COURSE & PROGRAMMES OUTCOMES OF

Food and Nutrition

UNDER CBCS

Course Outcomes

SEMESTER- I

DC1, Human physiology I

Studying human physiology is crucial for students pursuing a degree in food and nutrition for several reasons. The aim or objectives of including human physiology in the curriculum are - Understanding Nutrient Metabolism, Applying Nutrition Knowledge, Promoting Optimal Health and Performance, Collaborating with Healthcare Professionals, Research and Innovation The outcome of studying human physiology in the context of food and nutrition is to provide students with the knowledge and skills necessary to understand how the body processes nutrients, apply this understanding to promote health, and contribute to the well-being of individuals through effective nutrition planning and intervention.

DC 2, Nutritional importance of food

Understanding the nutritional importance of food equips students with valuable skills and knowledge that can significantly benefit them in the future:Personal Health: Graduates can make informed choices about their own diets, leading to improved personal health and well-being.Lifestyle Management: Knowledge of nutrition empowers individuals to adopt and maintain healthier lifestyles, managing weight and reducing the risk of chronic diseases. Understanding nutritional needs enables individuals to take preventive measures, reducing the risk of diet-related health issues.

SEMESTER- II

DC3, Human physiology II

Studying human physiology, with a focus on the excretory system, reproductive system, nervous system, and endocrine system, provides students with a range of outcomes and benefits. Here are specific outcomes related to each system: Understanding Waste Elimination, Regulation of Water and Electrolyte Balance, Recognition of Kidney Disorders, Understanding Reproductive Anatomy and Physiology, Hormonal Regulation of Reproduction, Pregnancy and Childbirth, Understanding Neural Structure and Function, Integration of Sensory and Motor Functions, Hormonal Regulation of Body Functions, Feedback Mechanisms, Endocrine Disorders. Studying these aspects of human physiology provides students with a strong foundation for careers in healthcare, research, nutrition, and related fields. It enables them to comprehend the intricate interplay of systems that maintain the body's equilibrium and respond to internal and external stimuli.

DC 4, Physiology of Nutrition

Studying the physiology of nutrition provides students with a deeper understanding of how the body processes and utilizes nutrients. This knowledge is crucial for individuals pursuing careers in nutrition, dietetics, and related fields. Here are some key outcomes and benefits of studying the physiology of nutrition: Understanding Digestion and Absorption, Metabolism of Nutrients, Regulation of Blood Glucose Levels, Nutrient Transport and Utilization, Hormonal Regulation of Appetite and Satiation, Impact on Organ Function, Nutrient-Drug Interactions, Adaptation to Special Populations, Identification and Management of Nutrient Deficiencies, Integration with Exercise Physiology, Evidence-Based Practice.

studying the physiology of nutrition provides students with a strong foundation to understand how dietary choices impact the body at a physiological level. This knowledge is essential for designing effective and personalized nutrition plans to support health, prevent diseases, and address specific nutritional needs.

SEMESTER- III

DC-5, Biochemistry

This course aims to provide the general principles of biochemistry. Students can identify and present relevant information dealing with issues of molecular events in the cell. They will understand the metabolism of nutrient molecules in the physiological and psychological conditions. Here students can learn about the physical and chemical properties of molecules and their status of occurrence in the biological systems. The main objective of this course is to give students a solid foundation in the biochemical process, to develop analytical, technical and critical thinking skills and to make them scientifically able in the course.

DC-6, Nutrition and phase of life

Application and importance of nutrition in the improvement of health and lifestyle of the community. Students will be able to integrate knowledge and skills in Food and Nutrition with professional issues affecting every stage of life. This course defines social, economic, cultural and environmental influence on food access and dietary choices. Interaction of complex components of food with human health can be understood. Students can use this knowledge for better health for themselves and for the public health purpose.

DC-7 Therapeutic diet -I

In this course general ideas and basics of various kinds of diets are discussed. It will help to learn about the diets and their application in different disease conditions. Students will gain knowledge in the nature and scope of therapeutic nutrition and understand the principal of dietary modifications and their application. This study is vital for maintaining good health and wellbeing.

SEMESTER- IV

DC-8, Nutritional Assessment Programme

Nutritional assessment in any application has the purpose of deficiency detection, health effects prediction and diet quality evaluation. This course provides systematic access to the overall nutritional status of individuals. Students learn to identify underlying pathologies that lead to health hazards and plan necessary intervention. This study provides information about the prevalence and geographical distribution of nutritional disorders, their health risks and knowledge to help for prevention. Knowledge about various national and international schemes and programmes distributed among students.

DC-9, Epidemiology and Community Nutrition

Nutritional problems seen in the community can be defined. Development is achieved by examining the relationship between nutrition and diet in the prevention and etiology of disease.

Students can apply their learned knowledge in improvement of health in special community groups. It provides education and resources within the community to meet health care needs. The data about diet-disease relationship in point of public health purpose is provided.

DC-10, Therapeutic diet -II

In this specific course students can learn about the clinical features of dietary management. The etiological factors along with the signs and symptoms of various diseases are studied. Understanding, critically assessing and knowing how to use each diet in specific conditions. Interpreting and using food composition tables and databases properly. Designing and carrying out health status assessment protocols. Applying scientific knowledge of diet plans for every stage of life.

SEMESTER-V

DC-11, Food Microbiology

This course aims to provide instruction in the general principles of food microbiology. Students will learn about the history, growth, and control of microbes as well as different bacteriological techniques involved in microbiology. This course will provide awareness of the general properties of chemical disinfectants, why waste needs to be segregated, risks and mitigation controls for waste disposal, autoclave safety, methods for validating waste treatment and decontamination procedures. Comprehend the knowledge gained on the characteristics of the microorganism in food and apply the techniques to control microbes. Understand the relevance of microbial spoilage of various foods and its intoxications.

DC-12, Food Microbiology

From this course students gained knowledge of medical microbiology and the importance of microorganisms in diagnosis, monitoring, and treatment of infectious diseases. Students will learn about the biomolecules by studying their structures and types. The main objective of this course is for students to acquire in-depth knowledge of bacterial cell structure and organization, cultivation methods and growth patterns, and reproduction. Further, the student gains insights into the vastness of bacterial diversity as well as viruses and its significance. From this it gained knowledge about antimicrobial resistance and sustainability, innovation and innovation processes.

DSE-1A, Human Pathology

Understand the basics of pathology, divisions, basics of cell injury in human body. Understand normal and abnormal fluid balance, circulatory disorders associated with it. Provide students insight into normal growth, growth disturbances and tumor pathology. Know the importance of inflammation, types, process of repair and aware of functional knowledge of immune system of body. Understand the classification of infectious disorders and other nutritional disorders. Know the importance of brain and neurological diseases, pathology and management. Provide students insight into hematopathology, liver and biliary tract diseases. Know the importance of urinary tract and gastrointestinal tract diseases and its pathology.

DSE-1B, Therapeutic nutrition and critical care

The Course outlines of the discipline of Clinical Nutrition & Dietetics are divergent and contemporary. Student will learn the concept of therapeutic nutrition and diets, the formulation of different modified diets and feeding techniques and categorize the diseases, disorders and deficiencies for planning suitable diets. update knowledge on advanced techniques and concept of diet planning and diet counselling as well as prepared diets and calculate nutrient composition for dietary intervention. Through the course, individual will develop a deep understanding of the unique nutritional needs of critically ill patients, including those with acute and chronic conditions, and how to design and implement individualized nutrition care plans to improve patient outcomes.

DSE-2A, Molecular biology

The course has been devised to familiarize students with Molecular Biology which chiefly deals with interactions among various systems of the cell, including those between DNA, RNA and proteins and learning how these are regulated. To gain an understanding of chemical and molecular processes that occurs in and between cells. To gain insight into the most significant molecular and cell-based methods used today to expand our understanding of biology. It helps to gain Knowledge on basic structure of Nucleic acids, their structure and occurrence in different cell organelles and DNA replication, the enzymes involved. Different types of RNA and their functions and Knowledge on the mechanism of protein synthesis Students gain knowledge on DNA damage and repair mechanism, able to gain knowledge on recombinant DNA technology and omic science.

DSE-2B, Biophysics and Bioinstrumentation

Students will learn the techniques of verification of the Lambert Beer's law, study of the Spectral characterization of the biomolecules, Molecular titrations, Isolation & characterization of proteins and Estimation of different biomolecules. Students will also learn the principle, methodology, applications of various analytical techniques like Chromatography, Electrophoresis, Spectroscopy. Understand the various bioinformatics tools, analyze sequence alignments using various bioinformatics tools, analyze the phylogenetic alignment using tools and analyze the protein structure and its prediction.

SEC, Environment Management and Public Health

The Environment management and Public Health stream is designed to ensure students are preparing for a career in the intersection between health and the environment. Recent years have seen new roles emerging that focus on policy, advocacy, research, and environmental management in relation to health and environment. This stream helps prepare students for these key roles. Study in this field will provide you with the tools used in environmental health practice, and by public health practitioners. These include surveillance, monitoring, observation, analysis, and selected techniques in biostatistics, epidemiology and health economics. Other skills we develop are more specific to environmental health or environmental studies, such as environmental, social and health impact assessment and qualitative and quantitative analysis.

SEC, Technology of Fruits and Vegetables

Carry out various activities for the preservation and packaging of fruits and vegetables, under close supervision, having limited skill requirements in a routine and predictable situation, with the ability to select suitable fruits and vegetables and use machinery in a limited context, understand the context of work and quality, and with the knowledge of basic facts and work processes, and with the responsibility for own work. Students will be able to understand process for production of Jam, Jellies, Marmalade, Fruit Juices, De-hydrated Fruits and canning of Fruits and Vegetable, understand by product utilization of Fruits and Vegetables. To acquaint with principles and methods of preservation and processing of fruits and vegetables into various products.

SEMESTER-VI

DC 13, NUTRACEUTICAL and FUNCTIONAL FOOD

This course aims to provide knowledge about Nutraceutical and Health and the role of nutraceutical on diabetes, obesity and cardiovascular diseases. Students will learn about the oxidant, antioxidant, oxidative stress and nutraceutical on oxidative stress. This course will provide awareness of the general concept of Dietary fibre, Prebiotics and Probiotics and their effects on health. They will learn brief knowledge about the fundamentals of Germination and Fermentation. Comprehend the knowledge gained on the concept of Genetically modified food and Food fortification. Understand the relevance of Submission of Short Review / Term paper on topic under broad area of Nutraceutical / Prebiotics / Probiotics / Genetically modified food

/ Food fortification / Any topic on Nutrition and Public Health (Points to be focused- Introduction, Objective, Review of Literature, Summary and conclusion, References).

DC 14, FOOD SAFETY AND STANDARDS

From this course students gained knowledge of Food additive, food safety and their effects on health. Students will learn about the concept of food security, factors affecting food security. They will also know about the nutritional aspect and uses of spices, Jams, Jellies, Pickles, Syrup, Squashes. The main objective of this course is for students to acquire in-depth knowledge of detecting adulterants in food. Further, the student gains insights into the Prevention of Food Adulteration (PFA) Act and regulatory authority.

DSE: Biostatistics and bioinformatics

Understand the basics of Data and Data Types. Understand measures of Central Tendency like Mean, Median, Mode. They will know about dispersion like Range, Standard Deviation. Provide students insight into various Hypothesis Testing. Know the importance of Bioinformatics and Health Informatics and their applications. Understand the application of Nutrigenomics and Pharmacogenomics. Know the concept of Nucleic acid and Protein Data Bases, Nutrient data bases. Provide students insight into Sequence similarity searching by BLAST, Principle, features and types of BLAST, Significance of Multiple Sequence Alignments, Phylogenetic Tree.

DSE: Concept of research and health management

The Course outlines of the discipline of research like Action research, Applied research, Experimental research. Student will learn about complete Fundamental of research. They will learn the concept of Seminar, Workshop, Conference, Symposium. It will update knowledge on advanced techniques and concept of Health planning and management as well as various Health care system.

DSE:Entrepreneurship and small catering units

The course has been devised to familiarize students with Food Service and Menu Planning which chiefly deals with Food hygiene and sanitation. Students will learn about Food Production Process and management. To gain an understanding of food production unit and management of an Organization. Will be able to plan and operate A Small Food Service Unit.

SEC: Rural technology and public welfare

This course aims to provide knowledge about rural society and urban society. Students will learn about the Environment and Biodiversity Conservation. This course will provide complete guideline about various Mushroom Cultivation Techniques. They will learn brief knowledge about Apiculture. Comprehend the knowledge gained on the concept of Nutraceutical Enrich Medicinal Plants. Understand the relevance of Extension Strategies for Rural Development like Krishi Vigyan Kendra, Lab to Land Programme, Operational Research Project, Role of ICAR and ICMR in transfer of technology.

SEC: Immunology and toxicology

From this course students gained complete knowledge of Immunology. Students will learn about various immune system. They will also know about the Toxicology and their significance. The main objective of this course is for students to acquire in-depth knowledge of Management of poisoned patient. Further, the student gains insights into the various Toxic agents and their mechanism of action on body.

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