

## **PROGRAMME SPECIFIC OUTCOME:**

(i) The B.Sc. in Nutrition course content is suitable for analytical as well as application orientation. The course will enable the students to catch the spirit of the course, generate ideas on the content, expand their horizon of knowledge, and will create enthusiasm to learn beyond the course content. The program endeavors to train a cadre of professionals who can create nutrition awareness for the promotion of a healthy lifestyle among the population. The courses of this programme have been designed to enhance the core competency of students in the fields of public health nutrition, dietetics and food science. The curriculum provides a strong theoretical base and also includes experiential learning through field placements and practicals.

(ii) The program might help to develop skills to open-up job opportunities as a Dietitian, Food-Biologists, Epidemiologist, Food-Microbiologists, Food-Analysts and Community Nutrition Experts, and so on.

(iii) The program will be helpful in developing technical skills in advanced areas, e.g., Food-biology, Food-technology, Food-Microbiology, Nutritional Assessments, Bioinformatics and Biostatistics.

(iv) The courses will also help the students for skill and entrepreneurship development to make them economically independent.

(v) Knowledge disseminated through the specific program of UG in Nutrition will help the students to prosper their career in different areas, viz., Scientific officers (in different disciplines of Life-Sciences), Assistant Teachers in schools.

(vi) The course will help in choosing the specific research topic in the respective area in future.

### **CC 1: NUTRITIONAL PHYSIOLOGY-I:**

The course will acquaint the students with properties and applications of basic physiology, generalized structural makeup of the human body, circulatory and cardiovascular system, digestive, respiratory and musculo-skeletal systems. Students will have practical knowledge on the determination of pulse rate, determination of blood pressure, determination of Bleeding Time (BT) and Clotting Time (CT), detection of Blood groups and measurement of Haemoglobin level.

### **CC 2: NUTRITIONAL ASPECT OF FOOD ITEMS:**

The course will acquaint the students with properties and applications of food, food groups, food pyramid, functions of food, nutrient and nutritive value, concept of balanced diet, composition and nutrient value of cereals, pulses and legumes, nutritive value and composition of milk, egg, fish and meat, vegetables and fruits, salts, fats and oils, beverages. Students will have a practical knowledge on the preparation and determination of nutritive value of various food items.

### **CC 3: NUTRITIONAL PHYSIOLOGY-II:**

The course will acquaint the students with properties and applications of basic physiology of excretory system, nervous system and reproductive and endocrine systems. Students will have practical knowledge on the determination of Total count (TC) of RBC, WBC and Platelets, Differential count (DC) of WBC; Erythrocyte

Sedimentation Rate (ESR) and also the identification with reasons of histological slides.

#### **CC 4: PHYSIOLOGICAL ASPECT OF NUTRITION:**

Through this course, students will be acquainted with various principles of nutrition, role of vitamins and role of minerals, principles of meal planning, minimum nutritional requirement and RDA, energy in human nutrition.

Students will have a practical knowledge on growth chart: plotting and interpretation using primary or secondary data in accordance with both ICMR and WHO Chart; clinical assessment and sign of nutrient deficiency disorders: Protein energy malnutrition (PEM), anaemia, rickets, goiter, vitamin A, vitamin C and vitamin B complex, diet survey in accordance with ICMR method.

#### **CC 5: NUTRITIONAL BIOCHEMISTRY:**

The course will acquaint the students with properties and applications of basic biochemistry, enzymes, provide knowledge on carbohydrate and lipid metabolism, role of hormones in metabolism. Students will be able to understand the enzymes, their types, enzyme activity and their diagnostic role, to have coherent and systematic knowledge on carbohydrate metabolic regulation, to understand the lipid metabolism and its regulation, to correlate the action of hormones with metabolic regulation.

#### **CC 6: NUTRITION: LIFE CYCLE APPROACH:**

The course will acquaint the students with nutrition during infancy, children, during pregnancy and lactation, nutrition to athletes, geriatric nutrition. Students will have practical knowledge on the preparation of normal diets for infants, preschool children, college students, pregnant ladies and lactating mothers.

#### **CC 7: DIET THERAPY-I:**

The course will acquaint the students with general ideas of diet therapy, dietitians and hospital diets. Students will have a sound knowledge on etiology, symptoms, diagnostic tests and dietary management of gastro-intestinal tract and liver diseases like diarrhoea, constipation, irritable bowel syndrome, flatulence, peptic ulcer, ulcerative colitis, viral hepatitis and cirrhosis of liver. Students will have practical knowledge on diet chart preparation on above mentioned diseases.

#### **CC 8: NUTRITIONAL ASSESSMENT AND NUTRITION PROGRAMME:**

Through this course students will be accustomed with different nutritional assessment methods like biochemical, biophysical, anthropometric methods. Students will know the role of international and national organizations and agencies like WHO, FAO, UNICEF, CARE, NIN, CFTRI, ICMR. They will have a sound knowledge on Integrated Child Development Services (ICDS), Mid Day Meal Programme (MDMP), Vit-A Prophylaxis programme, Anemia prophylaxis programme, Iodine Deficiency Disorders Control Programme, Public Distribution System and various Immunization Programmes. They will also acquire practical knowledge on the determination of Body Mass Index (BMI) and anthropometric indicators of health.

### **CC 9: COMMUNITY NUTRITION AND EPIDEMIOLOGY:**

From this course, students will learn the concept of population and community, factors affecting health of community (environmental, social, political, cultural and economical). They will learn aetiology, clinical signs and management of kwashiorkor, marasmus, goiter and nutritional anaemia. They will be enriched with concept of Disease: (endemic, epidemic, pandemic, acute and chronic, incubation period and quarantine period, communicable and non-communicable diseases, zoonosis, epizootic and enzootic), factors that influence the epidemiology of disease, attack rate, mortality and morbidity rate, prevalence and incidence of a disease. They will gain practical knowledge on the microbiological analysis of food and water and will be able to make report preparation on the nutritional status.

### **CC 10: DIET THERAPY-II:**

Students will understand the nutritional assessment, planning, implementation, monitoring and followup in nutrition care process, the causative factors and metabolic changes in various diseases/disorders like weight imbalances: underweight, overweight and obesity; anorexia nervosa and bulimia; hypertension; renal diseases (nephritis, glomerulonephritis, uremia, kidney failure, nephrosis); atherosclerosis, ischemic heart disease, arteriosclerosis and hyperlipidemia and acquire knowledge on the principles of diet therapy and comprehend principles of dietary counseling and the rationale of prevention of various diseases/disorders.

### **CC 11: FOOD MICROBIOLOGY AND FOOD BORNE DISEASE:**

The course will acquaint the students with the microorganisms involved in food fermentation and their role, primary sources of food contamination, different methods for control of microorganisms, culture media, methods of pure culture and subculture, bacterial growth-extrinsic and intrinsic factors affecting growth, bacterial food infections like salmonellosis, shigellosis and listeriosis, staphylococcal and botulism and their symptoms, mode of transmission and methods of prevention, concept of aflatoxin intoxication. They will have practical knowledge on culture media preparation, culture techniques, phenotypic and biochemical characterization of microbes.

### **CC 12: MEDICAL MICROBIOLOGY AND PATHOLOGY:**

This course will enrich students with the concept of normal microflora of the human body and host-pathogen interactions. Students will have a sound knowledge on bacterial cell structure and bacterial diseases like Typhoid, Cholera and Tuberculosis, Tetanus, and Ulcer by *Helicobacter pylori*. Students will comprehend the structure and medical importance of viruses, viroids and prions. Students will be acquainted with the mode of transmission, pathogenesis and control measures of viral Diseases like Polio, Herpes, Hepatitis, Rabies and AIDS.

**CC 13: NUTRACEUTICAL AND FUNCTIONAL FOOD:**

This course will acquaint the students with concept, classification, sources and importance of nutraceuticals, role of nutraceuticals on diseases, nutritional significance of dietary fibres, Prebiotics and Probiotics, genetically modified (GM) foods in India. They will be enriched with fundamental techniques for GM food preparation and food fortification.

**CC 14: FOOD SAFETY AND FOOD STANDARD:**

Through this course students will understand the basic concept of food safety and food safety measures. They will have knowledge on safe food handling practices and storage of food items. Students will learn the effects of various food additives, food adjuncts and food adulterants. They will have a fundamental concept on various food related acts and regulations.