCES

A field trip to a dairy and food industry.

REFERENCES

1. Pelczar J. Michael : (2013) Micro-biology concepts and Application
2. Salie. A.J. : Fundamental principles of Bacteriology (2007)- McGraw Hill Book Co.,
3. R.C. Dubey & D.K. Maheshwari (2013) A Textbook of Micro-biology
4. Ananthanarayan. R. & Panicker C.K.J: (2010)Textbook of Microbiology.
5. Frazier. W.C.: (2017)Food Micro-biology - McGraw Hill Book and Co; New York.
6. Smith and Water (2017) Introductory Food Services - McGraw Hill Book and Co., Newyork 1975.
7. Maier, Pepper and Garba: (2009) Environmental Microbiology
8. Prescott and Dunn: (2004) Industrial Microbiology
9. Pelczar, Chan and Krieg: (1996) Microbiology
10. Adams MR and Moss MO. (1995). Food Microbiology, The Royal Society of Chemistry, Cambridge.
11. Banwart GJ. (1989), Basic food microbiology, Chapman & Hall, New York.
12. Hobbs BC and Roberts D. (1993) Food poisoning and food hygiene, Edward Arnold (A division of Hodder and Stoughton), London
13. S. Rajan, R.Selvi Christy (2016) CBS Publishers & Distributors Pvt Ltd
14. https://microbiologysociety.org/why-microbiology-matters/what-is-microbiology.html
15. https://bio.libretexts.org/Bookshelves/Microbiology/Book%3A_Microbiology_(Kaiser)/Unit_1%3A_Introduction_to_Microbiology_and_Prokaryotic_Cell_Anatomy/1%3A_Fundamentals_of_Microbiology

CORE PAPER III: FOOD SCIENCE

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: I**
Credits: 4 **Semester: II**

Subject Code:

OBJECTIVES:

a) To enable students to obtain knowledge of different food groups and their contribution to nutrition.

b) To help them study the different methods of cooking and their advantages and disadvantages.

c) To enable them gain them to experience in the preparation of foods with attention to the preservation of their nutritive value -oriented to Indian cooking.

d) To help them understand the scientific principles governing the acceptability of food preparations.

LEARNING OUTCOME:

At the end of the course, the student will be able to

1. Identify the different food groups and examine their nutritive value.
2. Analyse the scientific principles underlying food preparation.
3. Identify the best method for cooking foods from different food groups.
4. Develop skills and techniques in food preparation with retention of nutrients and palatability.
5. Gain insight into the chemistry of cooking food.

UNIT I
INTRODUCTION TO FOODS

Definition, Classification, Functions of foods- Functions of food in relation to health - classification of foods based on nutrients. Food Pyramid, Food groups – Basic Four, Basic Five, Basic Seven and Basic Nine.

UNIT-II
PRELIMINARY PREPARATION AND COOKING

Preliminary preparation of foods - different methods of cooking - Dry methods - frying, broiling, parching, and baking. Moist methods - boiling, stewing, cooking under pressure. Solar cooking, Microwave cooking - advantages and disadvantages.

UNIT III
STUDY OF FOODS

Cereal and Cereal products – Structure, Composition and Nutritive value of Rice, Wheat and locally available millets. Effect of cooking on the nutritive value of cereals. Gelatinisation, Dextrinization and gluten formation.

Pulses and nuts - Composition, Nutritive value of grams, dhals - some common nuts - meat substitutes - soya products. Effect of soaking, germination, cooking on pulses, toxic constituents of pulses. Textured Vegetable Protein (TVP).

Vegetables and Fruits - Classification, composition and Nutritive value - methods to minimize the loss of nutrients, types of pigments, effects of cooking, alkali & acid on color, texture and flavor. Post harvest losses and changes during ripening. Browning reaction and changes during cooking.

UNIT IV
ANIMAL FOODS

Milk and milk products - Composition and Nutritive value, Principles of milk cookery, Milk protein, coagulation, problems in milk cookery. Effect of cooking and processing on milk.
Meat - Nutritive value, methods of cooking - Post mortem changes in meat, factors affecting tenderness - organ meat.
Fish - Classification, Nutritive value - selection, Methods of cooking
Poultry - Nutritive value, economic aspects. Principles and methods of cooking poultry.
Eggs - Structure, composition, Nutritive value, selection - principles of egg cookery - uses of eggs in cookery, methods of cooking eggs.

UNIT V

Fats and Oils - Types - saturated, MUFA, PUFA, Hydrogenation - Invisible fats - uses of fat in cookery - factors affecting absorption of fats - smoking point - Rancidity.
Spices and Condiments - Importance, composition and classificiaiton. Uses in Indian cookery.
Sugar and Sugar Products - Jaggery - uses in Indian cookery - Stages in sugar, Indian Sweets.
Beverages - Classification, Nutritive value and uses – processing of coffee, tea, cocoa.
Food additives and food adulteration.

PRACTICALS

I. Gluten formation and gelatinisation of starch
II. Germination and factors affecting cooking of pulses.
III. Effect of cooking and addition of acid & alkali on the colour, flavour and texture of vegetables. Enzymatic browning in fruits and vegetables. Pectin extraction.
IV. Preparation of white sauce and paneer. Factors affecting coagulation of milk.
V. Determination of smoking point of various fats and oils. Effect of oil temperature on frying.
VI. Ferrous sulphide formation in boiled eggs. Factors affecting egg foam formation. Factors affecting coagulation of eggs. Tests to determine quality of eggs.
VII. Stages of sugar cookery
VIII. Various methods of preparation for tea and coffee.
IX. Market of the available food additives.
X. Common tests to detect adulteration in foods.

REFERENCES

1. Shakunthala Manay. N; Shadakshara Swamy.M; *Foods Facts and Principles,* 3rd edition, New Age International (P) Limited Publishers, 2014.
2. Srilakshmi. B; *Food Science*, 6th edition, New Age International (P) Limited Publishers, 2015.
4. Arindam Ramaswamy, *Elements of Food Science*, Oxford Book Company, 2010.

5. Norman. N Potter, Joseph H. Hotchkiss, *Food Science*, 5th edition, CBS Publishers and Distributors, 1996.
6. Sivasankar. B; *Food Processing and Preservation*, PHI Learning Private Limited, 2011.

CORE PAPER IV: HUMAN NUTRITION I

Time/Hrs: Theory: 6 Hrs **Year: I**
Credits: 4 **Semester: II**

Subject Code:

OBJECTIVES
1. To introduce the students to the principles of Human Nutrition.
2. Assess the importance of various macronutrients in relation to health.

Learning Outcomes
At the end of the course, students will be able to
1. Apply knowledge of biochemistry and physiology to nutrient metabolism.
2. Explain nutrition information on food labelling.
3. Identify nutrition-related conditions and diseases by applying knowledge of metabolism and nutrient functions, food sources and physiologic systems.
4. Compute energy requirements for various age groups and study the recommended nutrient intake.
5. Discuss the concepts of nutrition for maintenance of a healthy lifestyle.

UNIT I
History of Nutrition – Development of Nutrition as a Science – Definition of Nutrition – Under nutrition, over nutrition and malnutrition. Introduction to nutrition-food as a source of nutrients, function of foods, definition of nutrients, adequate , optimum and good nutrition. Inter relationship between nutrition and health.

UNIT II
Energy -Introduction, Units, determination of energy value of food, physiological fuel value, Benedict's Oxy-calorimeter, relation between oxygen required and calorimeter value. Respiratory quotient, Specific dynamic action of food (Thermic effect of food). Definition of BMR and factors affecting BMR – determination of energy metabolism, during work-energy requirements for various types of activities, factorial methods for calculation of the daily energy requirements of an adult for varying degrees of physical activity, RDA.

UNIT III
CARBOHYDRATES
Definition ,composition, classification, functions of carbohydrates in the body, food sources, digestion, absorption and utilization of carbohydrates, hormonal regulation of blood glucose levels. Glycaemic index, glycaemic load, types of resistant starch.
Dietary fibre -Definition, types, sources, RDA, physiological effects of dietary fibre

UNIT IV

PROTEINS-classification, functions, Food sources, Requirements and RDA. Digestion, absorption and metabolism of proteins. Amino acids-Indispensable and dispensable amino acids – Therapeutic applications of specific amino acids. Protein Energy Malnutrition – KWASHIORKOR and MARASUMS –etiology, clinical features, treatment and prevention.

Evaluation of protein quality –PER, BV, NPU and NPR, chemical score, nitrogen balance, mutual amino acid supplementation of proteins.

UNIT V

LIPIDS

Classification, functions of EFA, MUFA, PUFA, SFA, food sources, Requirements, RDA, digestion and absorption. Characteristics of animal and vegetable fats, cholesterol-function, food sources, phospholipids-functions.

Omega fatty acids functions, role in good health, food sources. Role of dietary lipids and CVD.

TEXT BOOKS:

1.M. Swaminathan "Principles of Nutrition and Dietectics", 1993, Bappeo 88, Mysore Road, Bangalore - 560 018

2.Srilakshmi.B “Nutrition Science”, ISBN 10: 8122432239 / ISBN 13: 9788122432237 Published by New Age International (P) Limited, 2015

REFERENCES

1. Gordon. M. Wardlaw et.al; Contemporary Nutrition, 2nd edition, Publishing by Mosby, 2004.

2. Srilakshmi. B; Dietetics, 7th edition,New Age International (P) Limited Publishers, 2014.

3. William's; Nix; Basic Nutirtion and Diet therapy, 14th edition, Publishing by Mosby, 2013.

4. MahtabS.Bamji, Prasad Rao, N.Vinodini Reddy; Textbook of Human Nutrition, Second Edition

Oxford and IBH Publishing Co. Pvt .Ltd, 2003.

5. Nutrient Requirement and Recommend Dietary Allowances for Indians by Indian council of Medical research, National Institute of nutrition, Hyderabad.

6. Judith E. Brown., Nutrition New, 2nd edition, West / Wadswroth west / Wadsworth, An International Thomson publishing company, 1998

CORE PAPER V: FAMILY MEAL MANAGEMENT

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: II**
Credits: 4 **Semester: III**
Subject Code:

OBJECTIVES

To enable the students to:

1. Acquire knowledge of the principles of planning diets for various stages of life cycle.
2. Develop ability to plan balanced diets for various activity groups and for various socio-economic levels.

LEARNING OUTCOME

At the end of the course, the student will be able to

1. Gain knowledge of the principles of planning diet.
2. Plan balanced diets for various stages of life cycle.
3. Plan balanced diets for persons involved in various activity.
4. Plan balanced diets for people from various socioeconomic levels.
5. Create awareness about World Alliance for Breast feeding Action.

UNIT I

Introduction to meal management, Balanced diet – food guide, food pyramid, food plate, principles of meal management – objectives – steps in meal planning and low cost balanced diet.

UNIT II

Nutrition for Adult, reference man, reference women, activity groups, nutrient needs. Geriatric nutrition – Factors affecting food intake and nutrient use – nutrient needs – nutrition related problems.

UNIT III

Nutrition in pregnancy – physiological stages, food selection – complications of pregnancy. Nutrition during lactation – Physiology of lactation – nutrition requirements, special foods given during lactation. WABA, EBM, breast milk pump, human breast milk bank.

UNIT IV

Nutrition during infancy – Growth and Development – nutrition requirements- Breast feeding – Infant formula – Introduction of supplementary foods. Nutrition during early childhood (Toddler/Preschool) Growth and Nutritional needs – nutrition related problems, Feeding patterns – acceptance.

UNIT V

Nutrition of school children – Nutritional requirement – Importance of snacks – school lunch. Nutrition during Adolescence, Growth development and nutrient needs – food choices, eating habits – factors influencing them.

Reference Books

1) Guthrie H.A. & Others, "Introductory Nutrition", Times Mirror/Mosby College Pub. St. Louis (2010).

2) Anderson L. et al, "Nutrition in Health and Disease", J.B. Lippincott Co. Philadelphia (2006)

3) Whitney E.N., Hamilton E.N. & Raffes S.R., "Understanding Nutrition", West Pub. Co. New York.(1993)

4) Recommended Dietary Intakes for Indians, I.C.M.R. (2010).

5) Mudambi, S.R. & M.N. Rajagopal - "Fundamentals of Food and Nutrition", Wiley Eastern Ltd. New Delhi – 19 (2006).

6) Worthington Roberts, Bonnie S & others - "Nutrition in Pregnancy & Lactation", Times Mirror/ Mosby College, St. Louis.(2010)

CORE PAPER VI: HUMAN NUTRITION II

Time/Hrs: Theory: 6 Hrs **Year: II**

Credits: 4 **Semester: III**

Subject Code:

OBJECTIVES

1.To learn the role of various micronutrients in body functions.
2.To develop skills in assessment of qualitative tests and quantitative estimation of nutrients

LEARNING OUTCOMES

At the end of the course, the student will be able to

1. Explain the importance of water as a nutrient.
2. Describe the functions and food sources of macro and micro minerals.
3. Learn the nutritional importance of the micronutrients in human health.
4. Outline the metabolism of micronutrients
5. Evaluate the role of food and nutrients in health and disease prevention.

UNIT I

WATER – functions, sources, requirements. Distribution of water in the body, composition of body fluids. Water imbalance-dehydration and water intoxication, water and electrolyte balance.

UNIT II

MACRO MINERALS- Calcium, Phosporous, Magnesium, Potassium, Sodium and Chloride- Distribution in the body; functions, effects of deficiency, **toxicity**,food sources and RDA.

MICRO / TRACE MINERALS in human nutrition - Iron, Zinc, Fluoride and

Copper- Distribution in the body; functions, effects of deficiency, **toxicity**,food sources and requirements for different age groups.

UNIT III

ULTRATRACE MINERALS- Iodine- Distribution in the body; functions, effects of deficiency, food sources and requirements; Selenium, Manganese, Chromium, Molybdenum and Cobalt- **Functions and food sources**.
Selenium and Vitamin E relationship.
Chromium and glucose tolerance factor.

UNIT IV

FAT SOLUBLE VITAMINS

Metabolism, Functions, effects of deficiency, food sources, requirements, unit of measurements and hypervitaminosis of vitamins A, D, E and K.

UNIT V

WATER SOLUBLE VITAMINS

Ascorbic acid and B Complex vitamins- Thiamine, Riboflavin and Niacin- Functions, effects of deficiency, food sources and requirements for different age groups.
Importance of Folic acid, Pyridoxine, Vitamin B12, Biotin and Pantothenic acid to the body.

Text Books:

1. Srilakshmi, B., Nutrition Science, New Age International (P) Ltd., New Delhi, 2017.
2. Mahtab, S, Bamji, Kamala Krishnasamy, G.N.V. Brahmam, Text Book of Human Nutrition, Third Edition, Oxford and IBH Publishing Co. P. Ltd., New Delhi, 2015
3. Swaminathan, M., Advanced Textbook on Food and Nutrition, Vol. 1, Second Edition, Bangalore Printing and Publishing Co. Ltd., Bangalore, 2012.

Reference Books:

1. Dietary Guidelines for Indians, ICMR, National Institute of Nutrition, Hyderabad, 2013.
2. Gordon M. Wardlaw, Paul M.Insel,**Perspectives in nutrition** third edition, Mosbyyear Book,Inc.St.Louis,Missouri,2015
3. Krause, M.V. and Hunesher, M.A., **Food, Nutrition and Diet Therapy**, 14th Edition, W.B. Saunders Company, Philadelphia, London, 2013.
4. Maurice Edward Shils, Moshe. Shike **Modern Nutrition in Health and Diseases** 10th edition 2006.
5. Eleanor Noss Whitney/Sharon Rady Rolfes, **Understanding Nutrition**, 15th Edition, Cengage Learning, Inc.
6. Eleanor schlenker and Joyce Ann Gilbert, Williams' **Essentials of nutrition and diet therapy,12TH edition, Elsevier publishers, 2019.**
7. Longvah.T, Ananthan.R, Bhaskarachary.K and Venkaiah.K ,**Indian Food Composition Tables** 2017 , National Institute of Nutrition ,Indian Council of Medical Research, Hyderabad – 500 007 Telangana, India.

Web References

1. (www.who.int)
2. www.nin.res.in
3. www.motherchildnutrition.org
4. www.nnmbindia.org
5. www.ijmr.org.in
6. www.ncbi.nlm.nih.org
7. www.nutritionvalue.org
8. www.icmr.org
9. www.cftri.org
10. www.nsi.org

ALLIED PAPER III – BIOCHEMISTRY

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: II**
Credits: 5 **Semester: III**

Subject Code:

OBJECTIVES

To introduce the students to
1. The principles of Biochemistry
2. A basic understanding of the functions of biological systems in relation to Nutritional biochemistry.
3. The skills in qualitative tests and quantitative estimation of nutrients.

LEARNING OUTCOMES

At the end of the course, the student will be able to
1. Assess the role of enzymes in various metabolic pathways.
2. Outline the metabolic pathways of Carbohydrate, Protein and Fats.
3. Discuss the role of nucleic acids.
4. Evaluate the mechanisms of energy production.
5. Integrate the mechanisms involved in anabolism and catabolism of macronutrients.

UNIT I

INTRODUCTION TO BIOCHEMISTRY

Definition of Biochemistry and its relation to nutrition, Applications of Biochemistry.
Enzyme, classification, Nomenclature, Factors affecting enzymatic activity, Mechanism of action, Co-enzyme and prosthetic group - role of B vitamins as co-enzymes.
Biological oxidation and Electron Transport Chain (ETC).
Nucleic acids, Purine and Pyrimidine bases, nucleosides and nucleotides – structure and functions.

UNIT II

CARBOHYDRATES

Structure, General reactions of mono, di, tri and oligosaccharides, Interconversion of sugars, Metabolism of carbohydrate, Glucose oxidation through glycolysis, Krebs - TCA cycle, Pentose phosphate cycle, Gluconeogenesis.

UNIT III

PROTEINS

Aminoacids - Classification, Chemical properties due to amino and carboxyl groups, Chromatographic separation.
Peptides - Structure and nomenclature, Determination of amino acid sequence.
Proteins - primary, secondary, tertiary structure of proteins, Hydrolysis of proteins, Denaturation, Precipitation, Coagulation, Metabolism of proteins, General pathways of metabolism of aminoacids. Deamination, Transamination, Decarboxylation, Urea cycle, Fate of carbon skeleton of amino acids, Protein biosynthesis.

UNIT IV

LIPIDS

Chemical composition of fats, β oxidation of fatty acids, Biosynthesis of fatty acids, Ketogenesis. Cholesterol - biosynthesis and metabolism.

UNIT V

INTERMEDIARY METABOLISM

Interrelationship between carbohydrate, fat and protein metabolism - Hormonal regulation of metabolism.

Inborn errors of metabolism with reference to: Carbohydrate - fructosuria and galactosemia; Protein - Phenyl ketonuria, Alkaptonuria, Aminoaciduria.

PRACTICALS

1. Qualitative test for sugars - Glucose, Fructose, Lactose, Maltose, Sucrose
2. Quantitative estimation of reducing sugar
3. Qualitative test for proteins
4. Demonstration experiments

a. Estimation of total nitrogen in foods (Micro or MacroKjeldahl methods)
b. Lipid extraction by Soxhlet method
c. Determination of iodine value

REFERENCES

1. P. Karison, 1975 - Introduction to Modern Biochemistry - Academic Press, New York.
2. Shanmugham Ambika, 1985 - Fundamentals of Biochemistry for Medical students - NVA Bharat Printers and Traders 56, Peters Road, Madras – 86.
3. Talwar G.P., Sri Vatsava L.N. and Moudgil K.D., 1989 - Textbook of Biochemistry and Human Biology - Prentice Hall of India (P) Ltd., New Delhi - 1.
4. Rama Rao A.V.S.S., 1990 - Textbook of Biochemistry, 5th edition - L.K. and Publishers, Visakhapatnam.
5. Robert K. Murray et al., 2000 – Harper's Biochemistry, 25th edition – Mc Graw Hill, USA.
6. Chatterjea M.N. and Shinde R.,2016 -Textbook of Medical Biochemistry, 8th edition – Jaypee Brothers Medical Publishers (P) Ltd. New Delhi.
7. Sathyanarayana U and Chakrapani U, 2016 – Biochemistry, 4th Revised Edition – Elsevier (New Delhi) and Books and Allied (p) Ltd., Kolkata.
8. Harbans Lal, 2017 - Essentials of Biochemistry for BSc Nursing Students – CBS Publishers & Distributors Pvt. Ltd., New Delhi.
9. David L.N. and Cox M.M., 2017 – Lehninger Principles of Biochemistry, 7th edition - W. H. Freeman & Co Ltd.
10. Rodwell W.V. et al., 2018 – Harper's Illustrated Biochemistry, 31st edition - Mc Graw Hill, USA.

CORE PAPER VII- DIET THERAPY

Time/Hrs: Theory: 6 Hrs **Year: II**

Credits: 4 **Semester: IV**

Subject Code:

OBJECTIVES

- Obtain knowledge on the role of diet in disease conditions.
- Gain experience in planning, preparing and serving therapeutic diets.
- Understand the role of dietitian in the hospital and community

LEARNING OUTCOMES

On successful completion of the course, the students will be able to:

1. Apply biological, biochemical and physiologic scientific principles to nutrition practice.
2. Apply nutrition concepts to evaluate and improve the nutritional health of individuals and medical conditions.
3. Demonstrate an understanding of the importance of incorporating healthy eating guidelines into dietary practices.
4. Assess the risk factors of diseases and educate people to follow healthy guidelines to prevent the incidence of non-communicable diseases.

UNIT I

Principles of diet therapy -Routine Hospital diets- Pre and Post operative diets.
Special feeding methods- Tube feeding and Total Parenteral Nutrition.
Metabolic changes in Fevers- Modification of Diet in Typhoid and Tuberculosis.
Diet in Burns and HIV.
Nutrition Care process-Definition and steps- Nutrition assessment, Nutritional diagnosis, Nutritional intervention, Nutrition monitoring and evaluation.
Roles and Responsibilities of Dietitian- Indian Dietetic Association- Registered Dietitian.

UNIT II

Pathophysiology, nutritional implications, Etiology and modification of diet in Gastrointestinal diseases (a) Peptic ulcer (b) Diarrhoea (c) Constipation (d) Malabsorption syndrome (e) Gluten enteropathy (f) Lactose intolerance.

Pathophysiology, nutritional implications, Etiology and modification of diet in Hepatitis, Cirrhosis, Hepatic coma and Wilson's disease.

Pathophysiology, nutritional implications, Etiology and modification of diet in Cholecystitis and Cholelithiasis.

UNIT III

Pathophysiology, Etiology, nutritional implications and modification of diet in Obesity

Etiology , nutritional implications and modification of diet in PCOS, Hypothyroidism and Underweight.

Diabetes Mellitus- Prevalence, types, symptoms, metabolic changes, Diagnosis, Treatment, Complications.

Nutrition management of pancreatitis.

UNIT IV

Etiology and modification of diet in Hypertension.

Prevalence, Pathophysiology, nutritional implications, risk factors and modification of diet in Atherosclerosis.

Prevalence, risk factors and modification of diet in Cancer- Nutritional modification of cancer therapy.

Role of antioxidants in the prevention of degenerative diseases.

UNIT V

Etiology, symptoms and modification of diet in Nephritis, Nephrotic syndrome, Acute renal failure and Chronic renal failure- Dialysis.

Etiology and Modification of diet in Urinary calculi and Gout.

REFERENCES

1. Gordon M. Wardlaw, Paul M.Insel,Perspectives in nutrition third edition, Mosbyyear Book,Inc.St.Louis,Missouri,2015
2. Krause, M.V. and Hunesher, M.A., Food, Nutrition and Diet Therapy, 14th Edition, W.B. Saunders Company, Philadelphia, London, 2013.
3. Maurice Edward Shils, Moshe. Shike Modern Nutrition in Health and Diseases 10th edition 2006.
4. Eleanor Ross Whitney & Sharon Rady Rolfes, Understanding nutrition, 9th edition, Wadsworth Group, 2002
5. B.Srilakshmi, Dietetics, 8th edition, New Age International Publishers, 2019.
6. Garrow, etal, Human Nutrition and Dietetics, 10th edition, Churchill Livingston, 2000
7. Joshi Y K, Basics of Clinical Nutrition, 2nd edition, JP Medical publishers Pvt Ltd, 2008
8. Sylvia Escott-Stump, Nutrition and Diagnosis related care, 7th edition, Jones and Barlett Publishers, 2008

Web resources

- American Dietetic Association- www.eatright.otg
- American Diabetes Association- www.diabetes.org
- American Heart Association- www.american.org
- World Health Organisation- www.who.org/nut

CORE PAPER VIII - NUTRITION AND DIETETICS PRACTICALS

Time/Hrs: Theory: 6 Hrs **Year: II**
Credits: 4 **Semester: IV**

Subject Code:

OBJECTIVES

1.To gain skill in qualitative tests and quantitative estimation of nutrients.
2.To enable the students to understand the modifications in nutrients and dietary requirements for the therapeutic condition and dietary management of different diseases.

LEARNING OUTCOMES

At the end of the course, the student will be able to
1.Acquire scientific information and develop laboratory skills in the field of food analysis.
2. Develop an understanding of the different analytical instruments.
3. Know the difference between qualitative and quantitative analytical tests in foods.
4. Understand the application of the principles of nutrition in basic dietetics.
5. Develop the ability to plan and prepare diets for therapeutic conditions.
6. Apply knowledge of nutrition and health assessment and interpretation in comprehensive patient management.

NUTRITION PRACTICALS

1. Qualitative tests for minerals
2. Quantitative estimation of calcium
3. Quantitative estimation of phosphorus
4. Quantitative estimation of vitamin C
5. **Quantitative estimation of iron**

Demonstration Experiments.

a) Qualitative tests for vitamin A
b) Quantitative estimation of carotene

DIETETICS PRACTICALS

I. Planning and preparing diet for the following conditions:

1. Clear fluid, full fluid and soft diet
2. Typhoid and Tuberculosis
3. Peptic ulcer, Diarrhoea and Constipation
4. Hepatitis and Cirrhosis
5. Obesity and Underweight
6. Type 1 and Type 2 Diabetes Mellitus
7. Hypertension and Atherosclerossis
8. Nephritis and Nephrotic syndrome

II. Planning and preparation of five suitable recipes for:

1. Cholelithiasis
2. Urinary calculi

III. Dietary Internship for 1 month in a hospital.

Text Books:

1. Varley, H., Gowenlak, A.H. and Hill, M. Practical Clinical Biochemistry, William Itinmaon Medical Books, London, 2010.
2. Oser, B.L., Harke's Physiological Chemistry XIV Edition Tata McGraw Hill Publishing Company Ltd., Bombay, 2011
3. Srilakshmi, B., Dietetics, Eighth edition, New Age International (P) Ltd., New Delhi, 2019.
4.Indian food composition tables, National Institute of Nutrition,2017.
5.Recommended dietary allowance for Indians,2010, National Institute of Nutrition(ICMR), HYDERABAD.

Reference Books:

1. Sadasivam, S. and Manickam, A. Biochemical Method, Second Edition,New Age International P. Ltd., Publishers, New Delhi, 2013.
2. Raghuramulu, N., Madhavannair, K. and Kalyana Sundaram, National Institute of Nutrition, 2013, A Manual of Laboratory Techniques, Hyderabad, 50000

ALLIED PAPER IV – PRINCIPLES OF INTERIOR DECORATION

Time/Hrs: Theory: 6 Hrs **Year: II**

Credits: 5 **Semester: IV**

Subject Code:

COURSE OBJECTIVES

1. To enable students to understand the basic principles of Art and Design.
2. To inculcate a sense of aesthetics to help students design interiors of various establishments.

LEARNING OUTCOME

At the end of the course, the student will be able to

1. Create understanding of the basic art principles.
2. Apply color harmony in interiors.
3. Select, use and care for Furniture, Furnishings and Accessories.
4. Understand the basic Principles of House Keeping.
5. Trained for career options in interiors and housekeeping.

UNIT I

Art in daily living – Importance of good taste, objective of interior design. Design – elements of design – line, shape, size, space, texture, pattern, colour and light, Types and Characteristics of design, Principles of design – Harmony, Balance Rhythm, Proportion, Emphasis.

UNIT II

Colour – Qualities of colour – Hue, value and intensity, color aspects, Prang color wheel, Colour harmony, developing colour schemes for different rooms.

UNIT III

Furniture and Furnishings – selection and arrangement of furniture in different rooms. Different types of furnishing materials – Factors considered in their selection. Floor coverings, curtains and draperies, Window treatment.

UNIT IV

Accessories – Selection, Use and Care of accessories, Types – traditional and modern – art objects – pictures, flower arrangement – Types, use and care - Flower arrangement for different rooms. Indoor plants – use and care. Lighting – Importance of lighting – Principles and types of Lighting – Lighting needs for various activities

UNIT V

Organisation of the housekeeping department in an institution - House keeping staff – their duties and responsibilities – Management of House keeping department – Selection and handling of personnel, training of staff – Distribution of jobs and job chart – Safety, health and welfare of staff – Inter-departmental Co-operation, Qualification and personal qualities of a house keeper.

PRACTICALS

Evaluation of design, Preparation of Colour Chart and various colour schemes, Arranging various areas applying all the art principles.

Reference Books:

1. Commercial Housekeeping and Maintenance by – Stanley Thornes (1984).
2. Hotel, Hostel and Hospital House Keeping by John C. Bronson and Margaret Lennox 2003.
3. Housekeeping and Front office – by Jones (2009).
4. Steapat, D.D., Introduction to Home Furnishing,The Mac millon Co,New york.(1987)
5. Pratap R.M , Interior design principles and practice, Standard publishers
6. distribution, Delhi (2014)
7. Faulkner, S., and Faulkner. R, Inside Today's Home,Rinehart publishing
8. company,New york. (1975).
9. Anna.H.Rutt ; Home furnishing, John Wiley Eastern Pvt Ltd, Newyork (1963)
10. John.F.P, Color in Interior Design,Mc Graw Hill company, New York. (1997)
11. Jan orcharchd , Lighting for a beautiful home, Dune style publishing Ltd., USA.(1993)
12. Stawart and Sally.W, The complete home decorator, Annes publishers ltd, New
13. York (2004)

CORE PAPER –IX: HUMAN DEVELOPMENT

Time/Hrs: Theory: 4 Hrs, Practical:2 Hrs **Year: III**
Credits: 4 **Semester: V**
Subject Code:

OBJECTIVES

To enable students to

1. Understand development aspects - physical and motor, cognitive, emotional, Language, Moral, creative - from conception to old age so that they can be guided effectively.
2. Develop a scientific attitude and knowledge towards the behavior patterns of an individual and various factors influencing them.

G OUTCOMESLEARNIN

On completion of this course, successful students will

1. Understand the principals of development and developmental stages of the human lifespan.
2. Establish an understanding of the physical and motor, emotional, social, cognitive, language and moral development of all the stages of human life.
3. Know the significance of preschool education.
4. Gain knowledge on the transition of human beings from birth till maturity.
5. Be prepared to enter the threshold of adulthood.
6. Become aware about the problems and role of the elderly in the society.

UNIT I

GROWTH AND DEVELOPMENT

Meaning and importance of growth and development – principles governing growth and development – developmental tasks of different stages.

UNIT II

INFANCY AND BABYHOOD (0 – 2 YEARS)

a) Characteristics, Physical, Social and Emotional Development, Cognitive and Language Development.
b) Effect of stimulation, care of infants – feeding, toilet training, bathing, clothing, sleeping and immunization.

UNIT III

A. EARLY CHILDHOOD PERIOD (2 – 6 YEARS)

a) Characteristics, physical, social, emotional, cognitive and language development.
b) Nursery school - Types of Preschool, aims and objectives, building equipment, curriculum Program and personnel. Home – school relationship, records and registers.

B. LATE CHILDHOOD PERIOD (6 – 12 YEARS)

Characteristics, Physical, Social, emotional, cognitive, language and moral development.

UNIT IV

ADOLESCENCE (12 – 18 YEARS)

a) Characteristics, Physical and psychological changes, emotional, moral and social development.
b) Problems of Adolescence.

UNIT V

ADULTHOOD (18 – 60 YEARS)

Characteristics and developmental task, physical, social and emotional development, cognitive and vocational development.

OLDAGE (60 YEARS AND ABOVE)

a) Characteristics, physical, social, emotional and cognitive development.
b) Problems of the aged.

PRACTICALS:

a) Preparation of case study.
b) Methods of child study. Observation of various developments – physical, motor, social, emotional and intellectual of a particular Child.
c) A study on the leadership qualities of adolescents.
d) A survey on the qualities preferred in a life partner.
e) Survey on problems of Oldage.

REFERENCE:

1. Elizabeth B. Hurlock. Child Development. Pub. 2017 McGraw-Hill PVT.LTD.
2. Laura E. Berk. Child development 7th edition. Pub. 2007. Prentice – Hall of India PVT.LTD.
3. Alison Clarke Stewart, et al. Child Development. Pub. 1985 John Wiley & Sons.
4. Rajammal P. Devdas, Jaya N. Textbook of Child development. Pub. 1991 Macmillan India Limited.
5. Dr. Sushila Srivatsav, Dr. K. Sudha Rani. Textbook of human development, Pub. 2014 S. Chand & Co. PVT.LTD
6. Suriakanti A. Child development. Pub. 1991 Kavitha Publications
7. Stephany Feeney.et.al. Continuing issues in childhood education, Pub. 2009 Pearson
8. *https://www.verywellmind.com/piagets-stages-of-cognitive-development-2795457*

CORE PAPER –X: FOOD SERVICE MANAGEMENT I

Time/Hrs: Theory: 4 Hrs, Practical:2 Hrs **Year: III**
Credits: 4 **Semester: V**
Subject Code:

OBJECTIVES:

a) To enable the students to develop skills in organizing and managing Food Service institution and to gain knowledge about the food service and responsibilities of each.

LEARNING OUTCOMES

On completion of the course the students will be able to

1. Analyse the difference between the different types of food service establishments and their current trends.
2. Figure out the efficient methods and procedures of quantity food purchase and storage.
3. Develop skills in menu planning, recipe standardisation and effective portion control.
4. Assess the different styles of service and identify the skills required for competent service.
5. Evaluate food safety and sanitation to maintain a safe and sanitary work environment.

UNIT I

INTRODUCTION TO THE CATERING INDUSTRY

Definition of catering and food service management - Characteristics and scope of catering industry - History, growth and development of catering industry in India. Types of food service establishments – Commercial – general and restricted market - types of restaurant, classification of hotels and transport catering- railways, ship catering, airline and space catering. Non-commercial / welfare establishments - hospitals, industries, schools, colleges, religious places and care houses. Miscellaneous - outdoor catering, contract catering and franchising. Food delivery apps - essential features, advantages and drawbacks.

UNIT II

FOOD PURCHASE, RECEIVING AND STORAGE

Definition of food purchase - Definition and types of markets - The purchasing process - Different methods of purchasing - Principles of purchasing. Function of receiving - Receiving process and procedure - Standard receiving practice and inspection of food supplies. Food storage – types - Dry storage - features of a dry storage - Wet storage - refrigerated storage, chilled storage and freezer storage - Ideal temperatures, operating procedure and guidelines. Storage records to be maintained.

UNIT III

QUANTITY FOOD PRODUCTION

Food production systems**.** Menu – definition, functions, advantages and types - Menu format and features of a good menu card - Menu construction and compilation – definition and factors to be considered. Recipe standardisation- definition, objectives, process (factor method of

recipe adjustment) and components of a standardised recipe - Recipe file. Portion control- definition, need and aids to control portion size**.** Leftover food control**.** Production planning control.

UNIT IV

FOOD AND BEVERAGE SERVICE

Styles of food and beverage services - Table service - Assisted service - Self service - Single point service - In-situ service. Cover- definition and dimensions. Mise-en-scene and mise-en-place for commercial restaurants. Table setting for formal and informal occasions

UNIT V

SAFETY AND SANITATION

Accidents - causes and prevention - 3'E's of safety procedure- Engineering, Education and Enforcement. Hygiene and sanitation- environmental hygiene - Hygiene food handling- principles of food hygiene - Sanitary procedures while preparing, holding, servicing and displaying of food. Personnel hygiene. Pest control and waste management. HAACP and FSSAI.

PRACTICALS

I. Mise – en- scene and Mise – en – place - Table setting and service- formal and informal. Folding of Napkins – Laying of table cloth, table mats – Arrangement of cover and table appointment according to the menu – serving food at the table - clearing of the table.
II. Demonstration of the various food service styles – English, French, Russian and American table service, self service and buffet service.
III. Standardization of any 4 recipes from South, North, East and West indian cuisines - Calculation of nutritive value, cost per serving – size of serving.
IV. Quantity Cookery: Organizing, preparing and serving of a lunch menu comprising of the previously standardised recipes for 50 members.

References:

1. Dhawan, V. (2017) *Food and beverage service*. Chennai: Frank bros & co.
2. Seal, P.P. (2015) *Computers in hotels: Concepts and appplications*. New Delhi: Oxford university press.
3. West & Wood (2000) *Food service in insttitutions.* New york : Wiley esatern limited.
4. Sethi, M & Malhan, S. (2011) *Catering mangement – An integrated approach.* New Delhi: New age international publishers.
5. Cousins, J & Lillicrap, D & Weekes, S (2014) *Food and beverage service.* Hodder education.
6. Suganthi, V. & Premakumari. C (2017) *Textbook on Food service managemen*t. Chennai : Dipti publishers.
7. Arora, K (2008). *Theory of cooking*. Frank bros & co.
8. Palacio, J.P & Theis, M (2011). *Food service management : principles and practices. Food hygiene and sanitation.*Pearsons publishers.
9. Sudhir Andrews (2008). *Text book of Food and Beverage Management*. McGraw Hill Company Ltd.,New Delhi.
10. Singaravelan.R. (2013) *Food and Beverage service*. Oxford university Press. New delhi.

11. Ravi Aggarwal (2010) *Essential of Food and Beverage Service.* Subline publication, New delhi.
12. Roday, S (2011) *Food hygiene and sanitation*. Tata McGraw hills.

CORE PAPER –XI: FOOD PRESERVATION

Time/Hrs: Theory: 4 Hrs, Practical:2 Hrs **Year: III**
Credits: 4 **Semester: V**
Subject Code:

OBJECTIVES

To enable students:

- To understand the need for Food Preservation
- To learn the principles and the methods of preservation of commonly available foods.

LEARNINIG OUTCOMES

At the end of the course, the student will be able to

1. Outline the methods needed to preserve foods.
2. Develop skills in the preparation of pickles, jams and jellies.
3. Learn the importance of safe packaging.
4. Identify ingredients used in food products by learning to read Food labels.
5. Identify the correct technique for preservation.

Theory

UNIT I
General Principles of food preservation- Importance and scope of food preservation- Principles and methods of food preservation.

UNIT II
Preservation by food additives- Preservatives, Antioxidant, stabilizers, emulsifying Agents, flavoring agents.

UNIT III
Preservation by use of low Temperatures- chilling, Freezing and Refrigeration.
Preservation by drying- Sun drying- Drying by mechanical dryers- Freeze drying.

UNIT IV
Preservation of foods by salting- Pickling
Preservation of foods as sugar concentrates
Preservation of fruit beverages- Squash, Crush, Cordial, Fruit Juice Concentrates.

UNIT V
Packaging and labeling- Types of packaging materials- advantages and disadvantages- Importance of labeling, types and nutritional information.

Practicals

- Survey of preserved foods available in the market.
- Preparation of pickles, sugar concentrates, squash, crush, fruit concentrates, jams, jelly etc.

References:

1.Sivasankar, B.,(2002), Food processing and preservation, Prentice Hall of India (p) Ltd, New Delhi.

2.Manay, N.S and Shadaksharaswamy (1997), Food Facts and Principles, Wiley Eastern Ltd, New Delhi.

3. Norman Potter, (1987), Food Science, 3rd ed. CBS Publishers & Distributors, New Delhi.

CORE PAPER –XII: SPORTS NUTRITION

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: III**
Credits: 4 **Semester: V**
Subject Code:

OBJECTIVES

- To find out the sources of energy for muscle and force generation.
- To learn about the importance of nutrition in sports personnel
- to know about the ergogenic aids and supplements available in the market

LEARNING OUTCOMES

On completion of the course, the students will be able to:

- Demonstrate an understanding of the basic principles associated with sports nutrition.
- Use sports supplements judiciously to enhance sports performance.
- Identify particular dietary trends or eating behaviours to suit the individual athlete.
- Develop an understanding of the importance of incorporating healthy eating guidelines to select the right foods and supplements for specific sports, activities and health conditions.
- Apply a working knowledge of nutrition and food components and the beneficial or deleterious effects of food on the human body with particular emphasis on sporting performance and lifestyle.

COURSE CONTENT

UNIT I

Physical Fitness- Definition, Factors affecting physical fitness, Components of fitness, Fitness testing methods.

Physical Activity- Types of physical activity, Determinants of physical activity, Benefits of physical activity.
Exercise- Classification of exercise, specific exercise for strengthening various health benefits.
Yoga and its benefits in Health and Disease.

UNIT II

Skeletal muscle, Types of muscle contraction, Types of muscle fiber, Factors determining muscular strength, Muscular fatigue, adaptation of skeletal muscles to Exercise training.
Sources of energy for muscle force generation- energy pathways- regulation of energy metabolism-metabolic response to exercise-factors influencing choice of fuels-Components of energy expenditure- energy balance.

UNIT III

Role of carbohydrates before, during and after exercise- carbohydrate loading
Protein requirements for exercise- Health risks with excessive protein intake
Fat as a fuel during exercise
Water- thermoregulation and exercise in the heat- effect of exercise on exercise performance-het illness- Fluid guidelines before, during and after exercise, Overhydration
Micronutrients- essential function of vitamins and minerals for athletes- role of antioxidants

UNIT IV

Body composition analysis-importance of body composition, different techniques- normative value for comparison
Weight management- Ideal body weight composition- making weight and weight loss strategies, Relative energy Deficit (RED)
Eating disorders- Types, prevalence, risk factors, effect on sports performance, treatment and prevention

UNIT V

Pre event and post event meals- preparing for competition, dealing with cramps, stitch, GI stress, electrolyte balance
Eating for anaerobic power- aerobic power- timing of meals and snacks-Recovery food
Food for power sports, endurance sports, combined power
Nutrition for special population- Travelling athlete, Child athlete, ageing athlete, Diabetic athlete, Vegetarian athlete and Disabled athlete
Overview of supplements and sports foods- Use of performance enhancing substances among athletes- Anabolic steroids-Sports foods (cereal bar, sports drinks, carbohydrate gels, Liquid meal replacements, Vitamins)- Different types of protein supplements, creatine, glutamine, BCAA, HMB, caffeine, glycerol, bicarbonate, citrate
WADA- Anti doping rules and regulations

PRACTICALS

1. Body fat analysis- learn to use skin fold calipers, Bio electrical impedance analysis technique, Observe DEXA analysis
2. Measurement of blood pressure, heart rate, calculate METs, VO2 max
3. Learn to take whole body measurements using a measuring tape
4. Observe fitness testing methods to measure cardiovascular fitness, core strength, muscular endurance, power, flexibility, agility, stability, strength, speed
5. Planning diets for strength sports, endurance sports, racquet sports, team games
6. Planning diets for competition, recovery (case studies)
7. Market survey on sports supplements available in the market
8. Guest lecture by a Sports nutritionist, fitness trainer, sports physician or physiotherapist on career opportunities

REFERENCES

Jordan P (Ed), Fitness Theory and Practice- The comprehensive Resource for fitness Instructors, Sherman Oahs, California, 1997.
Crossley.J., Personal Training and Practice, Hodder Arnold, London, 2009.
Glendhill.A. Mulligan, C.Saffer#y, Sutton.J & Taylor.R., Sports and Exercise Sciences, McLanie Gray & Felicity Kendall, Heinemann, Oxford, 2007.
Macedinio. MA, Dunford M, The Athlete's Guide to making weight- Optimal weight for Optimal performance, Human kinetics, 2009.
Singh V & Bhadana OP, Physical Fitness and Training, Sports Publication, New Delhi, 2010.
Wadsworth A., Cardiovascular Training for Fitness, Anness publishing limited, 2010.
Lal Priti Rishi, Nutritional recommendations for sports persons- A Review, J.Indian Dietetic association,, 31, 2006.
Bean Anita, The Complete Guide to Sports Nutrition, A7C Black Publishers Limited, London, 2009.
Position of the American Dietetic association, Dietitians of Canada and the Americal College of Sports medicine: Nutrition and Athletic Performance, J Am diet Assc., 109, 2009.
B Srilakshmi, V Suganthi, C Kalaivani Ashok, Exercise Physiology and Sports Nutrition, New Age International publishers, 2017.

Web Resources

American College of Sports Medicine- www.acsm.org
Centre for disease control and prevention- www. cdc.gov/ncdphp/ndpa
Sports, cardiovascular and wellness Nutrition Dietetics Practice group- www.scandpg.org
Exercise Physiology www.ncbi.nim.nih.gov/PubMed/

ELECTIVE – I: FUNDAMENTALS OF TEXTILES AND CLOTHING

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: III**
Credits: 5 **Semester: V**
Subject Code:

OBJECTIVES

To help the students to
1.) Study the Science of Textiles and use this knowledge in wise buying.
2.) Understand the techniques of Yarn Construction, weaving
3.) Learning different types of fabric printing and dyeing methods
4.) Developing fabric painting skills
5.) Learn the techniques involved in Garment Construction and to improve the embroidery skills

LEARNING OUTCOMES

At the end of the course, the students will be

- Able to identify difference between the different types of fabrics for selection of appropriate fabrics.
- Analyze and understand the kind of woven fabric based on texture, design and appearance.
- Utilize and analyse different types of fabric finishes.
- Identify the different skills of painting and dyeing on fabrics.
- Create and develop the different skills of fabric painting techniques.
- Learn to operate and repair sewing machines.
- Learn different embroidery stitches.
- Learn the skills for basic construction of garments.

UNIT I

Fiber Study

(a.) Fibers-Definition, Classification and properties common to Protein, Cellulose, Mineral and Thermoplastic Fibers.

(b.) Manufacture, uses and properties of Cotton, Jute, Wool, Silk, Viscose Rayon, Nylon, Terylene and Acrylic.

UNIT II

Yarn Processing

(a.) Definition of yarn, Steps involved in processing Cotton yarn

(b.) Classification of Yarns based on direction of Twist, Count-Simple and Novelty yarn

UNIT III

Weaving and Fabric finishes

(a.) Fabric- Definition, Parts of Hand Loom, Basic Weaving operation

(B.) Study of Basic Weaves (plain, Twill and satin)

(c.) Purpose and uses of various finishes- singeing, scouring, bleaching, tentering, calendering, sizing, desizing, weighting, napping, sanforizing, mercerization.

UNIT IV

Fabric Dyeing and Printing

(a.) Methods of Dyeing-Stock, Top, Yarn and Piece dyeing

(b.) Styles of Printing- Direct, Discharge and Resist method

(c.) Methods of Printing- Hand Method- Batik, Tie and Dye, Block, Screen Printing.

(d.) Method of transferring design, types of brushes used for Fabric painting and techniques- simple filling, out line, Stencil, Finger, splatter.

UNIT V

Techniques of Clothing Construction

(a.) Parts of Sewing Machine, Selection, Use and Care of Sewing Machine and Sewing Tools.

(b.) Seams and Seam Finishes

(c.) Methods of introducing Fullness into a Fabric- Darts, Tucks, Pleats and Gathers.

(d.) Definition of Embroidery, Methods of transferring design for Embroidery, Method (Hand and Machine Embroidery).

PRACTICALS

1.) Sewing Process
(a.) Hand Stitches-Temporary and Permanent
(b.) Seams and Seam Finishes
(c.) Fullness- Darts, Tucks, Pleats and Gathers
(d.) Decorative Stitches (outline, filling, interlace, knot and loop stitches)
(e.) Fabric painting- simple filling, out line, Stencil, Finger, splatter.
2.) Garment Construction
(a.) Construction of Apron and Cloth Bag

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CORE PAPER – XIII: PRINCIPLES OF RESOURCE MANAGEMENT

Time/Hrs: Theory: 6 Hrs **Year: III**

Credits: 4 **Semester: VI**

Subject Code:

Objectives:

To enable the students to
1. Understand the concepts, principles and significance of resource management.

2. Apply the principles in the management of resources.
3. Acquire Knowledge in work simplification

Learning Outcome:

The student will be able to
1. Identify the resources and factors influencing the use of resources.
2. Understand use of tools in time management in day to day life.
3. Apply work simplification techniques while planning work.
4. Develop skills to draw a budget within the available income and to maintain accounts.
5. Manage efficiently the available resources during residence stay.

UNIT I

Concept of Resource Management- Definition, Management Process - Planning, Controlling, Evaluating. Qualities of a Good Manager.

UNIT II

Managerial Inputs - Values, Goals, Standards and Resources - Meaning and classification, optimizing the use of family resources, Factors affecting the use of resources. Decision making - Meaning and its importance, Types of decisions, Decision making process, Methods of resolving conflicts.

UNIT III

Time Management- Time plans, Tools in time management- Time norms, Peak loads, Work Curves and rest periods, Time management process - Planning - Steps in making time plans - Controlling the planning action - Evaluation.

UNIT IV

Energy Management - The efforts required in home-making activities, Energy requirements for household activities, Fatigue-concepts, Types - Physiological and Psychological fatigue and Managerial process applied to energy. Work Simplification - Definition, Importance, Techniques - Process chart, Operation chart, Multiman chart and cycle graph techniques - Mundel's Classes of change - Planning efficient work areas-kitchen.

UNIT V

Money Management - Family Income - Types, sources and methods of augmenting family income. Family Expenditure - Budget - Meaning - Types of budget, Planning a budget for a family of a fixed income, Hotel / Restaurant, advantages of budgeting, Factors affecting family budget, Engel's law of consumption, methods of handling money - Family financial records, Savings- importance and types.

PRACTICALS

1. Identification of managerial activities performed at home.
2. Identification of personal and family values and goals.
3. Time expenditure pattern of selected groups.
4. Techniques to study work simplification.
5. Kitchen planning and storage - convenient work heights - types.
6. Formulation of budgets for family and for a department

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- https://books.google.co.in/books?id=NJkrzK3CgisC&pg=PA149&lpg=PA149&dq=time,+energy,+money+as+resource+in+management&source=bl&ots=xmSp-LDkia&sig=57qLKHx2UX3sznBIJhm

CORE PAPER –XIV: FOOD SERVICE MANAGEMENT II

Time/Hrs: Theory: 6 Hrs **Year: III**
Credits: 4 **Semester: VI**
Subject Code:

OBJECTIVES

a) To enable the students to develop skills in organizing and managing Food Service institution and to gain knowledge about the food service and responsibilities of each.
b) To understand the applications of basic principles to bulk production of the food

LEARNING OUTCOMES

On completion of the course, the students will be able to,

1. Examine the use and operation of the various catering equipment
2. Analyse the concepts of space allocation and arrangements and sketch sample layouts of food service units.
3. Develop managerial skills.
4. Identify, assess and apply costing techniques.
5. Develop entrepreneurial abilities and learn technical skills for computer operations.

UNIT I

CATERING EQUIPMENT

Definition of catering equipment – Classification – Factors affecting the selection of equipment- Electrical and non - electrical equipment used in the various work areas of food service establishments – Receiving, Storage – Dry storage – Refrigerated storage – different types of refrigeration units. Production / kitchen – Cooking equipment – Processing equipment – Cookware – Hand tools. Food Service equipment – Furniture – Linen – Crockery – Tableware – Glassware – Miscellaneous and Disposables. Dishwashing – Waste disposal. Base materials and Insulating materials used in the manufacture of equipment.

UNIT II

LAYOUT

Definition of layout – Features of a good layout – Drawbacks of a poor layout. Space allocation and arrangement of the work areas for different types of establishments – Receiving area – Storage area – Kitchen – shapes/ designs of kitchen space – Service area – Dishwashing area. Physical facilities – Lighting and ventilation – types and requirements for various work areas. Sample layout plans for – coffee shop, school/ college canteen, industrial unit, hospital, restaurant and hotel.

UNIT III

ORGANISATION AND MANAGEMENT

Definition – Concept of management – Principles, functions and tools of management. Organisation – definition, theories and types of organisation – formal and informal. Authority and responsibility – centralisation and decentralisation. Staffing process – manpower planning

– recruitment – selection – orientation and placement – training – types and process – employee remuneration – performance appraissal – promotions, demotions, tranfer and separation. Communication – process, methods and barriers. Leadership – styles and qualities of leader. Basics of employee supervision. Motivation – types and theories – Maslow's hierarchy of needs, Herzberg's two factor theory and theory 'X' & Theory 'Y'.

UNIT IV

FINANCIAL MANAGEMENT

Pricing – Definition- factors affecting pricing – pricing policy and strategy – methods of pricing – formal and informal. Costing – components of cost – behaviour of costs – cost control – food, labour and overhead cost control. Cost calculations – breakeven and contribution. Budget – definition, types, need and steps in budgeting – budgetary control. Financial accounting – definition and principles - Book keeping – definition – types – single and double entry – features, advantages and disadvantages. Books of account – Journal and ledger- format, features, advantages and differences. Trial balance and balance sheet.

UNIT V

APLLICATIONS OF COMPUTERS IN CATERING

COMPUTERS IN CATERING: Components of a computer system – basic computer organisation and classification. Departments of a hotel and their functions – Use of property management system – computerised reservation – account management and food and beverage management. PMS used in hotels – OPERA, MICROS, IDS & SHAWMAN. Advertising and marketing- definition, need and types – Digital marketing.

PRACTICALS:

1. A visit to a well organised food service institution – hotel, college, industry, restaurant, hospital, hostel.
2. Study of the layout, physical facilities and equipment used.
3. Market survey on the current trends and designs in catering equipment.
4. Documentation of inputs from a successful food service entrepreneur.

References:

1. Dhawan, V. (2017) *Food and beverage service*. Chennai: Frank bros & co.
2. Seal, P.P. (2015) *Computers in hotels: Concepts and appplications*. New Delhi: Oxford university press.
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CORE PAPER XV- COMMUNITY NUTRITION

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs **Year: III**
Credits: 4 **Semester: VI**
Subject Code:

OBJECTIVES:

1.To enable students to understand the importance of nutrition in national progress and the significance of assessment of nutritional statues.
2.To recognize the solutions to overcome problems of malnutrition in the community and the role of national and international agencies in this area.
3.Understand the concept of public health Nutrition
4.Gain knowledge on food and nutritional security, epidemiology in public health
5.Develop skills to assess nutritional status of the community

LEARNING OUTCOMES

At the end of the course, the student will be able to
1. Identify malnutrition related problems in a community.
2. Learn assessment techniques for studying nutritional problems.
3.Undertake epidemiological studies in the community.
4.Develop different types of visual aids suitable for conducting community nutrition programmes.
5. Gain insight into role of different policies and programs aimed at preventing nutrition related problems in the country.

THEORY

UNIT I

Nutrition and National Development, Ecology of Malnutrition, Strategies To Overcome Malnutrition a)Role of nutrition in national development; Consequences of malnutrition; Ecological factors leading to malnutrition; Measures to overcome malnutrition.

b)Prevalence of common nutritional problems- PEM, Vitamin A Deficiency Diseases, Nutitional Anaemia, Iodine Deficiency Disorders and Fluorosis.

UNIT II

Methods of assessment of nutritional status

Direct assessment – Introduction• ABCD method
Anthropometric Method:- Introduction•Definition • objectives• methods • advantages • disadvantages
Biochemical Method:- Introduction • Definition •objectives • methods • advantages •disadvantages
Clinical Method:- Introduction • Definition •objectives• methods • advantages •disadvantages
Dietary Method:- Introduction • Definition • objectives• methods • advantages •disadvantages
Biophysical or Radiological Method:- Introduction • Definition • objectives• methods • advantages •disadvantages

Functional assessment:- Introduction • Definition • objectives• methods • advantages •disadvantages

Indirect assessment–

Food balance sheet:- Introduction • Definition • objectives • methods • advantages •disadvantages

Ecological parameters:- Introduction • Definition •objectives • methods • advantages •disadvantages

Vital statistics:- Introduction • Definition • objectives • methods • advantages •disadvantages

UNIT III

Nutrition Intervention programmes

a) National Program and policies related to nutrition:-

• Nutritional Programs in India

Vitamin A Deficiency program :- introduction • target group • objectives • activities- National vitamin-A prophylaxis programme

National Iodine deficiency disorders control program (NIDDCP) :- introduction • target group • objectives •activities.

National Nutritional Anaemia prophylaxis programme: introduction • target group • objectives •activities.

SLP:- introduction •target group • objectives • activities

Mid-day Meal program :- introduction • target group • objectives • activities

Integrated child development scheme :- introduction • target group • objectives • services

National Nutrition Policy.

b) Food Fortification:- definition• methods • advantages • disadvantages

c)Nutrition education- definition, process and Methods of imparting nutrition education and their advantages and disadvantages.

d) Breastfeeding and weaning practices- Review

UNIT IV

National and International agencies in community nutrition- Introduction, mission, vision, objectives, functions and policies of FAO, WHO, UNICEF, ICAR, ICMR, NIN, CFTRI, NetProFaN, Eat Right Movement, Fit India Movement.

UNIT V

Nutrition and infection-relationship, immunization and its importance.

PRACTICALS

1. Assessment of Nutritional status

a)Anthropometric Measurement - Height, weight, Mid - upper arm circumference, chest and head circumference for children.

b)Estimation of food and nutrient intake - 24 hours dietary recall, food frequency questionnaire

2.Breast Feeding And Weaning Practices Of Specific Groups.

3.Nutrition education
a) Plan a nutrition education program for a community
b) Conduct a nutrition exhibition program using audio and visual aids for a community.
c) Prepare short videos for social media
d)Learn about nutrition content writing

Field Visits To –
Observe The Working Of Nutrition Programmes.
Hospitals To Observe Nutritional Deficiencies.

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ELECTIVE PAPER – II: ENTREPRENEURSHIP DEVELOPMENT

Time/Hrs: Theory: 6 Hrs **Year: III**
Credits: 5 **Semester: VI**
Subject Code:

OBJECTIVES

To enable the students
1.To understand the concept of entrepreneurship
2. To know the world of entrepreneurs
3. To understand and cultivate entrepreneurial values, attitude, qualities and Desires.
4. To sow the seed of entrepreneurship in fertile minds

LEARNING OUTCOME

The student will be able to
1. Understand the Concept of entrepreneur and entrepreneurship with its characteristics, functions and types.
2. Evaluate the Role of small enterprises in economic development and problems.
3. Understand the Concept of Selection, significance, content, identification of project and can be able to create project report.
4. Remember the financial institutions offering finance to entrepreneurs.
5. Understand the concepts of marketing management and marketing mix.

UNIT I

Entrepreneur - Definition of Entrepreneur and Entrepreneurship, Need of entrepreneurship, Characteristics and qualities of an entrepreneur, functions of an Entrepreneur, Types of Entrepreneur.

UNIT II

Small enterprises - Definition, characteristics, Relationship between small and large Units.Role of Small enterprises in economic development, and problems of small scale industries.Subsidies and incentives.

UNIT III

Project report- Meaning, Significance, Elements of Project formulation, planning, commission, guidelines for project report.Formulation of project report.

UNIT IV

Institutional Finance to Entrepreneurs - Commercial Banks, Other Financial Institutions-SIDBI, SISI,SIPCOT,IFCI, ICICI, IRBI, DIC and SFCs. Steps to start an enterprise.

UNIT V

Marketing Management - Concept of Marketing, Functions of marketing, Market Assessment and segmentation. MarketingMix. Distribution channels, Sales promotion Branding, Labeling and Packaging.

References:

1.Bolton, B. and Thompson, J (2001). Entrepreneurs: Talent, Temperament, Technique, Replika Press Private Ltd, Delhi, 110 040, India.
2.Taneja, S. and Gupta, S.L. (1992). Entrepreneurship Development, New Venture Creation, Galgotia Publishing Company, New Delhi.
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- http://www.adirondackdailyenterprise.com/page/blogs.detail/display/1428/Incentives-versus-Subsidies.html

ELECTIVE PAPER – III: FAMILY MANAGEMENT AND COUNSELLING

Time/Hrs: Theory: 6 Hrs **Year: III**
Credits: 5 **Semester: VI**
Subject Code:

OBJECTIVES
To enable the students to:
1. Understand the developmental tasks during adulthood till old age.
2. Impart knowledge on pregnancy and prenatal Development
3. Create awareness on children with disabilities.

LEARNING OUTCOMES:

On completion of this course, successful students will
1. Gain competence to lead a successful marital life.
2. Develop an understanding about the prenatal development and postnatal care.
3. Attain knowledge in life-span human development and family science based on the most current research and theory.
4. Acquire knowledge about the differently abled.
5. Have the ability to plan and evaluate the interpersonal skills and intervention strategies to enhance an effective relationship through proper guidance and counselling.

UNIT I
MARRIAGE
a. Definition, functions of marriage, motives of marriage, preparation of marriage.
b. Adjustments in marriage – adjustments towards mate, sex, finance, society and in-laws.

UNIT II

PREGNANCY AND PRENATAL DEVELOPMENT
a. Conception, test-tube baby, periods of prenatal development, factors affecting prenatal development, prenatal care.
b. Management of normal pregnancy – hygiene, diet and medical supervision. Common discomforts and hazards during pregnancy. Birth process – signs of labour, stages of labour, types of birth, birth injuries.
c. Post-natal care – normal puerperium, prevention of gynaecological complications. Adjustments of new born to temperature, breathing, feeding and elimination.

UNIT III

FAMILY
a. Types of family – Indian, traditional and modern. Critical family situations and its impacts on children.

b. Family life cycle – stages – beginning family, expanding family, contracting family; adjustment in different stages.

c. Small family norms – government policies, advantages; limitations; contraceptive methods.

d. Styles of parenting; Parental attitudes and its influence on their children.

UNIT IV

DIFFERENTLY ABLED

(i) Gifted children – Definition, classification, causes, education and rehabilitation.

(ii) Mentally retarded - Definition, classification, causes, education and rehabilitation.

(iii) Visually handicapped - Definition, causes, education and rehabilitation.

(iv) Orthopaedically challenged - Definition, causes, education and rehabilitation.

(v) Hearing impaired - Definition, causes, education and rehabilitation.

(vi) Learning disability - Definition, causes, education and rehabilitation.

UNIT V

GUIDANCE AND COUNSELLING

Definition, Principles of counselling; Techniqus of counselling; Role of a counsellor; Qualities of a counsellor; Types of counselling and Areas of guidance and counselling.

REFERENCE:

1. John W. Santrock. Lifespan development. 13th edition Pub. 2012 Tata McGraw- Hill PVT. LTD.
2. Prof. Chaube S. P. Developmental psychology. Pub. 2011 Neelkamal Publications
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7. Jasmeet Sandhu, Marriage and Family in India: Trends and Emerging ChallengesPub.2016 Jaipur : Rawat Publications
8. Dash M. Education of exceptional children. Pub.2012 Atlantic publishers and Distributers PVT.LTD.
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NON-MAJOR ELECTIVES FOR I SEMESTERS

BASIC COOKERY

Semester: I **Hours: 2hrs. /week**
Credits: 2

Objectives
To enable the students to
1. learn simple and scientific methods of cooking.
2. apply the knowledge gained in the preparation of various food items.

Theory
1.Aims and objectives of cooking, methods of cooking and cooking terminology.
2.The use and care of simple kitchen equipment.
3.Measures and volumes, standardization and writing of recipes.
4.Introduction to sanitation and hygiene in the kitchen.

Practical
Unit I:
1.Cereal cookery
- a. Rice preparations – lime rice, tamarind rice, curd rice, egg and peas fried rice, idly and dosai.
- b. Wheat and cereal preparations- pongal, poori, chapathi, rava upuma, oats porridge, ragi puttu, ragi adai.

2. Pulse Cookery
- a. Pulse preparations – brinjal Sambhar, sprouted green gram patchadi, cow peas sundal, green gram payasam, masala vadai.

3.Sugar cookery
- a. Preparations- kesari, coconut burfi, sweet kozhukattai, Mysore pak.

Unit II:
4.Vegetable cookery
- a. Vegetable preparations-cauliflower Manchurian, potato fry, vegetable kurma, avial, Keerai maseel, cabbage pugath, ridge gourd kootu, tomato chutney and carrot halwa.

5. Fruits
- a. Different types of serving oranges, stuffed dates, banana fritters, fruit salad, stewed apricots, banana with custard, fruit jelly, grape jam, fruit punch, baked apple and pineapple upside down cake.

6. Beverages and soups
- a. Preparation of tea, coffee, fruit juice (any two), lassi, plain vegetable soup, cream of tomato soup.

Unit III:
7.Milk and milk products
- a. Milk preparations – banana milk shake, vermicelli payasam, thayir vadai, morkulumbu, baked macaroni and cheese.

8.Eggs:
- a. Egg preparations – boiled egg, poached egg, scrambled eggs, egg curry, omelette, and egg kozhambu.

9.Flesh foods
- a. Mutton curry, chicken fry, fish fry and prawns fry

References

1. Finch, C.F. (1984) Food preparations. Mac Donald and Evans Ltd., Plymouth.
2. Lady Irwin College (1986) Basic Food Preparations. New Delhi.
3. Martland, R.E. and Welsby, D.A. (1980) Basic Cookery, Fundamental Recipes and Variations. William Heinemann Ltd., London.
4. Mc Gee, H. (1984) On food and cooking. Charles Scribners and Sons. New York
5. Peckham, G.C. and Freeland-Graves, J.H. (1979) Foundations of Food Preparation. 4th ed. Macmillan Publishing Co. Inc., New York.

CRECHE ORGANISATION

Semester: I **Hours: 2hrs. /week**

Credits: 2

OBJECTIVES

To enable the students to

1. understand the different aspects related to toddlers and young children's needs
2. acquire the organizational and administrative skills in running a creche

Course outline:

Unit I:

Selection of a site for a creche, floor plan of model creche, building-office/staff room, classroom, bedroom, kitchen, store room, toilets and wash rooms, out door and indoor play area

Unit II:

Equipment- out door, indoor, cooking, serving; selection of toys and creative materials. Furniture for different rooms; Personnel- qualities and qualification; Budget- recurring and non-recurring expenditure; medical facilities-doctor's visits, first aid, accident prevention.

Unit III:

Curriculum- informal talk, music songs, and rhymes, story telling, creative activities, habit formation in hygiene, toilet training, food habits etc.

References:

1. Eisenberg, A, Metrkoff, H & Hathway, S.E. (1996), What to expect-The toddler years, Simon & Semester Ltd. London.
2. Jorde- Bloom, P. (1988). A great place to work , National Association for the Education of young children, Washington D.C.
3. Godwin, A, Schrag, L. (1987-1988) Setting up for infant creche- Guidelines for centre and family day care homes. National association for the education of young children, Washington D.C.
4. Isaacs, N.(1974). The growth of understanding in the young child. Allied Publishers Pvt. Ltd. New Delhi
5. Kapoor, N; Mohite, P. Parekh, K, Cneton. Balwadi- A Laboratory nursery school. Department of Human Development & family studies, Faculty of Home Science. M.S. University of Baroda.
6. Taylor, J. (1971). Organizing & Integrating Infant Daycare, George Atten & Unwin Ltd. UK.
7. Ambady G.k. (1981) Child Education & Training, Metropolitan Book, Co, Pvt, Ltd, New Delhi.

INTERIOR DECORATION

Semester: I **Hours: 2hrs. /week**

OBJECTIVES **Credits: 2**

To help students learn the art of decorating a room so that it is attractive, easy to use and function well.

Theory

Unit I:

Introduction to Interior decoration.

Unit II:

Design- Types, Elements of design and its application in interiors to bring illusions and to determine moods.

Unit III:

.Principles of design - definition and means of achieving.

Practicals

1. Prang color chart
2. Value scale
3. Intensity scale
4. Standard color schemes
5. Napkin folds
6. Table setting
7. Soft window treatment
8. Flower arrangement
9. Floor decorations
10. Arranging various areas in interiors applying art principles.

References:

1. Goldstein, H .and Goldstein, V. (1968) Art in everyday life. Oxford and IBH Publishing Co., New Delhi.
2. Guild, R. (1991) Complete Home Decorator. Conran Octopus Ltd, London
3. Townshend, J. (1976) Home Decorating for You. New English Library, London.

FABRIC EMBELLISHMENT

SEMESTER: I

Credits: 2 **Hours: 2 Hrs. /Week**

OBJECTIVES

To help the students learn

1. Skills of hand embroidery
2. Tools and techniques of hand embroidery
3. Traditional embroidery's of India

UNIT I

a.) Definition of embroidery, Tools used for embroidery ,Method of transferring design on fabric for embroidery
b.) Basic embroidery stitches-
Outline stitches- Stem, Running, Back, Chain, couching.
Filling stitches- satin, long and short, Herringbone, Fish bone, Cretan, buttonhole, cross stitch.
Interlaced stitch-Whipped running, Laced running, Pekinese.
Knot and Loop stitches- French knot, double knot, bullion.

UNIT II

Traditional Embroidery of India- Designs/motifs used, colour combination,
Types-
a.) Kantha of Bengal
b.) Kasuti of Karnataka
c.) Kashida of Kashmir
d.) Phulkari of Punjab
e.) Chikankari of Uttar Pradesh.

UNIT III

Fabric Painting
Preparation of fabric before painting, transferring design on fabric for painting, Tools used for fabric painting, Types of Brushes, Techniques of fabric painting- simple filling, out line, Stencil, Finger, splatter.

References:

1. Irene Hirst,(1963), The complete book of needle work, wardlock and co Ltd.London.
2. The Readers Digest Association, (1989) Reader's Digest complete guide to needlework. The reader's Digest Association New York.
3. Ida,KD(1949) The complete book of needlecraft. Live Right Publishing Corporation.
4. Edvinsing,P.M.(1992) November flowers: Needlework and embroidery.St.Mary's Madras.
5. Katrin.c(1995) Embroidery. Michelin house, Great Britain
6. Melinda.c(1996) The DMC Book of Embroidery, Colin and Brown, London.

Net References:
1. https://www.thesprucecrafts.com/stitches-every-embroidery-should-know-4122123.
2. https://textilelearner.blog spot.com/2019/03/traditional-embroideries-india.html?m=1
3. https://www.hobby ideas.in/blogs/view/fabric-painting-materials-and-techniques.

NON-MAJOR ELECTIVES FOR II SEMESTERS

FUNDAMENTALS OF BAKERY

Semester: II **Hours: 2hrs. /week**
Credits: 2

OBJECTIVES

To enable students to

1. Acquire knowledge of various ingredients used in the baking process.
2. Develop skills in baking procedures.
3. Provide avenues for self-employment.

UNIT I

1. Introduction to bakery -Aims and objectives.
2. Various bakery ingredients, their role and importance.
   a. Wheat- Type, grading, varieties.
   b. Flour - Type of flours, assessment.

UNIT II

1. Other ingredients used in baking
   a. Yeast-types, function, effects of fermentation
   b. Eggs- Role in Bakery.
   c. Sugar- Types and uses.
   e. Fats – Functions and effects of cooking.
   f. Milk products, emulsifiers, dried fruits, enzymes, creams, and other leavening agents.

UNIT III

Variety of baked products - Breads, biscuits, cookies, cakes, pastries etc. their classification, types and basic procedures in production.

References:

1. Smith,W.H.(1972) Biscuits, crackers,cookies, Vol 1 ,Technology production management, Applied Science Publishers Ltd.Essex England.
2. Bakery questions answered. Applied Science Publishers Ltd.Essex, England
3. Philip T. (1998) Modern cookery, Vol. 1 and 2, Orient Longman, New Delhi.
4. Manay S. (1987) Foods facts and principles, Wiley eastern Limited, New Delhi

GUIDANCE AND COUNSELLING

Semester: II **Hours: 2hrs. /week**

Credits: 2

Objectives

To enable the students to

1. learn the principles of guidance and counseling.
2. acquire the techniques of individual management.

Course Outline

UNIT I

Guidance and Counselling – Meaning, Need and scope. Functions and Principles of guidance and counselling. Role of Counsellor. Qualities of a good Counsellor.

UNIT II

Guidance-types- personal, educational and vocational.

Counselling - types-direct and indirect. Areas of counselling- personal, educational, vocational (job placement) and marital.

UNIT III

Techniques of individual management. Family therapy and psychotherapy.

References:

1. Jayaswal, S.R. (1987). Guidance and Counselling, Prakashan Kendra, New Delhi.
2. Kale, S.V. (1998). Child Psychology and Child Guidance. 4th edition, Himalaya Publishers.
3. Kuppuswamy (1980). Child Behaviour and Development. 5th edition, Vikas Publishers.
4. Laura E.Berk.(2000). Child Development.7th edition, Prentice-Hall of India, Pvt. Ltd., New Delhi.
5. Rao, S. (1991). Counselling and guidance. 3rd edition, Tata McGraw Hill Book Co., New Delhi.
6. Shanmugam, P.E. (1981). Abnormal Psychology. 3rd edition, Tata McGraw Hill Book Co., New Delhi.

FOOD PRESERVATION

Semester: II **Hours: 2hrs. /week**

Credits: 2

Objectives

To enable the students to

1. understand the basic principles of food preservation.
2. learn the food preservation techniques.
3. prepare preserved foods

UNIT I

Importance of preservation – basic principles of preservation, food deterioration-agents causing spoilage, types of spoilage, prevention and need for preservation.

UNIT II

Food preservation techniques

a) Preservation by heat – blanching, pasteurization, sterilization, concentration. Drying methods- sun, mechanical, freeze and osmotic drying, Changes during drying

b) Preservation by low temperature – Refrigeration & freezing, factors to be considered in low temperature preservation.

c) Preservation by ionizing radiations- units, process, effect on microorganisms, effect of irradiation overdose on foods.

d) Preservation by use of preservatives –sugar, salt, chemicals.

UNIT III

Preparation of preserved food products (any 3)

Fruits – Jams, Jellies, Squashes,Cordials, marmalades, candy

Vegetables – Pickles.

References:

1.Sivasankar, B.,(2002), Food processing and preservation, Prentice Hall of India (p) Ltd, New Delhi.

2.Manay, N.S and Shadaksharaswamy (1997), Food Facts and Principles, Wiley Eastern Ltd, New Delhi.

3. Norman Potter, (1987), Food Science, 3rd ed. CBS Publishers & Distributors, New Delhi.

TEXTILE DESIGNING

Semester: II **Hours: 2hrs. /week**

Credits: 2

Objectives

To enable the students to

1. learn the principles of designs.
2. understand the types of printing.

Course outline:

UNIT I

Introduction to textile designing – principles of designs – elements of design – colour concepts.

UNIT II

Printing – Introduction – types of printing (hand and machine method) styles of printing – direct, discharge and resist method. Block printing and screen-printing.

UNIT III

Dyeing – difference between dyeing and printing – dyes suitable for cotton, silk and synthetic – designing fabric through dyeing – Tie & Dye, Batik.

References:

1. Marjory, L.J (1977) Introductory- Textile sciences. Holt, Reinbart and Winston, New York.
2. Corbman, B.P (1975) Textiles Fibre to Fabric. Mc Graw Hill, New York.
3. Norma, Hollen, Saddler, 1973, Textiles, The Macmillan Company, New York.
4. Goldstein & Goldstein, (1968) Art in everyday life The Macmillan Company, New York.