Approved syllabus: dated 16-06-2017

B.Sc. APPLIED NUTRITION AND PUBLIC HEALTH
(choice based credit system)

FIRST YEAR SEMESTER I				
CODE	**COURSE TITLE**	**COURSE TYPE**	**HPW**	**CREDITS**
BS101	ENVIRONMENTAL STUDIES	AECC I	2	2
BS102	ENGLISH	CC- I A	5	5
BS103	SECOND LANGUAGE	CC -2 A	5	5
BS104	**NUTRITIONAL BIOCHEMISTRY-I**	DSC- IA	4T+2P=6	4+1=5
BS105	OPTIONAL II	DSC -2A	4T+2P=6	4+1=5
BS 106	OPTIONAL III	DSC- 3A	4T+2P=6	4+1=5
	TOTAL			**27**
SEMESTER II				
BS 201	GENDER SENSITIZATION	AECC 2	2	2
BS 202	ENGLISH	CC- I B	5	5
BS 203	SECOND LANGUAGE	CC -2 B	5	5
BS 204	**NUTRITIONAL BIOCHEMISTRY-II**	DSC- IB	4T+2P=6	4+1=5
BS 205	OPTIONALII	DSC- 2B	4T+2P=6	4+1=5
BS 206	OPTIONAL III	DSC- 3B	4T+2P=6	4+1=5
	TOTAL			**27**
SECOND YEAR - SEMESTER III				
BS 301	**FOOD SERVICE MANAGEMENT SKILLS**	SEC - I	2	2
BS 302	ENGLISH	CC- IC	5	5
BS 303	SECOND LANGUAGE	CC -2C	5	5
BS 304	**FOOD SCIENCE**	DSC - IC	4T+2P=6	4+1=5
BS 305	OPTIONAL- II	DSC- 2C	4T+2P=6	4+1=5
BS 306	OPTIONAL- III	DSC- 3C	4T+2P=6	4+1=5
	TOTAL			**27**
SEMESTER IV				
BS 401	**QUANTITY FOOD PRODUCTION**	SEC - 2	2	2
BS 402	ENGLISH	CC- I D	5	5
BS 403	SECOND LANGUAGE	CC -2 D	5	5
BS 404	**FAMILY & COMMUNITY NUTRITION**	DSC – 1D	4T+2P=6	4+1=5
BS 405	OPTIONAL- II	DSC- 2D	4T+2P=6	4+1=5
BS 406	OPTIONAL- III	DSC- 3D	4T+2P=6	4+1=5
	TOTAL			**27**
THIRD YEAR – SEMESTER V				
BS501	**HOSPITAL ADMINISTRATION SKILLS**	SEC - 3	2	2
BS 502	**COMMUNICATION**	AECC 3	2	2

BS 503	**CLINICAL DIETETICS**	DSC – 1E	3T+2P=5	3+1=4
BS 504	OPTIONAL- II	DSC – 2E	3T+2P=5	3+1=4
BS 505	OPTIONAL- III	DSC – 3E	3T+2P=5	3+1=4
BS 506	**A) FOOD SAFETY & QUALITY CONTROL (OR)** **B) FOOD PRESERVATION**	DSE-1E	3T+2P=5	3+1=4
BS 507	**OPTIONAL II A/B/C**	DSE – 2E	3T+2P=5	3+1=4
BS 508	**OPTIONAL II A/B/C**	DSE – 3E	3T+2P=5	3+1=4
	TOTAL			**28**
SEMESTER- VI				
BS 601	**PATIENT COUNSELLING TECHNIQUES & SKILLS**	SEC-4	2	2
BS 602	**FUNDAMENTALS OF FOOD & NUTRITION**	GE - 1	2T	2
BS 603	**PUBLIC HEALTH**	DSC- 1F	3T+2P=5	3+1=4
BS 604	OPTIONAL- II	DSC – 2F	3T+2P=5	3+1=4
BS 605	OPTIONAL- III	DSC – 3F	3T+2P=5	3+1=4
BS 606	**A) FOOD HYGIENE &SANITATION (OR)** **B) ADVANCED DIETETICS**	DSE – 1F	3T+2P=5	3+1=4
BS 607	OPTIONAL II A/B/C	DSE – 2F	3T+2P=5	3+1=4
BS 608	OPTIONAL II A/B/C	DSE – 3F	3T+2P=5	3+1=4
	TOTAL			**28**
	TOTAL CREDITS			**164**

CC-Core Course
AECC- Ability Enhancement Compulsory Course
DSC- Discipline Specific Course
SEC- Skill Enhancement Course
DSE- Discipline Specific Elective
GE- General Elective
HPW- Hours Per Week

SUMMARY OF CREDITS FOR B.SC (APPLIED NUTRITION & PUBLIC HEALTH) PROGRAM

S.NO	COURSE CATEGORY	NO.OF COURSES	CREDITS PER COURSE	CREDITS
1.	AECC	3	2	6
2.	SEC	4	2	8
3.	CC	8	5	40
4.	DSC	12	5	60
5.	DSC	6	4	24
6.	DSE	6	4	24
7.	GE	1	2	2
	TOTAL	**40**		**164**
	OPTIONALS(TOTAL)	**24**		**108**

Chairman Board of Studies, Nutrition, OU.

B.Sc., (APPLIED NUTRITION AND PUBLIC HEALTH) - CBCS

Discipline specific Course Papers (credit: 05 each) (CP 1-4)

1) Nutritional Biochemistry (1) (4) + Lab (2)
2) Nutritional Biochemistry (2) (4) + Lab (2)
3) Food Science (4) + Lab (2)
4) Family and Community Nutrition (4) + Lab (2)

Discipline Specific Elective Papers (credit: 05 each) (DSE 1, DSE 2): Choose 2

1) Food Preservation (4) + Lab (2)
2) Sanitation, Hygiene (4) + Lab (2)
3) Clinical Dietetics (4) + Lab (2)
4) Public Health (4) + Lab (2)

Skill Enhancement Course (any four) (Credit: 02 each)-SEC 1 to SEC 4

1) Food Service Management Skills
2) Quantity Food Production Skills
3) Hospital Administration Skills
4) Patient Counseling Skills

REVISED SYLLABUS B.SC APPLIED NUTRITION & PUBLIC HEALTH

I SEMESTER SYLLABUS (Theory)

Nutritional Biochemistry I

60 hours

UNIT I 16 hours

Introductory Nutrition, Definition of Nutrition, Food, Nutrients, or Proximate Principles, Nutritional needs of body, specific role of nutrients, classification of foods, food groups. Carbohydrates — Composition and chemistry, classification, sources, nutritional significance, digestion, absorption and metabolism - Glycolysis, TCA Cycle with bioenergetics.

UNIT II 18 hours

Proteins: Composition and chemistry, classification sources, functions, digestion and absorption, denaturation. Nutritional significance of some amino acids. General properties of proteins, metabolism, deamination, transamination, decarboxylation. Outlines supplementary value of amino acids. Deficiency of Protein — PEM definition, classification, and age groups affected

Nucleic acids: Composition — purine and pyrimidine bases DNA, RNA — structure and biological functions

UNIT III 14 hours

Lipids: Composition Chemistry classification sources, function, chemical properties — digestion and absorption, essential fatty acids — functions and deficiency, elements of fat analysis, Metabolism: B- oxidation of fatty acids. Types of Rancidity, Ketosis

UNIT IV 12 hours

Energy Metabolism: Types of energy, energy yielding food factors, energy units determination of energy value of food using bomb calorimeter. PFV (Physiological Fuel Value) of foods, direct indirect calorimetry, RQ, SDA of food. Determination of BMR and factors affecting BMR

II SEMESTER SYLLABUS

Practical Paper

Nutritional Biochemistry 1

Total no of practical's: 8

I. Introduction to Qualitative and Quantitative of Nutrients

II. Carbohydrates:

1. Qualitative analysis of Glucose
2. Qualitative analysis of Fructose
3. Qualitative analysis of Maltose
4. Qualitative analysis of Sucrose
5. Qualitative analysis of Lactose
6. Qualitative analysis of Starch

III. Proteins

1. Qualitative analysis of Proteins

IV. Qualitative analysis of Minerals

II SEMESTER SYLLABUS(THEORY)

NUTRITIONAL BIOCHEMISTRY II60 hours

UNIT I 20 hours

Vitamins: Fat soluble — A, D, E, K. History, Chemistry, physiological functions, sources, requirements, effects of deficiency.

Water soluble vitamins — B Complex — Thiamine, Riboflavin, Niacin, Pantothenic Acid, Folic Acid, Vitamin B 12, Biotin and Pyridoxine, Vitamin C. History, requirements, functions, sources, effect of deficiencies.

UNIT II 16 hours

Macro and Micro Minerals — Calcium, Phosphorous, Iron, Fluorine, Iodine. History, Chemistry, physiological functions, sources, requirements, deficiency. Role of Zinc and Selenium as antioxidants.

UNIT III 12 hours

Water balance and electrolyte balance — regulation of water balance, abnormalities of water balance, water compartments in the body.Japanese Water Therapy.

UNIT IV 12 hours

Enzymes — Definition, classification, properties, mechanism of enzyme action, factors affecting enzyme action, enzyme inhibitions.

Hormones — Major endocrine glands and their secretions, classification, general mode of action — Insulin, Thyroxin.

IISEMESTER SYLLABUS

PRACTICAL PAPER

Nutritional Biochemistry II

Total no of practical's: 7

I. Quantitative analysis of carbohydrates

1. Estimation of reducing sugar by Benedict's method
2. Estimation of Fructose by Roe's Resorcinol method

II. Estimation of protein by Biuret method

III. Fats

1. Determination of saponification number of oil.

IV. Vitamins

1. Estimation of ascorbic acid by 2,6, dichlorophenol, indophenols method. Estimation of ascorbic acid in lemon / cabbage / green chilies

V. Minerals

1. Estimation of Calcium in GLV.

BOOKS RECOMMENDED:

1. A Textbook of Biochemistry By A.V.S.S Rama Rao.
2. Food & Nutrition Volume I By Swaminathan.
3. A Text Book Of Biochemistry By U. Satyanaryan.

SEMESTER III

SKILL ENHANCEMENT COURSE

FOOD SERVICE MANAGEMENT 30 hours

UNIT I: TYPES OF FOOD SERVICE INSTITUTIONS 3 hours

Definition, development, recent trends. Commercial and non-commercial.

UNIT II: SETTING UP A FOOD SERVICE UNIT 11 hours

Layout and design, planning team, architectural features, process flow, time management, analysis of financial status.

UNIT III: PRINCIPLES OF MENU PLANNING, TYPES OF MENU IN FOOD SERVICE INSTITUTION

11 hours

Definition and functions of a menu, need for menu planning, knowledge and skills required for menu planning. Types of menu – A la carte, Cyclic etc.

UNIT IV: ENTREPRENEURSHIP AND FOOD SERVICE MANAGEMENT 5hours

Definition, creativity, innovation and entrepreneurship. Business requirements for food products, merchandizing, skills for entrepreneurship.

III SEMESTER SYLLABUS(THEORY)

FOOD SCIENCE 60 HOURS

UNIT I : BASICS OF FOOD SCIENCE, CERERALS & MILLETS 15 hours

- Definition of food science, functions of food, objectives of cooking, preliminary preparations, cooking methods. Role of functional foods – antioxidants, phytochemicals, prebiotics & probiotics.
- Cereals & millets: Cereal- Structure, Nutritive value, Composition, methods of processing, role in cookery.
- Millets- Types of millets- Bajra, Jowar & Maize

UNIT II: PULSES & LEGUMES, MILK & MILK PRODUCTS 15 hours

- Pulses & legumes: Nutritive value, germination, Anti nutritional factors, elimination, role of pulses in cookery.
- Milk & milk products: types, nutritive value, composition, processing of milk, role in cookery
- Different types of Fermented & non fermented milk products.
- Processing of cheese & curd.
- Processing of paneer & khoa.

UNIT III: FLESHY FOODS, SPICES, CONDIMENTS & BEVERAGES 15 hours

- Fleshy foods (a) Meat: sources & types, nutrient composition, post mortem changes & processing of meat.
  (b) Fish: Classification & types of fish, selection of fish.
  (c) Eggs: Structure, composition, nutritive value, role of egg in cookery.
- Spices, condiments & beverages- types, role in cookery

UNIT IV: VEGETABLES & FRUITS, SUGAR & JAGGERY, FATS & OILS 15 hours

- Vegetables: classification, composition- pigments, organic acids, enzymes, flavor compounds, Nutritive value.
- Fruits: definition, classification, composition- pigments, water content, cellulose & pectic substances, flavor constituents, polyphenols, nutritive value, changes during ripening, enzymatic browning.
- Sugar & jaggery: sources, types, role in cookery.
- Fats & oils: Sources, types, spoilage- rancidity, hydrogenation. Role in cookery.

BOOKS RECOMMENDED:

1. Text book of Sri lakshmi. B- food science 5th edition, New age international publishers, New Delhi – 110002, 2011
2. Norman potter N- food science, CBS publishers & distributors, New Delhi- 110002, 2007

REFERENCE BOOKS:

1. Shakuntala Manay N- Foods Facts & Principles, New Age International Publishers, New Delhi- 110002, 2005

III SEMESTER SYLLABUS

PRACTICAL PAPER

FOOD SCIENCE

Total No. Of Practicals:7

1. Demonstration of Standard Weights & Measures.
2. Cookery Practical's in:
    i. Cereals.
    ii. Pulses.
    iii. Cereal & Pulse Combination.
    iv. Milk & Its Products.
    v. Vegetables & Fruits.
    vi. Fleshy Foods- Meat, Fish & Eggs.

SEMESTER IV

SKILL ENHANCEMENT COURSE

QUALITY FOOD PRODUCTION SKILLS 30 HOURS

UNIT I: QFP, PLANNING AND CONTROL 12 hours

Principles if food production **-** menu, ingredient control etc. Production control – use of standardized recipes. Safeguarding food production- Quality control in food preparation, control of microbial quality of food.

UNIT II: QFP, FOOD PURCHASING, STORAGE AND KITCHEN PRODUCTION 10hours

Purchasing – market and the buyer, mode of purchasing, methods of purchase. Storage. Production – general procedures in institutional and commercial food production. Cooking Equipment.

UNIT III: FOOD MANAGEMENT: RECORDS AND CONTROLS 4hours

Records necessary for a catering unit – Budget, purchase, storage, production, service, income and expenditure.

UNIT IV: DELIVERY AND SERVICE STYLES 6hours

Components of a food service system. Methods of delivery – centralized, decentralized. Choice of delivery / service systems- Conventional, Commissary, ready prepared, assembly/ serve. Types of service- table/ counter, self, tray.

IV SEMESTER SYLLABUS(THEORY)

FAMILY & COMMUNITY NUTRITION 60HOURS

UNIT I : BASICS OF MEAL PLANNING 10 hours

- Definition of Balanced diets, RDA, Factors affecting RDA, ICMR recommendations.
- Food pyramid, my food plate.
- Food Exchange List (raw), food composition tables.
- Principles& objectives of meal planning
- Nutrient requirement & meal planning for adults, changes in nutrient requirement according to sex, age & activity.

UNIT II: NUTRITIONAL REQUIREMENT DURING PREGNANCY, LACTATION & INFANCY 16 hours

Nutrient requirement & RDA for

- Expectant mother- physiological changes, dietary modification & complications.
- Lactation- general dietary guidelines & role of special foods.
- Infancy- growth & development, breast feeding v/s artificial feeding, factors to be considered while preparing & introducing supplementary foods.

UNIT III: NUTRIENT REQUIREMENT FOR PRE SCHOOLERS, SCHOOL GOING CHILD & ADOLESCENT 15 hours

Nutrient requirement & RDA for

- Preschoolers- problems in feeding, factors affecting nutritional status.
- School going child- importance of breakfast, packed lunch &mid-day meal programs- ICDS, SNP.
- Adolescence- eating disorder, anemia, anemia prophylaxis program.

UNIT IV: NUTRITION REQUIREMENT FOR GERIATRIC GROUP & NUTRITIONAL ASSESSMENT 15 hours

- Geriatrics- RDA & nutritional requirement during old age, physiological changes & dietary modification.
- Nutritional Assessment- Methods of Assessment of Nutritional status, Anthropometric, Biochemical, Clinical methods & Diet surveys.

BOOKS RECOMMENDED:

1. Sri Lakshmi. B- Dietetics, New Age International Publishers, New Delhi-110002, 2011.
2. Sri Lakshmi.B- Nutrition Science, 5th Edition, New Age International Publishers, New Delhi- 110002, 2011.

IV SEMESTER SYLLABUS

PRACTICAL PAPER

FAMILY & COMMUNITY NUTRITION

Total No. Of Practicals:10

1. Planning of diets
    a. Adult- according to sex & activity.
    b. Pregnant & lactating women.
    c. School going child.
    d. Adolescents.
    e. Old age group.

2. Preparation od diets - 4 practical sessions.
3. Formulation & preparation of weaning mix.

SEMESTER V

SKILL ENCHANCEMENT COURSE

HOSPITAL ADMINISTRATION SKILLS 30 hours

UNIT 1: HOSPITAL ADMISNTRATION 7hours

- Routine Admission / Discharge summary and Medical terminology
- Daily reports- hospital census, matron's report, Medical officer's report
- Maintenance department report
- OT list
- Medical certificates

UNIT 2: HOSPITAL AS ORGANISATION 7hours

- Hospital management hierarchy
- Duty roster of various categories of staff
- Hospital Committees.
- Role, composition, frequency of meetings follow up actions.
- Duty and responsibilities of the hospital administrator
  - In profit making hospitals
  - In nonprofit making hospitals

- Hospital security – use of advance techniques – CCTV, fire alarms, disaster alerts

UNIT 3: PATIENT CARE SERVICES 8hours

- Patient admission and discharge
- Patient related services and assistance
- Services to patient- diagnostic, blood transfusion, housekeeping
- Cafeteria and dietary services
- Administration of patient related schemes
  - Cashless services- CGHS, ECHS, CSMA, TPA, ESA
  - Medical insurance

UNIT 4 Hospital Waste Management 8hours

- Definition of Biomedical Waste
- BMW – Segregation, collection, transportation, disposal
- Liquid BMW, Radioactive waste, Metals / Chemicals /Drug wastes
- BMW Management & methods of disinfection
  Modern technology for handling BMW, Standard Operating Procedures (SOPs).
- Monitoring & controlling of cross infection (Protective devices)

BMW from Administrative point (Budget, Health check-up, Insurance)

Reference Books:

1. Principles of Hospital Adminstration –S A Tabish
2. Hospital Adminstration S. L Goel
3. Hospital administration Mc Gibony
4. Medical records, organization and management – GP Mogli, jaypee Brothers
5. Hospital waster management – A. G Chandorkar- Paras Medical Publishers
6. Total quality Management – BIS monographs
7. Bio-Medical Waste Act & Rules Govt. of India
8. Current Issues In BMW Waste Handling-ISHA, Bangalore

DISCIPLINE SPECIFIC COURSE

VSEMESTER SYLLABUS(THEORY)

CLINICALDIETETICS 60hours

UNIT I 15 hours

- Principles of diet in diseases- objectives of diet therapy and role of dietitian, therapeutic modification of normal diet, classification of diets.
- Critical care nutrition-TPN, PPN; Diet in fevers; typhoid and TB-etiology, symptoms and dietary management.

UNIT II15 hours

- Etiology, symptoms, dietary management in:
  - GI diseases- peptic ulcer, diarrhea, constipation, underweight, Cancer.

UNIT III 15 hours

- Degenerative /disorders- Etiology, symptoms, dietary management in:
  - Obesity, Hypertension, CVD- Atherosclerosis, Diabetes Mellitus.

UNIT IV 15hours

- Etiology, symptoms, dietary management
  - **Renal Disorders**-Nephritis, Nephrotic syndrome, Chronic Renal Failure;
  - **Liver Disorders-**Infectious Hepatitis, Cirrhosis of liver and liver failure;
- Inborn Errors of Metabolism- PKU, Lactose Intolerance.

V SEMESTER SYLLABUS

PRACTICAL PAPER

CLINICAL DIETETICS

Total No. Of Practicals:10

I. Planning of diets and calculation of nutritive value of the following diets

a. Diet for peptic ulcer.
b. Diet for obesity (low calorie diet).
c. Diet for diabetes (1600 and 1800 kcals diet).
d. Diet for cardiac disorders (low fat, full fluid diets).
e. Diet for renal disorders (low sodium, low protein and high protein diets).
f. Diet for liver disorders (low fat, moderate protein diet for jaundice and high calorie, high protein diet for cirrhosis).
g. High Fiber Diet.

II. Preparation of diets- 3 practical sessions

DISCIPLINE SPECIFIC ELECTIVE PAPER 1

V- SEMESTER SYLLABUS(THEORY)

FOOD PRESERVATION 60hours

UNIT I 18 hours

- Food Technology and its application, Role of Food technology in combating malnutrition in developed countries.
- Food spoilage and nutrient losses during storage- physical, chemical and microbial spoilage of foods.

UNIT II 18 hours

- Food Preservation-the importance and general principles of food preservation.
- Home scale methods of food preservation like drying, refrigeration, pickling, use of sugars and chemical preservations.

UNIT III 12 hours

- Commercial methods of food preservation, Preservation by high temperature, low temperature, dehydration, concentration, fermentation, radiation, chemicals.

UNIT IV 12 hours

- Enhancement of nutritional value of foods by food fortification, enrichment, substitution, supplementation, fermentation & germination.
- Novel protein foods

V - SEMESTER SYLLABUS

PRACTICAL PAPER

FOOD PRESERVATION

Total No. Of Practicals:8

I. Food Processing &Preservation.

a. Preparation of jams(3-4 varieties)

b. Preparation of jellies (3-4 varieties)

c. Preparation of sauces, tomato, chili and tamarind.

d. Preparation of squashes(3-4 varieties)

e. Preparation of pickles (3-4 varieties)

f. Preparation of sun dried fruits and vegetable products.

SEMESTER VI

SKILL ENCHANCEMENT COURSE

PATIENT CARE AND COUNSELLING 30 hours

UNIT I – INTRODUCTION TO COUNSELLING 7 hours

- Definition of counselling
- Theories of counselling – Reality theory, Gestalt theory, cognitive behavioral counselling theory.
- Types of counselling - client centered counselling
- Behavioral counselling
- Directive and non-directive and eclectic counselling
- Areas of counselling- individual (personalized), family, group.

UNIT II- BASIC COUNSELLING SKILLS 7 hours

- Observation Skills
- Questioning
- Communication Skills (Listening, Feedback, Non-Verbal)
- Making Notes and Reflections
- The Counselling Interview
- History Taking
- Interviewing (Characteristics, Types, Techniques)
- Counselling to special group – children, adolescent and elderly

UNIT II- COMPONENT OF COUNSELLING 8 hours

- Client-Counsellor Relationship
- The Counsellor as a Role Model
- The Counsellor's Needs
- Counsellor Objectivity/Subjectivity
- Emotional Involvement
- Counselor Limits in Practice

UNIT IV – COUNSELLING ETHICS 8 hours

- Need for Ethical Standards
- Ethical Codes and Guidelines
- Rights of Clients
- Dimensions of Confidentiality
- Dual Relationships in Counselling Practices
- The Counsellor's Ethical and Legal Responsibilities
- Ethical Issues in the Assessment Process

DISCIPLINE SPECIFIC COURSE

VI - SEMESTER SYLLABUS(THEORY)

PUBLIC HEALTH 60HOURS

UNIT I 12 hours

- Health and Nutrition- education-definition, components, principles of health-education, methodology- individual, group and mass methods use of audio visual aids.

UNIT II 12 hours

- Medical entomology, Control of household pest with special reference to mosquito, housefly etc.;Environmental, chemical, biological and generic control.

UNIT III 18 hours

- Immunity - (i) Classification, specific and non-specific immunity
  (ii)Immunoglobulins,
  (iii) Cellular and hormonal, immune response
  (iv) Immunization active and passive immunization schedule
  (v) Immunizing agents,
  (vi)Hazards of immunization.

UNIT IV 18 hours

- Primary health care system with special reference to Maternal and Child Health care and maternal& infant mortality and morbidity
- Primary health system functioning in rural areas, health indicators and various health organizations, Malaria and AIDs Control-NHP, WHO, UNICEF.

VI - SEMESTER SYLLABUS

PRACTICAL PAPER

PUBLIC HEALTH

Total No. Of Practicals:10

1. Preparation of 3 audio visual aids like charts, posters, models related to health and nutrition.
2. Conduct of health and nutrition education classes on various target groups like slum dwellers, school children, housewives etc.
3. Formulation and preparation of low cost nutritious recipe.
4. Conduct of survey on health and hygiene practices among high and low income groups.
5. Field visit.

DISCIPLINE SPECIFIC ELECTIVE PAPER 2

VI - SEMESTER SYLLABUS(THEORY)

FOOD SANITATION & HYGIENE 60HOUR

UNIT I 15 hours

- Definition of Public Health, Hygiene, Social and preventive medicine, basic aspects of personal hygiene.
- Epidemiology methods, introduction to Analytical, Experimental and Descriptive methods, diseases transmission.
- Water- sources, Impurities, Hardness of water and Principles of water purification- commercial and domestic.

UNIT II 15 hours

- Food Borne Disorders:
  - Food borne infections- Typhoid, Para typhoid, cholera, infective hepatitis, amoebiasis
  - Food borne intoxications- Disorders caused by; Natural toxins, chemical toxins and Microbiological toxins in food- Lathyrism, staphylococcal intoxication, Botulism, clostridium perfrignens, Mycotoxins.

UNIT III 12 hours

- Food handling and Public Health: Preventing food borne illness and the speed of communicable disease; Sanitation of food serving institution; environmental sanitation, hygienic in food handling and personal hygiene of food handler.

UNIT IV 18 hours

- Food adulteration: common, adulterants, and health hazards. Food standards and food laws. National and International; PFA, FSSAI, HACCP, ISO Certification;
- Consumer guidance society, Consumer rights, Consumer court, Central facilities for assessing food adulteration, Role of food inspectors.

VI - SEMESTER SYLLABUS

PRACTICAL PAPER

FOOD SANITATION & HYGIENE

Total No. Of Practicals:8

1. Identification of adulterants in various classes of food samples
    a. cereals, pulses,
    b. milk &milk products-milk, paneer,
    c. Ghee and oil;
    d. spices and condiments-chili powder, Turmeric; Pepper; Asafoetida, dhania, salt whole and powdered spices,
    e. sugar, Honey &jaggery, Tea, Coffee, and miscellaneous foods.

2. Estimation of Hemoglobin content of blood.

3. Biochemical analysis of Urine Glucose, Albumin and Ketones.

4. Testing the hardness of water.

B.Sc. Applied Nutrition and Public Health as per CBCS pattern

Course Structure

I	**Core Papers**				
	Paper Title	**Semester**	**No. of Theory hours**	**No. of Practical hours**	**No. of Credits**
1.	Nutritional Biochemistry 1	I	60	45	4+1=5
2.	Nutritional Biochemistry 2	II	60	45	4+1=5
3.	Food Science	III	60	45	4+1=5
4.	Family and Community Nutrition	IV	60	45	4+1=5
II	**Discipline Specific Elective**				
	Paper Title	**Semester**	**No. of Theory hours**	**No. of Practical hours**	**No. of Credits**
DSE 1	Therapeutic Nutrition	V	60	45	4+1=5
DSE 1A	Food Preservation	V	60	45	4+1=5
DSE 2	Food Sanitation and Hygiene	VI	60	45	4+1=5
DSE 2A	Public Health	VI	60	45	4+1=5
III	**Skill Enhancement Course**				
	Paper Title	**Semester**	**No. of Theory hours**	**No. of Practical hours**	**No. of Credits**
SEC 1	Food Service Management Skills	III	30	---------	2
SEC 2	Quantity Food Production Skills	IV	30	----------	2
SEC 3	Hospital Administration skills	V	30	----------	2
SEC 4	Patient Counseling Techniques and Skills	VI	30	----------	2