B.Sc. - Nutrition & Dietetics

Programme Outcomes (POs)

PO1. Critical Thinking Apply the knowledge of nutrition and dietetics, relate to scientific issues so as to prevent or treat diseases being faced by the humans

PO2. Design/development of solutions Develop innovative food products or substitutes or alternate solutions to create value and wealth for the betterment of the individual and society at large.

PO3. Problem analysis Identify, formulate, research literature, and solve nutritional deficiencies using fundamentals of clinical nutrition and dietetics, physiology, food science and biochemistry and relevant domain disciplines

PO4. Modern tool usage Create, select, adapt and apply appropriate techniques, resources and modern devices to compute nutritional needs with a thoughtfulness of the limitations.

PO5. Environment and sustainability Recognize and assess societal, environmental, health, safety, and cultural issues related to food within local and global contexts.

PO6. Individual and team work Function objectively as an individual and as a member in diverse teams.

PO7. Professional Ethics Hold up and commit to professional ethics and ethical regulations, responsibilities, and norms of professional nutrition and dietetics practice.

PO8. Self-Directed and Life Long Learning Recognize the need and have the ability to engage in independent learning for continual development as a health and food science professional.

Programme Specific Outcomes (PSOs)

PSO1. Develop knowledge and skilled professionals to perform food and nutrition analysis using various anlytical tools at multi-centric facilities in India and abroad.

PSO2. Inculcate a problem-solving mindset of the students through healthcare and industrial exposure of real-world problems.

PSO3. Helps to transpire as a Diet Counsellor, Nutrition/ Health communicator for creating awareness in the society through various Communication Strategies in Nutrition Education emphasizing Information Technology.

PSO4. Apply the knowledge of processing, preservation and bakery techniques in designing and enhancing the shelf life of new and existing products

PSO5. Strengthens the Competent Graduates as successful Entrepreneurs and energized Professionals to take up careers in academics, Health Care Centres and Food Processing Industries.

Course Outcomes

2021-2023

Semester	Subject Code	Subject	Course Outcomes
1	21BASND1C01	Physiology	CO1: To understand the various physiological structures and functions of human systems. CO2: To relate and integrate the physiological functions with human nutrition. CO3: To determine the blood parameters. CO4: To gain knowledge on the relationship between blood parameters and lifestyle disorders. CO5: To identify the microscopic structure of tissues in various systems.
1	21BASND1C01 L	Practical Physiology	CO1: To acquire the practical knowledge of microscopic study of tissues CO2: To acquire the practical understanding of collection, separation and estimation of blood components CO3: To acquire the practical knowledge in usage of microscopic structure CO4: To acquire the practical knowledge of determination of bleeding time and platelet count and to examine the radial pulse
1	21BASND1C02 L	Nutrition in lifecycle and Dietetics I	CO1: Understanding the nutritional requirement through different stages of life CO2: To gain the practical knowledge of displaying raw and cooked food and learn their nutritive value CO3: To acquire the knowledge of preparation of recipes for the therapeutic hospital diets

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1	21MENVIOVE2	Environmental Studies	CO1: Demonstrate a basic understanding of the principles of environmental science, including key environmental issues, the impact of human activities on the environment, and strategies for promoting sustainability. CO2: To apply critical thinking and analytical skills to evaluate environmental problems and propose evidence-based solutions CO3: Understand environmental laws and regulations, as well as the legal frameworks for addressing environmental problems CO4: To assess the role of environmental movements in shaping environmental policy and practice in India, and propose strategies for advancing environmental justice and sustainability in the country. CO5: To evaluate and address ethical and logistical challenges associated with conducting fieldwork in environmental studies, and propose strategies for improving scientific integrity and social responsibility in environmental research
1	21ENG1L02	English I	CO1: Demonstrate a coherent and systematic knowledge of the field of English literature showing an understanding of current theoretical and literary developments in relation to the specific field of English studies. CO2: Demonstrate a set of basic skills in literary communication and explication of literary practices and process with clarity.

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2	**21BASND2C01**	**Food Science**	CO 1: Describe the functional properties of starch and its application in the food industry. CO2: To judge the factors responsible for coagulation of protein in different food groups. CO3: To demonstrate the impact of cooking on pigments present in fruits and vegetable. CO 4: To assess the factors affecting sugar cookery. CO 5: Examine the function of leavening agents used in preparing different baked products.
2	**21BASND2C02**	**Principles of Human Nutrition**	CO1: Understand the importance of food and meaning of nutrition and familiarize them with RDA and Recommendations & Guidelines CO2: Better understanding on the physiological and metabolic functions of nutrients CO3: Gain in-depth knowledge of the physiological and metabolic role of macronutrients, fat soluble and water-soluble vitamins, electrolytes and their importance in human nutrition.

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2	**21BASND2C03**	**Nutritional Biochemistry**	CO1: Describe various macro and micronutrients and their classification. CO2: Evaluate and explain the role of nutrients in the optimal functioning of biochemical pathways in the body. CO3: Analyse the biochemical mechanisms of disease development and discuss therapeutic options. CO4: Measure and investigate the physiological consequences of dietary and nutritional manipulation as they relate to essential metabolic pathways. CO5: Explain the influence of diet and nutrition on biochemical functions of the human body and how these have regulatory roles in metabolism.
2	**21BASND2C01L**	**Practical Food Science**	CO 1: To acquire practical understanding of the science of cooking each food group. CO 2: To analyse the factor affecting the cooking process of a food group.
2	**21BASND2D04L**	**Nutrition in lifecycle and Dietetics II**	CO1: Practically gain knowledge to plan diet for each stage of life according to the guidelines for dietary needs CO2: Gain knowledge on changes during various stages of growth and development throughout lifecycle CO3: Thorough understanding of the basis of human nutritional requirements and recommendations throughout human life cycle.

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2	**21ENG1L02**	**English I**	CO1: Demonstrate a coherent and systematic knowledge of the field of English literature showing an understanding of current theoretical and literary developments in relation to the specific field of English studies. CO2: Demonstrate a set of basic skills in literary communication and explication of literary practices and process with clarity.

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3	**21BASND3C01**	**Food Processing**	CO1. Define and explain different preliminary steps before food processing. CO2. Comprehend the working principle and mechanism of action of individual food processing methods on microorganisms and enzyme activity to increase shelf life. CO3. Apply various food processing and preservative techniques on the nutrient composition and sensory characteristics. CO4. Comprehend the phenomenon of food degradation and spoilage by microorganisms with change in the processing conditions along with the importance of packaging and labelling. CO5. Combine need for different food processing and preservation techniques

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3	**21BASND3C02**	**Food Packaging**	CO 1: To describe the function and importance of Packaging and its role in the food industry. CO 2: To compare the various packaging material and compare the suitability and functionality of each packaging material CO 3: To choose and evaluate the packaging design based on the properties of a food group. CO 4: To assess the physical, chemical and mechanical properties of a packaging material. CO 5: To describe the different types of packaging and processing techniques for various foods.
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3	**21BASND3C03 L**	**Practical Clinical Nutrition and Food Analysis**	CO1: To gain the practical knowledge of qualitative food analysis CO2: To gain the practical knowledge of qualitative food analysis CO3: To use all the equipment available in food laboratory efficiently

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3	1CENG3A02	Communicative English	CO1: To enhance the understanding of LSRW skills and various approaches to language. CO2: Providing an in-depth academic exposure about various forms of communication to enable students to be better speakers and users of language. CO3: Demonstrate a coherent and systematic knowledge of the field of communication through understanding of current linguistic and literary developments. CO4: Demonstrate a set of basic skills in literary communication and explication of literary practices and process with clarity. CO5: Write analytically in a variety of formats, including essays, speeches, and reflective writings.
3	21BASND3D03	Nutraceuticals	CO1: To illustrate the health benefits of using nutraceuticals. CO2: To understand the role of functional food ingredients of various foods and their mechanism. CO3: To prioritize the inclusion of nutraceuticals in menu planning. CO4: To understand and relate the marketing and regulatory issues of nutraceuticals and functional foods with nutraceuticals regulation of India. CO5: To gain knowledge about specific issues concerning functional foods and nutraceuticals.

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3	21BASND2C03	Entrepreneurship Development Program	CO1: Outline the function of the entrepreneur in the successful, commercial application of innovations and recall the different opportunities and successful growth stories. CO2: Learn how to start an enterprise and design business plans that are suitable for funding by considering all dimensions of business. CO3: Prioritize personal attributes that enable best use of entrepreneurial opportunities CO4: Examine Economic conditions with higher level knowledge and understanding of contemporary trends in e-commerce and business finance. CO5: Explore entrepreneurial leadership and management style.
3	21BASND3S01	Legal aspects of healthcare	CO1: To understand the overview of major issues related to the design, function, management, regulation, and evaluation of health insurance programs and managed care organizations, including HMOs. CO2: To gain knowledge on human rights and duties. CO3: To classify general and special health laws. CO4: To understand contemporary challenges in health laws related to Euthanasia and MTP. CO5: To understand the types and regulations of medical insurance and Mediclaim policies

Course Outcomes

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4	**Basic Dietetics**	CO1: Understand the etiology, physiology and metabolic anomalies of acute and chronic diseases and patient needs. CO2: Know the effect of various diseases on nutritional and dietary requirements. CO3: Provide and recommend appropriate nutritional care for prevention and treatment of various diseases. CO4: To develop skills and techniques in the planning and preparation of therapeutic diets for various diseases and nutritional deficiencies. CO 5: Plan, calculate and prepare therapeutic diets for different diseases
4	**Food Microbiology**	CO 1: To classify different microorganisms emphasize their characteristics. CO 2: To compare the spoilage caused by microorganism in each food group. CO 3: To discuss the principles of preserving the food. CO 4: To select the best preservation method to control the microbial growth and extend the shelf-life of food. CO 5: To explain the causes of food borne diseases and precautions to prevent it.
4	**Food Biotechnology**	CO1. Knowledge about history and development of food biotechnology in the past years. CO2. Develop novel fermentation techniques and fermented products for biotechnological interventions. CO3. Comprehend utilization of bioengineered vegetarian food sources and their compositions CO4. Understand and remember about various enzymes used in the food industry as binding, flavouring, debittering and cleansing agents. CO5. Create awareness about bioethics and biosafety.

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4	**Nutrition for fitness and Sports**	CO1: To outline the nutritional needs and hydration strategies for athletes. CO2: To design diet plans for different athletes based on categories of sports. CO3: To categorize the role that each of the macronutrients and micronutrients has on physical activity and athletic performance. CO4: To identify the accepted techniques for the assessment of body composition and energy balance. CO5: To understand the efficacy of commonly used dietary supplements used by athletes to enhance performance.
4	**Practical: Assessment of Food Quality**	CO1. Understand and explain how to handle all the food analysis equipment and instruments properly. CO2. Know the principles behind analytical techniques associated with food. CO3. Be able to select the appropriate analytical technique when presented with a practical problem.
4	**Database Management**	CO1: To provide the knowledge of Hospital Management system CO2: To determine the ability to archive data, manage and retrieve the necessary Hospital Management data CO3: To create different visual representation of data CO4: To acquire knowledge of front end and back end of internet CO5: Apply programming fundamentals using programming tools
4	**Indian Constitution**	CO1: To learn and understand the Indian Constitution and follow as a citizen. CO2: To Remember, Understand and Apply the Indian Constitution and also citizens following the constitution within the framework. CO3: To understand the concept of CM and State Governor, PM and President, appointment of Supreme Court, High Court and Consumer Court - Judge's. CO4: To understand the existing houses and the functioning system of it.