

REVISED SYLLABI
(Effective from the academic year 2009-2010 onwards)

B. Sc. NUTRITION AND DIETETICS

Department of Nutrition and Dietetics
Achariya College of Arts and Science, Villianur.
(Affiliated to Pondicherry University)

SEMESTER – I

NAD101: FOOD SCIENCE -1

UNIT I: INTRODUCTION TO FOODS

8 hours

Definition, functions, food groups, classification of foods. Study of different cooking methods, merits and demerits, Solar cooking, Microwave cooking. Cereals - Cereals and millets- breakfast cereals, cereal products, fast foods- structure, processing, use in variety of preparation, selection, variety, storage, nutritional aspects and cost.

UNIT II: PULSES

8 hours

Pulses and legumes- Production (in brief), Selection and variety, storage, processing, use in variety of preparation, nutritional aspects and cost. Highlighting soya beans, lathyrism- removal of toxins.

UNIT III: MILK AND MILK PRODUCTS

8 hours

Composition, classification, quality, processing, coagulation of milk, digestion of milk, storage, uses and cost. Nutritional aspects of milk, curd, butter, paneer, khoa, cheese, ice cream, kulfi and various kinds of processed milk.

UNIT IV: EGG, FISH, POULTRY AND MEAT

8 hours

Selection, quality, purchase, storage, uses and nutritional aspects. Spoilage of egg, fish, poultry and meat.

UNIT V: VEGETABLES AND FRUITS

8 hours

Variety, selection, purchase, storage, availability, cost, use and nutritional aspects of raw and processed vegetables and fruits. Effects of cooking on colour, texture, flavour, appearance and nutritive value.

TEXT BOOKS

1. Swaminathan (1995): "Food & Nutrition", The Bangalore Printing & publishing co ltd., Vol I, Second Edition, Bangalore.
2. Srilakshmi (1997): "Food Science", New Age International (P) Ltd, Publishers, Pune.

REFERENCE BOOKS

1. Mudambi .R. Sumathi & Rajagpal M.V (1983), "Foods & Nutrition", Willey Eastern Ltd, Second Edition, New Delhi.
2. Thangam.E.Philip(1965): Modern Cookery, Orient Longman, II edition. Vol II, Bombay.

NAD105: PRACTICAL – I

FOOD SCIENCE -1

1. Familiarisation with different stoves, ovens and simple kitchen equipment.
2. Methods of measuring and weighing dry ingredients and liquids.
3. Cereal cookery
 - a. Methods of combining flour with liquid eg. Powdered cereal coarse(eg. Phirnee, broken wheat uppuma) and fine (eg. Ragi porridge, wheat halwa).
 - b. Cereal Grains – different methods of cooking rice – straining, absorption – cooking over slow heat, pressure cooking, addition of fat, microwave and rice cooker.
 - c. Rice preparations – lime rice, tamarind rice, coconut rice, curd rice, egg fried rice, peas fried rice, iddli and dosai.
 - d. Wheat and ragi preparations – Kesari, poori, paratha, bhathura, naan, ragi puttu, ragi leaf cake, ragi adai.
4. Pulse Cookery
 - a. Different methods of cooking pulses – hard water, soft water, soaking, addition of soda bicarbonate, addition of raw papaya, pressure cooking eg. Any whole gram and any dhal.
 - b. Pulse Preparations – brinjal sambar, sprouted green gram patchadi, cow peas sundal, adai, tomato dhal maseel, ven pongal, ompodi, sugian, freen gram payasam, masala vadai and chole.
5. Vegetable Cookery
 - a. Different methods of cooking vegetables – effect of shredding, dicing, acid and alkali, pressure cooking, steaming with and without lid. Eg. Potato, beetroot, carrot and greens.
 - b. Vegetable preparations – potato methi curry, mashed potatoes, aloo tikke, vegetable kurma, avail , keerai maseel, cabbage pugath, carrot cucumber, ridge gourd and green gram dhal kootu, tomato chutney and carrot halwa.
6. Fruits

Different ways of serving oranges, stuffed dates, banana fritters, fruit salad, stewed apricots, banana with custard, fruit jelly, grape jam, fruit punch, baked apple and pine apple upside down cake.

NAD102: HUMAN NUTRITION

UNIT I: INTRODUCTION TO NUTRITION

7 hours

Concept and definition of terms Nutrition, Malnutrition and Health. Brief History of Nutritional Science, Scope of Nutrition. Minimal Nutritional Requirements and RDA- Formulation of RDA and Dietary Guidelines- Reference Man and Reference women.

UNIT II: ENERGY AND CARBOHYDRATES

9 hours

Energy Balance, Assessment of Energy Requirements, Deficiency and Excess. Carbohydrates- Definition, Classification and functions. Digestion and Absorption, Blood glucose and effect of different carbohydrates on blood glucose. Dietary Fibre - Nutritional significance

UNIT III: PROTEINS

8 hours

Definition, classification and functions. Assessment of protein quality (BV, PER, NPU), Digestion and Absorption, factors affecting protein bio-availability including anti-nutritional factors. Requirements, deficiency.

UNIT IV: LIPIDS

8 hours

Definition, classification and functions of lipids. Digestion and absorption, Intestinal re-synthesis of triglycerides. Types of fatty acids, role and nutritional significance (SFA, MUFA, PUFA, omega-3).

UNIT V: MINERALS, TRACE ELEMENTS AND VITAMINS

8 hours

Minerals - Physiological role, bio-availability and requirements, sources, Deficiency and Excess(Calcium, Phosphorus, Magnesium, Iron, Fluoride, Zinc, Iodine)

Vitamins-Physiological role, Bio-availability and requirements, sources, deficiency and excess(Fat soluble and water soluble)

TEXT BOOKS

1. Shubhangini A. Joshi,(1992)' "Nutrition and Dietetics"Tata Mc Grow- Hill publishing Company Ltd, New Delhi.
2. Srilakshmi. B – "Nutrition Science", V Edn, New Age International (P) Ltd, Publishers, Chennai

REFERENCE BOOKS

1. Passmone R.and Eastwood M.A,(1986), "Human Nutrition and Dietetics",English language book Society/Churchill Livingstone,Eigth edition, Hong Kong.
2. Neiman N. Catherine, (1990), "Nutrition",Wm.C. Brown Publishers. USA.

NAD102: HUMAN NUTRITION PRACTICALS

1. Estimation of calorific value of food.
2. Estimation of moisture content.
3. Estimation of ash content.
4. Preparation of buffers (acidic, neutral and alkaline) and determination of pH.
5. Qualitative identification of carbohydrates – glucose, fructose, galactose, sucrose, maltose, lactose.
6. Preparation of Osazones and their identification.
7. Qualitative identification of amino acids – histidine, tyrosine, tryptophan, cysteine, arginine.
8. Qualitative identification of lipids – solubility, saponification, acrolein test, Salkowski test, Lieberman-Burchard test.
9. Qualitative tests for minerals.
10. Quantitative estimation of glucose.

151: HUMAN PHYSIOLOGY - 1

UNIT – I: CELL AND TISSUES

8 hours

Cell – Structure and functions. Physiological properties of protoplasm. Levels of cellular organization. Organelles, tissues, organs and systems. Cell membrane transport. Tissues - Structure and functions of epithelial, connective, muscular and nervous tissue. Water and electrolyte balance - Distribution of water and electrolytes, requirements and sources, regulation of water balance, electrolyte balance, deficiency and excess.

UNIT – II: DIGESTIVE SYSTEM

7 hours

Accessory organs of digestion – Structure and functions – Teeth, Tongue, Salivary glands; Saliva – Composition and functions. Organs of Digestion – Oesophagus, Stomach, Small intestine and Large intestine – Structure and functions, Movements of the digestive system. Associated organs of digestion – Liver, Gall bladder, Pancreas (Digestive function) and Spleen. Disorders and Diseases – anorexia, Achlorhydria, Peptic ulcer, gastric ulcer and duodenal ulcer, gastritis, typhoid, jaundice.

UNIT- III: CIRCULATORY SYSTEM

9 hours

Blood – Formation, composition and functions, blood coagulation, blood groups and Rhesus factor, blood transfusion. Disorders – Anemia, Leukemia, hemophilia. Blood vessels – Types of Blood vessels. Disorders – Varicose veins, arteriosclerosis. Blood Pressure – Factors affecting blood pressure, hypertension, Pulse, Tachycardia and Bradycardia. Heart - Structure and functions, cardiac cycle, conduction system of the heart, ECG and its significance. Disorders – Angina pectoris, myocardial infarction. Lymphatic system – Lymph glands and its functions; Lymph - Composition and functions.

UNIT-IV: EXCRETORY SYSTEM

8 hours

Organs of Excretion – Structure and functions of kidney, ureter, urinary bladder, urethra. Mechanism of urine formation, composition of urine, Micturition. Role of kidney in maintaining pH of blood. Acid-base balance. Disorders and Diseases – nocturnal enuresis, polyurea, diuresis, uremia, hematuria, nephritis.

UNIT-V: RESPIRATORY SYSTEM

8 hours

Upper respiratory passages – nasal cavities, pharynx, larynx and trachea. Lungs – Structure and functions, Lung capacity, Respiratory Quotient. Exchange and Transportation of respiratory gases. Role of haemoglobin and buffer systems. Disturbances in respiration – Apnea, Dyspnea, Hypoxia. Diseases – Bronchitis, Tuberculosis, Pneumonia, Asthma.

TEXTBOOKS

1. Meyer B J, Meij H S and Meyer A C., Human Physiology, AITBS Publishers and Distributors.
2. Wilson, K.J.W and Waugh, A. (1996): Ross and Wilson, Anatomy and Physiology in Health and Illness, 8th Edition, Churchill Livingstone.

REFERENCES

1. Ranganathan, T.S. (2004): A Textbook of Human Anatomy, Chand & Co. N. Delhi.
2. Jain, A.K., Textbook of Physiology, Vol. I and II, Avichal Publishing Co., New Delhi.
3. Chatterjee C.C. (1987): Human Physiology, Vol. I & II, Medical Allied Agency, Calcutta.
4. Guyton, A.G. and Hall, J.B. (1996): Text Book of Medical Physiology, (9th Edition, W.B. Sanders Company, Prism Books (Pvt.) Ltd., Bangalore.

153: ALLIED PRACTICAL – I

HUMAN PHYSIOLOGY – 1

1. Microscopic study of different tissues - Epithelial, connective, muscular & nervous tissues
2. Microscopic study of digestive organs - Pancreas, stomach, small intestine, liver
3. Microscopic study of respiratory organs - Lung, trachea
4. Microscopic study of excretory system - Kidney, nephron
5. Blood Grouping
6. Microscopic examination of prepared slides - Fresh mount of blood and stained blood smear
7. Estimation of Haemoglobin by Sahli's Method

SEMESTER – II

NAD103: FOOD SCIENCE – II

UNIT I: SUGAR AND SUGAR COOKERY

8 hours

Different forms of sugar (sugar, jaggery, honey syrup) manufactures, selection, storage and use as preservatives. Stages of sugar cooking.

UNIT II: FATS AND OILS

8 hours

Types of fats and oils (animal and vegetable), processing and changes (hydrogenation, rancidity, smoking point, emulsification), uses, storage, cost and nutritional aspects. Nuts and oilseeds: Nutritive value and toxins.

UNIT III: RAISING AGENTS AND FOOD ADJUNCTS

8 hours

Raising agents - Types, constituents, uses in cookery and bakery, different types of cakes- sponge, chiffon and shortened cakes. Food Adjuncts - Spices, condiments, herbs, extracts, concentrates, essences and food colours- origin, classification, description uses, specification, procurement and storage.

UNIT IV: CONVENIENCE FOODS

8 hours

Role, types, advantages, uses, cost and contribution to diet.

UNIT V: TEA, COFFEE, CHOCOLATE & COCOA,

8 hours

Cultivation, processing, cost and nutritional aspects.

TEXT BOOKS

1. Swaminathan (1995): “Food & Nutrition”, The Bangalore Printing & publishing co. ltd., Vol I, Second Edition, Bangalore.
2. Srilakshmi (1997): “Food Science” , New Age International (P) Ltd,Publishers,Pune.

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1. Mudambi .R. Sumathi & Rajagpal M.V (1983), “Foods & Nutrition”, Willey Eastern Ltd, Second Edition, New Delhi.
2. Thangam.E.Philip(1965): Modern Cookery, Orient Longman, II edition. Vol II, Bombay.

NAD105: PRACTICAL – I

FOOD SCIENCE – II

1. Eggs

a. Factors affecting whipping of egg white eg. Salt, Sugar, vinegar, fat and milk, temperature, type of container used and beaters.

b. Poaching of eggs.

c. Boiling of eggs.

d. Coagulation of egg proteins – stirred and baked custards.

e. Egg preparations – egg curry, spicy omelet, puffy omelet and French omelet, caramel custard (steamed), kalkadai muttai, Scrambled eggs and fried eggs.

2. Milk And Milk Products

a. Cooking Vegetables in milk, Using Carrot and Cabbage.

b. Preparation of cream of tomato soup.

c. Milk preparations – Punjabi milk curry, vanilla ice cream, banana milk shake, vermicelli payasam, cucumber patchadi, thayir vadai, morkulamnbu and baked macaroni and cheese.

3. Beverages

a. Preparation of coffee using coffee filter, steeping, coffee maker and instant coffee powder.

b. Preparation of tea using steeping, tea bags, instant tea and green tea.

c. Preparation of cocoa.

4. Fats and oils

a. Smoking Point – break cube test

b. Frying poories at different temperatures.

c. Frying kal-kals at different temperatures.

d. Preparation of mayonnaise.

5. Sugar cookery

a. Stages of sugar cookery.

b. Preparations – vanilla fondant, chocolate fudge, coconut ice, gulab jamun, Mysore pak, gouja and marshmallow.

6. Raising agents.

Sponge, chiffon and shortened cakes.

7. Preparation of different convenience foods.

Two recipes using condensed milk, cake mix, vadai mix, gulab jamun mix, sambhar/rasam mix, rava idli, dosai mix, pongal mix, custard mix, jelly mix and noodles.

NAD104: NUTRITION THROUGH LIFE CYCLE

UNIT I: BASIC PRINCIPLES OF MEAL AND MENU PLANNING

6 hours

Factors to be considered in meal/menu planning.

UNIT II: NUTRITION IN PREGNANCY AND LACTATION

9 hours

Pregnancy - Physiological stages of pregnancy, nutrition requirements food selection and Complications of pregnancy.

Lactation - Physiology of lactation, nutritional requirements.

UNIT III: NUTRITION DURING INFANCY AND EARLY CHILDHOOD

9 hours

Infancy - Growth and development, nutritional requirements, breast feeding, infant formula. Introduction of supplementary foods.

Early childhood. (Toddlers and Preschoolers) - Growth and nutrient needs, nutritional related problems, Feeding Pattern.

UNIT IV: NUTRITION FOR SCHOOL CHILDREN AND ADOLESCENCE

8 hours

School children - Nutritional requirements, Importance of snacks, school lunch.

Adolescence - Growth, Nutrient needs, food choice, eating habits, factors influencing.

UNIT V: GERIATIC NUTRITION

8 hours

Factors affecting food intake and nutrients use, nutrient needs, nutrition related problems.

TEXTBOOKS

1. Shubangini A Joshi, (1998): Nutrition and Dietetics, Tata Mc Graw Hill Pub. Co. Ltd., New Delhi.
2. National Institute of Nutrition, (2005): Dietary Guidelines for Indians – A Manual, Hyderabad.
3. Srilakshmi. B, (2005): Dietetics, V Edition, New Age International (P) Ltd, Publishers, Chennai.

REFERENCE BOOKS

1. Mahan, L.K. and Escott-Stump, S. (2000) Krause's Food, Nutrition and Diet Therapy, 10th Ed. W.B.Saunders Company, London.
2. Williams S.R. (1993): Nutrition and Diet Therapy, 7th Ed. Times Mirror / Mosby College Publishing, St. Louis.
3. Antia F.P, Clinical Dietetics and Nutrition, Oxford University Press.
4. Shills, M.E, Oslon, J.A, Shike, M and Ross, A.C. (1999): Modern Nutrition in Health and Disease, 9th Edition.

NAD106: PRACTICAL – II

NUTRITION THROUGH LIFE CYCLE

1. Planning diet for adult men and women, during different activities - sedentary, moderate, heavy worker - preparation of above diets.
2. Planning and preparation of balanced diet for a pregnant woman.
3. Planning and preparation of balanced diet for a nursing mother.
4. Supplementary feeding - Preparation of weaning foods,
5. Planning and preparation of diet for toddler and pre school child
6. Planning and preparation of meals/packed lunch
7. Nutrition during adolescence - Preparation of meals
8. Planning a diet for senior citizen - Preparation of meals
9. Planning meals for middle income family - important consideration in planning meals.

NAD152: HUMAN PHYSIOLOGY-II

UNIT – I: NERVOUS SYSTEM

8 hours

Central nervous system - Brain and spinal cord – structure and function. Cerebrospinal fluid. Peripheral nervous system - cranial and spinal nerves.

Autonomic nervous system – parasympathetic and sympathetic system – conduction of nerve impulse, synapse, reflex arc, reflex action. Diseases and Disorders - insomnia, alzheimer’s disease, schizophrenia, hydrocephaly, meningitis.

UNIT – II: SENSE ORGANS

8 hours

Eye – Structure and functions. Physiology of vision. Defects in vision – myopia and hypermetropia, astigmatism. Diseases – Conjunctivitis, trachoma, glaucoma, cataract. Ear – Structure and functions. Deafness, vertigo. Nose – Structure and functions. Sinusitis. Skin – Structure and functions. Dermatitis and burns.

UNIT – III: ENDOCRINE SYSTEM

8 hours

Hormones – Endocrine glands - Pituitary, Thyroid, Parathyroid, Pancreas (endocrine function), Adrenal – Their structure and functions. Hormones of reproduction. Disorders of over and under secretion.

UNIT – IV: REPRODUCTIVE SYSTEM

8 hours

Male reproductive system – Structure and functions. Spermatogenesis. Female reproductive system – Structure and functions. Oogenesis. Menstrual cycle, Puberty, Menopause. Fertilization, Development of fertilized ovum (Brief account) – Placenta and its functions – Parturition. Physiology of lactation – Hormonal control in lactation. Abortion, Ectopic pregnancy, multiple pregnancy, artificial insemination, test tube baby - IVF,ETT & GIFT.

UNIT – V: MUSCULOSKELETAL SYSTEM

8 hours

Skeletal system – Structure of bone, Functions of the skeletal system. Joints – Types of joints. Muscular system – Functions of the muscles. Muscular contraction. Diseases and disorders - arthritis, osteoporosis, tetany, muscle fatigue, rigor mortis, myasthenia gravis.

TEXTBOOKS

1. Meyer B J, Meij H S and Meyer A C., Human Physiology, AITBS Publishers and Distributors.
2. Wilson, K.J.W and Waugh, A. (1996): Ross and Wilson, Anatomy and Physiology in Health and Illness, 8th Edition, Churchill Livingstone.

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3. Chatterjee C.C. (1987): Human Physiology, Vol. I & II, Medical Allied Agency, Calcutta.
4. Guyton, A.G. and Hall, J.B. (1996): Text Book of Medical Physiology, (9th Edition, W.B. Sanders Company, Prism Books (Pvt.) Ltd., Bangalore.

NAD153: ALLIED PRACTICAL – I

HUMAN PHYSIOLOGY-II

1. Blood count - red blood corpuscles count
2. Blood count - white blood corpuscles count
3. Determination of coagulation time.
4. Blood grouping.
5. Recording blood pressure using sphygmomanometer, effect of exercise on pulse rate, and blood pressure.
6. Microscopic structure of various glands – Thyroid, pituitary, adrenal
7. Microscopic structure of reproductive organs – Ovary, uterus, mammary gland, testis

SEMESTER III

NAD201: FOOD SERVICE MANAGEMENT

UNIT I: FOOD SERVICE INDUSTRY

8 hours

Types of catering, History and development. Commercial: Hotels, motels, restaurants, clubs, cafeteria, franchise and chain hotels. Welfare: Hospitals, school lunch, residential establishments, industrial and philanthropic establishments. Transport: Air, Rail and Sea and Space. Miscellaneous: Contract and outdoor catering

UNIT II: FOOD SERVICE STYLES

8 hours

Conventional, Commissary, assembly- line, table service, hatch and counter, cafeteria, banquet, buffet, Indian, western and oriented services.

UNIT III: PLANT LAYOUT, HYGIENE AND SANITATION

8 hours

Layout of food service units – planning of areas as work units with relevant spacing. Equipment – major and minor – their selection, layout, use and care. Fuels. Hygiene and Sanitation - In food handling, plant, equipment, personnel, raw materials, and methods of work.

UNIT IV: ORGANISATION AND MANAGEMENT

8 hours

Organisation and management - Types and tools – mainly related to food service units. Work simplification and motion study in work areas. Personnel Management – selection, induction, training supervision and dismissal. Legal controls – Labour laws and welfare measures.

UNIT V: FINANCIAL MANAGEMENT

8 hours

Cost control – food costs, overheads and profits. Budgeting, books of account, inventories. Stores control, indents, Purchase.

TEXT BOOKS

1. Hitchcock, M.J (1980): Food service systems administration, Macmillan, New York
2. Sethi, M. Machan, S.(1993): Catering Management: An Integrated approach, Wiley Eastern: New Delhi.

REFERENCE BOOKS

1. West B.B , wood, L.Revised by Hargar V.F, Shugart, G.S, Payne Palacio, J.(1989): “Food service Institution, 6th edition, Macmillan publishing co., New York.
2. Kotas, R(1972): Accounting in theHotel and Catering Industry, Inter text books, 3rd Edition, Butler & Tanner, London.

NAD201: FOOD SERVICE MANAGEMENT PRACTICALS

1. Visits to well organised food services attached to Hostel, Hotel / Restaurant, Industry, Hospital Dietary Department, Transport Catering.
2. Preparation and service of 4 dishes comparison of traditional, ready – mix commercial preparations with regard to time , labour cost and nutritive value.
3. Quantity Cookery
Planning and preparation in 25 portions- 4 Indian, 2 Western and 1 Oriental menus.
Quantity preparation of snacks.
4. Internship training in hotels/restaurants for 30 days.

NAD202: COMMUNITY NUTRITION

UNIT I: CONCEPT AND SCOPE OF COMMUNITY NUTRITION

8 hours

Nutritional Status of a community

Methods and techniques used to determine the Nutritional status of a community

UNIT II: NUTRITIONAL PROBLEMS OF THE COMMUNITY

8 hours

Common problems in India - Causes - Nutritional and non-nutritional. Incidence of nutritional problems, signs and symptoms, treatment – PEM, Micro-nutrient deficiencies(Vitamin A, Iron, Iodine), Fluorosis

UNIT III: SCHEMES AND PROGRAMMES TO COMBAT NUTRITIONAL PROBLEMS IN INDIA

8 hours

Prophylaxis programmes

Midday meal programme

ICDS

UNIT IV: HAZARDS TO COMMUNITY HEALTH AND NUTRITIONAL STATUS

8 hours

Adulteration in food

Pollution of water

Industrial effluents, sewage

Pesticide residues in food

UNIT V: NUTRITION EDUCATION

8 hours

Scope, Objective, Methods available and evaluation. Nutrition policy in India and plan of action

TEXT BOOKS

1. Agarwal, A.N.1981: Indian Economy problems of development and planning
2. Shukla, P.K.(1982): Nutritional Problems in India

REFERENCE BOOKS

1. Jelliffle, D.B(1968): Child Health in the tropics.
2. Ghosh, S(1989): You and your child.
3. Misra, S.K. and puri, V.K(1992): Indian Economy
4. Thankamma Jacob (1976): Food Adulteration.
5. Park, J.E. and Park, K(1994): Text book of Preventive and Social Medicine.
6. Prevention of Food Adulteration Act (1994): Govt of India.

SEMESTER IV

NAD203: FOOD MICROBIOLOGY

UNIT - I: INTRODUCTION TO MICROBIOLOGY

6 hours

Brief history of microbiology - Louis Pasteur, Robert Koch, Edward Jenner. Pure culture techniques and maintenance of cultures.

UNIT - II: MORPHOLOGY OF MICROORGANISMS

10 hours

Classification, growth and multiplication, growth curve. Effects of environmental factors on growth of microorganism - pH, a_w , redox potential, temperature, oxygen, time and nutrients present in the substrate. Characteristics - Bacteria, Fungi - mucor, rhizopus, aspergillus, penicillium. Yeasts - saccharomyces. Algae - chlamydomonas, spirogyra. Animal viruses and Bacteriophages - classification and replication. Protozoa - entamoeba histolytica, paramecium, plasmodium. Role of microorganisms in food processing and product development. Beneficial effect of bacteria, fungi algae and yeasts.

UNIT - III: MICROBIOLOGY OF DIFFERENT FOODS

8 hours

Sources of contamination and spoilage of: Cereal and cereal products like bread, flour and bakery products; Sugar and sugar products like honey, maple syrup and candies; Vegetables and fruits; Meat products like sausage, bacon and ham, fish, egg and poultry; Milk and its products; Canned foods. Food poisoning and food borne infection.

UNIT - IV: CONTROL OF MICROORGANISMS

8 hours

Concepts of sterilization and disinfection, methods of sterilization and disinfection. Common disinfectants used in home and at industries. Tests to identify the effectiveness of sterilization and disinfection. Normal microbiological criteria for food consumption, testing milk and water for quality.

UNIT - V: FOOD HYGIENE AND SANITATION

8 hours

Importance of food hygiene and sanitation with relevance to food industry. General principles of food hygiene in rural and urban areas in relation to food preparation, processing, packaging, storage and transport and personal hygiene. Hygiene and sanitation with relevance to the physical structures of the site and building.

TEXTBOOKS

1. Joshua A K., (2000): Microbiology, Popular Book Depot, Chennai.
2. Ananthanarayanan R and Panicker C K J., Textbook of Microbiology, Orient Longman, Chennai.

REFERENCES

1. Frazier W C., (2002): Food Microbiology, Mc Graw Hill Book Co., 6th edition, N.Delhi.
2. Pelezar, M.I and Reid, R.D, (1993): Microbiology, 5th edition, McGRaw Hill Book Company, New York.
1. Jay, James, M (2000): Modern Food Microbiology, 2nd edition, CBS Publisher.
2. Adams, M.R. and Moses M.G. (1995): Food Microbiology. 1st edition, New Age International (P) Ltd.

NAD205: PRACTICAL – III

FOOD MICROBIOLOGY

1. Microscopic identification of microorganisms (prepared slides).
2. Preparation of culture media and sterilization techniques.
3. Isolation of pure culture – Streak plate method, Serial dilution method.
4. Hanging drop preparation for motility of bacteria.
5. Staining of bacteria – simple staining using Methyl violet, methylene blue, carbol fuschion.
6. Staining of Bacteria- gram staining.
7. Microbiology of air.
8. Microbiology of water.
9. Microbiology of soil.
10. Microbiological analysis of processed food.
11. Microbiological analysis of unprocessed food.
12. Testing quality of milk – Detection of Acidity (Clot on Boiling test, Alcohol test), Direct microscopic count, Standard plate count, Methylene Blue Reductase test, Phosphatase test, Turbidity test.

NAD204: NUTRITIONAL BIOCHEMISTRY

UNIT I: BIOLOGICAL OXIDATION

7 hours

Oxidant, reductant, Theories on Biological Oxidative phosphorylation, High-energy phosphates, Myokinase reaction. Enzymes – Definition, types and classification of enzymes, definition and types of coenzymes,

UNIT II: MOLECULAR ASPECTS OF TRANSPORT

6 hours

Passive diffusion, facilitated diffusion, active transport, coupling reaction.

UNIT III: CARBOHYDRATES

10 hours

Structure and properties of Monosaccharides – glucose, fructose, galactose. Disaccharides – maltose, lactose, sucrose. Polysaccharides – Dextrin, starch, glycogen. Metabolism – Glycolysis, TCA Cycle, Gluconeogenesis, HMP Pathway.

UNIT IV: LIPIDS

9 hours

Types and properties of Fatty acids, composition and properties of fats, significance of acid value, Iodine value and Saponification value. Classification and structure of phospholipids, structure of glycolipids, types and structure of sterols. Lipoproteins – Types, composition, role and significance in diseases. Metabolism – Beta Oxidation of fatty acids, Cholesterol, Phospholipid synthesis.

UNIT V: PROTEINS

8 hours

Structure and properties of Proteins, Amino acids, Essentials and non – essential amino acids. Metabolism – Kreb's Henseleit cycle.

TEXT BOOKS

1. West, E.S. Todd, W.R., Mason, H.S and Van Bruggen, J.T.(1974):4th Ed.
Text book of biochemistry, Amerind. Publishing Co Pvt LTd.,]
2. Ambika Shanmugam (1986): Seventh Edition”Fundamentals of Biochemistry” for Medical Student. New Delhi

REFERENCE BOOKS

1. Devlin, T.M. (1986): 2nd Ed.Text Book of Biochemistry with Clinical corrections, John Wiley and sons.
2. Deb.A.C. (1992): fifth Edition, Fundamentals of Bio chemistry, New Central Book Agency(P) ltd.
3. S. Ramakrishnan, K.G Prassanan, R.Rajan,”Text book of Medical Bio chemistry”, 1989, second edition, orient Longman limited.

NAD206: PRACTICAL IV

FOOD ANALYSIS

1. Preparation of starch from potato.
2. Determination of acid number in edible oil.
3. Determination of iodine number in edible oil.
4. Determination of saponification number in edible oil.
6. Estimation of Ascorbic Acid from Citrus Fruits
7. Estimation of milk calcium.
8. Estimation of Phosphorus
9. Estimation of Iron.

SEMESTER V

NAD301: BASIC DIETETICS

UNIT I: BASIC CONCEPTS OF DIET THERAPY 7 hours

Therapeutic adaptation of normal diets. Principles and classification of therapeutic diets.

UNIT II: ROUTINE HOSPITAL DIETS AND FEEDING 8 hours

Regular diet, light diet, soft diet, fluid diet. Enteral feeding - tube feeding. Parenteral Feeding - Central and peripheral.

UNIT III: ENERGY MODIFICATIONS AND NUTRITIONAL CARE FOR WEIGHT MANAGEMENT 9 hours

Identification of overweight and obese- Aetiological factors contributing to obesity and prevention
Treatment – Low Energy diets, behavioral modification. Complications of obesity. Underweight – aetiology and assessment. Treatment - high energy diets. Complications - Anorexia Nervosa, Bulimia

UNIT IV: DISEASES OF THE GASTRO INTESTINAL TRACT 8 hours

Etiologic factors, symptoms, diagnostic tests and dietary treatment for Esophagitis and hiatus hernia, Diarrhoea and Constipation – high and low fiber diet. Gastritis, Peptic Ulcer and Ulcerative colitis. Malabsorption Syndrome –Celiac Sprue – Gluten restricted diet, Steatorrhoea- MCT restricted diet.

UNIT V: MODIFICATIONS OF DIET IN INFECTIONS AND SURGERY 8 hours

Fever and infections – aetiology, symptoms, diagnostic tests and dietary treatment – High Protein diet
Surgical conditions – Pre-Operative and Post Operative conditions. Burns and Trauma – complications and dietary treatment. Diet in Allergy - Definition, Symptoms, diagnostic tests and dietary management in allergy. Elimination diet and desensitization.

TEXT BOOKS

1. Antia, F.P (1973): Clinical dietetics and Nutrition, Second Edition, Oxford University Press, Delhi.
2. Joshi, S.A (1992): Nutrition and Dietetics, TATA McGraw Hill publications, New Delhi

REFERENCE BOOKS

1. Mahan,L.K.Arlin.M.T(1992) Krause's Food, Nutrition and Diet Therapy, 8th Ed.W.B.Saunders Company, London
2. Williams S.R. (1989): Nutrition and Diet Therapy, 6th Ed. Times Mirror / Mosby College Publishing, St. Louis.
3. Raheena Begum(1989) A Test Book of Foods, Nutrition and Dietetics, Sterling Publishers, New Delhi.
4. Robinson, C.H., Lawler, M.R,Chenoweth, W,L, and Garwick A,E(1986) Normal and Therapeutic Nutrition, 17th Ed., Macmillan Publishing Co.

NAD301: BASIC DIETETICS PRACTICALS

1. Standardisation of common recipes with their yield
2. Calculation of amount of foods that provide 100 calories.
3. Analysing effect of cooking on food.
4. Planning, preparation and displaying of normal diet.
5. Planning, Preparation and displaying of clear fluid diet, full fluid diet and soft diet.
6. Planning, Preparation and displaying high calorie diet for underweight and low calorie diet for overweight.
7. Planning, preparation and displaying of diet for peptic ulcer, constipation and celiac sprue.

NAD302: HUMAN DEVELOPMENT

UNIT – I: EMERGENCE OF NEW LIFE

7 hours

Planning and preparing for parenthood. Conception, prenatal development, delivery, prematurity and postmaturity. Post natal care.

UNIT – II: INFANCY

8 hours

Development during infancy, infant care and hygiene - feeding, weaning, complementary feeding, immunization, habit formation. Training - maternal role in training. Minor ailments and prevention. Needs for children – physiological and psychological. Role of child care centres.

UNIT – III: EARLY CHILDHOOD/PRESCHOOL [1-5 YEARS]

9 hours

Physical, motor, emotional, social and intellectual development. Child and family members' relationship. Behaviour problems - causes, prevention and treatment. Preschool education – importance and objectives. Programme of nursery school, values of equipment and their relation. Personal and professional requirement of a nursery school teacher. Play - definition, types, theories, values, characteristics and play hazards.

Learning - definition, types - trial and error, insight, conditioning - classical and operant, implications and limitations.

Creativity - meaning, values, development of creativity, expressions of creativity, hazards to creativity.

UNIT – IV: LATE CHILDHOOD/SCHOOL GOING [6-12 YEARS]

8 hours

Physical, social, emotional, intellectual, language and moral development.

behavioural problems and prevention. Special children - definition, classification, causes, consequences and rehabilitation measures.

UNIT – V: ADOLESCENCE

8 hours

Physical and psychological changes, emotional, moral and social development, sex education. Problems of adolescence, delinquency - causes, prevention and rehabilitation, role of parents, peers and society. Factors influencing personality development.

TEXTBOOKS

1. Rajammal P. Devadas and Jaya N.Muthu, (1996): A text book of Child Development, Macmillan, N.Delhi.
2. Hurlock E.B., (1972): Child development, McGraw Hill Book Company.
3. Suriakanthi A., (1997): Child Development - An Introduction, Kavitha Publishers.

REFERENCES

1. Hurlock,E.B., (1995): Developmental Psychology-A life span approach, 5th Edition, McGraw Hill Book Co., New York.
2. Nanda V.K., (1998): Principles of Child Development, Anmol Publications Pvt. Ltd., New Delhi.
3. Berk L.E., (2004): Child Development, Pearson Longman New Delhi.

NAD302: HUMAN DEVELOPMENT PRACTICALS

1. Child's first reaction to nursery school.
2. Observations in the following areas of development - physical, social, emotional and language development of preschool children.
3. Study on play interest of children and types of play materials available in a preschool, preparation of play materials.
4. Study on behaviour problems of children
5. Participation in nursery school, planning, carrying out and evaluating the programme.
6. Sociometric study of adolescents.

NAD303: COMMUNICATION AND COUNSELING SKILLS

UNIT I: INTRODUCTION AND CONCEPTS	8 hours
Self- concepts, attitudes, goals and values.	
UNIT II: TRANSACTIONAL ANALYSIS	8 hours
Introduction to transactional analysis - ego states, types of transactions, social time structuring, games, stamps, rackets, strokes and scripts.	
UNIT III: PERSONALITY DEVELOPMENT	8 hours
Building self- esteem, social skills, assertiveness training and leadership.	
UNIT IV: COMMUNICATION SKILLS	8 hours
Definition, listening, non-listening, verbal and non-verbal communication (body language) barriers to communication.	
UNIT V: COUNSELING SKILLS	8 hours
Group and individual counseling, Diet counseling- different methods , the physical set-up, the dietitian's tools and records. Handling the patient and the patient's family during counseling. Principle of family counseling. Practical experience in personal counseling and diet counseling	

TEXT BOOKS

1. Bob Wright, Skills for Caring, Communication Skills, 1992, Churchill Livingston.
2. Prasad L.M., Principles and practice of Management, Sultan Chand and sons, New Delhi, 1999.

REFERENCE BOOKS

1. Jee Curroie, Bare Foot Councillor, Bangalore.
2. Morgan and King – Introduction to Psychology
3. Briany Thomas (ed) Manual of Dietetic Practice. 1986, Published by British Dietetic Association.

NAD304: NUTRITIONAL ASSESSMENT AND SURVEILLANCE

UNIT I: NUTRITIONAL STATUS ASSESSMENT AND SURVEILLANCE 6 hours

Meaning, need, objectives and importance. Community, regional, national and international surveillance systems.

UNIT II: RAPID ASSESSMENT PROCEDURES 7 hours

Need, importance, techniques, interpretation and steps in RAP.

Sources of secondary health data - sources of relevant vital statistics, importance of infant, child, maternal mortality rates, and epidemiology of nutrition related disease.

UNIT III: GROWTH CHART 8 hours

Meaning, WHO Chart, and charts used in India, uses, meaning of reference curve and growth curve.

UNIT IV: NUTRITIONAL ASSESSMENT 10 hours

Diet Surveys: need, importance, methods, interpretation, concept of conception unit, intra inter individual distribution in the family, verifying the adequacy of the diet with respect to RDA, concept of family food security.

Clinical signs, biochemical and biophysical methods: need, importance, identifying signs of deficiency diseases, interpretation of the clinical signs, biochemical and biophysical values in major diseases.

Anthropometry: Need, importance, standards for reference, techniques of measuring height, weight, head circumference, chest circumference, mid-arm circumference, skin fold thickness, waist hip ratio, calculation of BMI, interpretation of the measurements, use of growth charts for various age groups.

UNIT 5: NUTRITION AND DIET CLINIC 9 hours

Nutritional care process. Medical History assessment. Assessment of patient needs. Dietary counseling - Evaluation of the effectiveness of counseling. Education of the patient and follow up. Role of Dietitian – Professional code and ethics of a dietitian. Problems in feeding children at the hospitals.. Psychology of feeding the patient.

TEXTBOOKS

1. Park K, (2005): Park's Textbook of Preventive and Social Medicine, Banarsidas Bhanot Pub., Jabalpur.
2. Srilakshmi. B, (2005): Dietetics, V Edition, New Age International (P) Ltd, Publishers, Chennai.

REFERENCES

1. Jelliffe D, (1996): Assessment of Nutritional Status on the Community – WHO Monograph, Series No.53, Geneva.
2. Gupta P and Thakhar R, (2003): Nutritional Disorder and Community Health, Pointer Publishers, Jaipur.
3. Dr. Swaminathan.M, Food and Nutrition, 2nd Edition 1985, Reprint 2006. The Bangalore Printing and Publishing.
4. Whitney,E.N. and Rolfes, S.R Understanding Nutrition, 10th edition 2005 Thomson/Wadsworth Publishing company, Belmont. CA
5. Williams, R.Medications and older adults 2002.FDA Consumer magazine.

NAD311: PROJECT WORK (Internal)

NUTRITIONAL ASSESSMENT AND SURVEILLANCE

Project in the areas of nutrition assessment, community nutrition, therapeutic nutrition, diet counseling.

NAD305: CONSUMER ECONOMICS

UNIT – I: CONSUMER AND CONSUMERISM

7 hours

Definition and concepts. Rights and responsibilities of consumers. Consumer movement - need, objectives and its role.

UNIT – II: MARKET AND MARKETING

9 hours

Market - meaning, definition, classification, functions of markets, market segmentation. Marketing - meaning and definition, concept of marketing, dimensions of marketing, functions of marketing. Channels of distribution - types and functions.

UNIT – III: CONSUMER BEHAVIOUR

8 hours

Human wants - nature and classification, law of marginal utility, law of equimarginal utility, consumer surplus. Buyer behaviour - buying motives, buying decision process, factors affecting consumer decisions. Consumer products and promotion practices - types of products, branding, labeling, packaging, sales promotion and advertisement.

UNIT – IV: CONSUMER PROBLEMS

8 hours

Business malpractices, adulteration, faulty weight and measures, misbranding, deceptive labeling and packaging.

UNIT – V: CONSUMER PROTECTION

8 hours

Meaning, evolution, need for protection, laws for protection. Quality control measures - guarantee and warranty contracts, standardization, grading, BIS, AGMARK, FPO. Consumer courts, consumer co-operatives, consumer guidance societies.

TEXTBOOKS

1. Sherlekar, S.A., (1984): Trade Practices and Consumerism, Himalaya Publishing House, N. Delhi.
2. Pillai, R.S.N., and Bagavathi, Modern Marketing, S. Chand and Company Ltd., New Delhi.

REFERENCES

1. Kumar N., (1999): Consumer Protection in India, Himalaya Publishing House, N. Delhi.
2. Kotler, P, Principles of Marketing.

SEMESTER –VI

NAD306: ADVANCED DIETETICS

UNIT I: DIET IN RELATION TO DEFICIENCY DISEASES 7 hours

Pathogenesis and dietary management in Nutritional Anemia, PEM, Vitamin A deficiency.

UNIT II: DISEASES OF CARDIO VASCULAR SYSTEM 8 hours

Aetiological factors, symptoms, diagnostic tests and dietary treatment for Atherosclerosis, Ischemic Heart Disease, Congestive Cardiac Failure, Hypertension, High fibre, low fat, Sodium restricted diet.

UNIT III: DISEASES OF THE KIDNEY 10 hours

Aetiological factors, symptoms, diagnostic tests and dietary treatment for Acute and chronic Glomerulonephrities. - Low Sodium and low potassium diet.

Nephrotic Syndrome.

Acute and chronic Renal Failure- uremia.

Nephrolithiasis and urolithiasis.

Kidney transplantation and Dialysis.

Use of Sodium and Potassium exchange lists.

UNIT IV: DISEASE OF THE PANCREAS AND LIVER 9 hours

Diabetes Mellitus - Classification, Aetiological factors, symptoms, diagnostic tests, metabolic changes in the body, Insulin and oral hypoglycaemic drugs. Dietary Modifications with and without insulin, Complications of Diabetes, Food Exchange List. Glycemic Index and its use. Pancreatitis

Liver - Aetiological factors, symptoms, diagnostic tests and dietary treatment for Viral Hepatitis, Cirrhosis of the liver and liver encephalopathy – high carbohydrate diet. Cholelithiasis and cholecystitis – low fat diet

UNIT V: NUTRITION IN CANCER AND AIDS 7 hours

Aetiological factors, Symptoms, Diagnostic tests and Dietary Management.

TEXTBOOKS

1. Shubangini A Joshi, (1998): Nutrition and Dietetics, Tata Mc Graw Hill Pub. Co. Ltd., New Delhi.
2. National Institute of Nutrition, (2005): Dietary Guidelines for Indians – A Manual, Hyderabad.
3. Srilakshmi. B, (2005): Dietetics, V Edition, New Age International (P) Ltd, Publishers, Chennai.

REFERENCES

1. Mahan, L.K. and Escott-Stump, S. (2000) Krause's Food, Nutrition and Diet Therapy, 10th Ed. W.B.Saunders Company, London.
2. Williams S.R. (1993): Nutrition and Diet Therapy, 7th Ed. Times Mirror / Mosby College Publishing, St. Louis.
3. Antia F.P, Clinical Dietetics and Nutrition, Oxford University Press.
4. Shills, M.E, Oslon, J.A, Shike, M and Ross, A.C. (1999): Modern Nutrition in Health and Disease, 9th Edition.

NAD312: PRACTICAL – V
ADVANCED DIETETICS

Planning, Preparation and displaying of Diet for

1. PEM and vitamin A deficiency.
2. Anemia during pregnancy and anemia in a normal person.
3. Hypertension and atherosclerosis.
4. Nephritis, nephritic syndrome and nephrolithiasis.
5. Diabetes Mellitus.
6. Cirrhosis and viral hepatitis.
7. Cancer and AIDS.

NAD307: FOOD STANDARD AND QUALITY CONTROL

UNIT I: FOOD QUALITY AND QUALITY CONTROL

8 hours

Meaning, objectives, important considerations, principles of – quality control of food, raw material and inspection of finished products. Total Quality Management (TQM) - Parameters, evolution, elements TQM, need for TQM and of implementation of TQM in the food industries.

UNIT II: INDEX OF NUTRITIONAL QUALITY (INQ)

8 hours

Need for INQ, INQ as an evaluating tool in the food industry, nutrition labeling of foods. Methods of assessing food quality - Cereals and Pulses, fruits and vegetables, milk, meat and its products, egg, Oils, fats, nuts and oilseeds.

UNIT III: STANDARD OF FOODS

9 hours

Cereals and Pulses, fruits and fruits products, vegetable and vegetable products, coffee, tea, sugar and sugar products, milk and milk products, eggs and selected fleshy foods.

UNIT IV: MICROBIOLOGICAL QUALITY CONTROL OF FOODS

9 hours

Fundamentals and Principles, factors influencing microbial association with foods, control of microflora at different stages of processing. Hazards Analysis and Critical Control Points (HACCP) - Meaning, Quality evaluation, steps involved in HACCP, Implementation and problems in HACCP

UNIT V: NUTRITIONAL CHANGES IN FOODS DURING PROCESSING

6 hours

Nutritional losses, nutritional gains, changes in the physical, chemical properties and organoleptic qualities of foods due to processing.

TEXT BOOKS

1. Ranganna, S, Manual of analysis of fruits and vegetable products, Mc. Graw Hill International Publishers, New Delhi, 1986.
2. Gaurth Hansen, Bontia. W. Wyse and Ann. W, Sorrenson, Nutritional Quality Control, AVI Publishing and co, Connecticut,1979.

REFERENCE BOOKS

1. Manoranjan Kalia, Food Analysis and Quality, Kalyani Publishers, New Delhi, 2002.
2. Amihud Kramer and Bernard A – Twigg, Quality control for the Food Industry, AVI publishing and Co, Connecticut, 1973.
3. Eugene,L, Grant and Richard L, Leavenworth, Stastical quality control, Mc.Graw Hill International Publishers, 1979.
4. Herschdoerfer, S.M, Quality Control in the Food Industry,vol,1, Academic press,1984.

NAD308: PERSONNEL MANAGEMENT

UNIT I: PERSONNEL MANAGEMENT

8 hours

Definition, development and policies, recruitment, selection and induction. Employee benefits, training and development. Human relations. Approaches to Management – Traditional Management, systems approach, Management by Objectives.

UNIT II: RECRUITMENT AND TRAINING

8 hours

Selection & training of Personnel. Work standards, productivity, supervision, performance appraisal. Motivation for effective performance. Labour policies and legislature. Law effecting food service operations, union and contract negotiations

UNIT III: ORGANIZATION & MANAGEMENT

9 hours

Organisation - Definition & types of organization.
Management - Definition, functions and tools of management; Technique of effective management.
Energy and Time Management & its application in food preparation and service

UNIT IV: FOOD MATERIAL MANAGEMENT

9 hours

Meaning, definition, importance. Food selection, Purchasing, receiving and store - room management. Control in relation to the above operations (material planning, budgeting, material identification, codification and standardization, inventory control). Storekeeping, definition, objectives functions, factors underlying successful storekeeping, duties and responsibilities of a storekeeper. Purchasing – organization, principles, procedures, systems and quality control.

UNIT V: ADMINISTRATIVE LEADERSHIP

6 hours

Definition of leader, leadership. Leadership styles. Role of a leader, qualities of a leader.

TEXT BOOKS

1. Boella, M.J. (1983): Personnel Management in the Hotel & Catering Industry, 3rd Edition, Hutchinson, London.
2. Drucker, P.F.(1975); Management, Allied published, New Delhi

REFERENCE BOOKS

1. Fearn, D. (1969): Management System for the Hotel Catering & Allied Industries.
2. Koontz, H., O Donnel, C, Weihrish, H.(1983), Essentials of Management, Indian Edition.

NAD309: HOUSE KEEPING

UNIT I: LODGING INDUSTRIES

8 hours

Evolution and types of lodging establishment. House Keeping Department - Staffing, training, functions of Housekeeping department, Job Description and job specification. Relationship of house keeping with guests and other departments.

UNIT II: INTERIOR ENVIRONMENT DESIGN AND STYLE

6 hours

Size of the room, Placement of doors and windows. Elements and Principles of design and its application.

UNIT III: SOFT FURNISHINGS

10 hours

Linen Room: Linen uniform Bedding, Beds - Layout plan activities of the linen room, different jobs that can be given as contract. Linen storage and control - Table linen, bed linens, Bedding, Bed Making and Turning down. Laundry methods, fabric stain removal. Carpet and Floor - Carpet covering - Maintenance, cleaning and removal. Protective flooring and finishes. Soft Furnishing and Hall Coverings - Covers, cushions, elands, hall covering - Types, care and cleaning. Window treatment.

10 hours

UNIT IV: CARE AND CLEANING

Cleaning Equipment - Types, selection procedure, purchasing methods, care, cleaning and maintenance of equipment. Cleaning Agents - Types, Characteristics, suitability of cleaning agents and uses. Cleaning Guest Rooms, Public Area - Rules, procedures and principles. Daily, periodic and spring cleaning, list of standard room supplies (bathroom included). Furniture - Selection, Types, upholstery material. Care and Cleaning of Furniture.

UNIT V: SAFETY AND SECURITY

6 hours

Fire Prevention and control, Accident prevention, Security measures, First - aid, pest control.

TEXT BOOKS

1. Andrews.S. Hotel House keeping - Training Manual TATA McGraw Hill Pub. Co. Ltd, New Delhi 1995
2. Branson J.C. and Lennox N., "Hotel, Hostel and House keeping". Edward Arnold (pub) ltd. 1989.

REFERENCES

1. Schneider, N and Tucher G, The Professional housekeeper, Van, Hostrand Reinhold, 15, fifth avenue, NY 10003.
2. Martin R.J. and Jones, T.J.A. Professional Management of House keeping operations, John Wiley and sons Inc.1992
3. Allen D.M. Accommodation and cleaning services, Vol.II
4. Jones.I and Philips C., Commercial Housekeeping and Maintenance. Stanley Thornes (pub) Ltd. 1993.

NAD309: HOUSE KEEPING PRACTICALS

1. Visit to House keeping departments in the hotels
2. Demonstration for Bedding, Laundering and dry cleaning, stain removal.
3. Market survey for equipment, chemicals, furniture and other materials used in house keeping.
4. Room inspection.
5. Demonstration of flower arrangement, special decorations.

NAD310: ENTREPRENEURSHIP DEVELOPMENT

UNIT I: ENTREPRENEURSHIP

8 hours

Definition - Characteristics of an entrepreneur, Entrepreneur & enterprise. Traits of a true entrepreneur, type of entrepreneur, functions of an entrepreneur, behavioural patterns of entrepreneur. Entrepreneurial Motivation - Motivating factors, Facilitating factors, Achievement motivation, the Kakinada Experiment.

UNIT II: PROJECT IDENTIFICATION & CLASSIFICATION

8 hours

Meaning of project, project identification, Project classification. Project formulation – need, concept, significance and elements of project formulation, project report. Ratio analysis. Licensing registration, security required, important provisions of Factory Act.

UNIT III: FINANCIAL INSTITUTIONS

8 hours

NABARD, IDBI, IFCI, DIC – PIPDIC, SIS, SISI, SIDBI, SIPCOT, GIC Commercial banks, - their loan facilities. Choice of most suitable agency. Approaching an institution for assistance.

UNIT IV: ACCOUNTS AND BOOK KEEPING

8 hours

Concepts, applications, advantages and disadvantages of single entry and double entry system. Concepts of Journal, ledger, subsidiary books, cash book, Trial balance – rectification of errors. Trading account/manufacturing account. Profit and loss account and balance sheet. Concepts of bills and receipts.

UNIT V: APPLICATION OF COMPUTER IN ENTREPRENEURSHIP DEVELOPMENT

8 hours

I. MS – Windows

Introduction, Exploring the Desktop, Running multiple programmes, Accessories, Control Panel, Managing Document and Folders.

II. MS-WORD

Starting MS- WORD, Creating and Formatting a document, Changing Fonts and point size, Table Creation and Operations, Autocorrect, Auto Text, Spell Check, Thesaurus, Word Art, Inserting objects, Mail merge, letter, lable, envelope, Page set-up, Page preview, Printing a document.

TEXTBOOKS

1. Saravanavel P, “Entrepreneurial Development - Principles, Policies and Programmes”, Ess Pee Kay Publishing House, Madras, 1991.
2. Dutt R and Sundharam K.P.M., “Indian Economy”, S. Chand and Sons, 2004.
3. Subramanian, S, “Introduction to Computers”.
4. Norton Peter, “Introduction to computer”, Tata Mc Graw Hill Publishing Co Ltd., New Delhi.

REFERENCES

1. Desai, V., (1996): Entrepreneurial Development, Volume I, II and III, Himalaya Publishing House, Bombay.
2. Murthy C.S.V., (2006): Entrepreneurship Development, Himalaya Pub. House, Mumbai.
3. Hirsch D, Peters P. Michael, Shepherd A. Dean, (2007): Entrepreneurship, 6th edition, Tata McGraw Pub. Co. New Delhi.
4. Khanka S.S., (2007): Entrepreneurial Development, S. Chand & Co., New Delhi.

Related Experiences

1. Conduct of mini market survey (one day exercise) through Data Collection questionnaire, & personal visits.
2. Entrepreneurial motivation training through games, role-playing discussions & exercise.
3. a) Analysis of sample project report – discussion
b) Break even analysis - Practice