Department of Nutrition and Dietetics

Programme: B.Sc., Nutrition and Dietetics

PO NO	Programme Outcomes Upon completion of the B.Sc. Degree Programme, the graduate will be able to
PO1	Emerge with competency in the subject of Nutrition and Dietetics and apply the knowledge to cater to the needs of Society / Employer / Institution / Own Business / Enterprise
PO2	Imbibe analytical/ critical/ logical/ innovative thinking skills in the field of Food Processing, Community Nutrition and Clinical Nutrition.
PO3	Acquire distinct traits and ethics with high professionalism and to gain a broader insight into the domain concerned, the nation and themselves.
PO4	Inculcate scientific temperament through the Projects, Internship and Case study which strengthens the knowledge, skills and research procedures.
PO5	Articulate academic understanding, entrepreneurship, community role and skill development by practicing in the state-of-the-art nutrition laboratory and attain empowerment through food industry, health clinics and public sectors.

PO NO	Programme Specific Outcomes Upon completion of these Course the student would
PSO1	Develops a holistic and multidimensional understanding of the basic aspects of Food science, Nutrition concerns in different stages of life cycle and Food processing and Preservation for ensuring Food Availability.
PSO2	Provides a planned Professional experience for offering scientific opinion on modern Nutrition and Dietetics related issues and controversies.
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	Applies the analytical principles of Food and Nutrients in Food Safety and Security and Public Health strategies to overwhelm current spectrum of malnutrition.
PSO5	Strengthens the Competent Graduates, successful Entrepreneurs and energized Professionals to take up careers in academics, Health Care Centres and Food Processing Industries.

Course Title	HUMAN PHYSIOLOGY	
CODE	**23NDUC101**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Outline the anatomy and functions of human organ system.	K2
CO2	Acquire knowledge on composition, functions and components of blood.	K3
CO3	Understand the structure and mechanisms of action of endocrine glands.	K2
CO4	Extend the understanding of structure and functions of male and female reproductive system with the hormonal control.	K2
CO5	Interpret the structure, mechanism and regulation of action of muscles and nervous system.	K2

Course Title	FOOD SCIENCE	
CODE	**23NDUC102**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Classify the foods, food groups and relate its functions.	K_2
CO2	List the objectives and different methods of cooking.	K_1
CO3	Interpret the structure, composition and nutritive value of different foods.	K_2
CO4	Identify the effect of heat and changes that occurs during cooking.	K_3
CO5	Apply the basic principles of cookery namely crystallization of sugars, gelatinization and dextrinization of starches, germination of pulses, browning reaction, foam formation in egg and tenderization of meat.	K_3

Course Title	CORE PRACTICAL I - FOOD SCIENCE	
CODE	**23NDUCP01**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Learn the nutritive value and grouping of foods.	K_1
CO2	Acquire knowledge on the measuring of raw ingredients and the percentage of edible portion.	K_3
CO3	Make use of all the foods in Basic Food Group system for the preparation of various recipes.	K_3
CO4	Apply the scientific principles through Experimental Cookery.	K_3
CO5	Develop value added products since cooking should become a passion for a food science student.	K_3

Course Title	PRINCIPLES OF NUTRITION	
CODE	**23NDUC203**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Find out the energy value of food and energy requirements of the body.	K_1
CO2	Outline the classification and describe the functions, sources and requirements of macronutrients.	K_2
CO3	Acquire knowledge on digestion, absorption, utilization of macronutrients and their effect of deficiency.	K_3
CO4	Understand the functions, sources, requirements and deficiency disorders of vitamins and minerals.	K_2
CO5	Apply knowledge on water and electrolyte balance.	K_3

Course Title	FAMILY MEAL MANAGEMENT	
CODE	**23NDUC204**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Define the nutritional requirements (RDA) for all age groups.	K_1
CO2	Construct menu plan for different age groups.	K_3
CO3	Utilize the diet plan for special conditions in consideration with physiological changes.	K_3
CO4	Relate breast feeding and its importance with weaning and supplementary foods.	K_2
CO5	Outline the nutritional importance for vulnerable groups through balanced diets.	K_2

Course Title	CORE PRACTICAL II – FAMILY MEAL MANAGEMENT	
CODE	**23NDUCP02**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Learn how to apply food facts and principles, communication techniques and meal management strategies to improve the nutritional status of individuals.	K_1
CO2	Plan and prepare nutritious and delicious meals for different age groups with cost calculation.	K_3
CO3	Demonstrate the nutritive value of the prepared menu and compare with the RDA.	K_2
CO4	Solve the problems of malnutrition by preparing weaning and supplementary foods.	K_3
CO5	Choose the locally available low cost foods in menu planning based on food preferences.	K_1

Course Title	DIETETICS	
CODE	**23NDUC305**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Explain the etiology, symptoms and dietary management for various disorders.	K2
CO2	Choose the specific diet therapy for different disease conditions.	K3
CO3	Apply cutting edge technology to tailor the diet according to the individual genetic makeup.	K3
CO4	Identify and understand the health problems that need to be approached through holistic nutrition by applying the acquired knowledge as a dietitian.	K3 & K2
CO5	Extend their knowledge in diet counseling as Professional Medical Workers &also to establish diet clinic.	K2

Course Title	CORE PRACTICAL III - DIETETICS	
CODE	**23NDUCP03**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Construct a balanced diet, portion table and interpret with Ideal Body Weight and the Recommended Dietary Allowances by ICMR.	K3 & K2
CO2	Plan and calculate the nutrients for routine clinical diet for different disease conditions.	K3
CO3	Demonstrate the types of diet for various life style disorders.	K2
CO4	Make use of the skills during Case Study analysis and Internship programmes.	K3
CO5	Apply the practical skills in diet counseling through diet clinic center.	K3

Course Title	ALLIED II - BIOCHEMISTRY - I	
CODE	**23NDUA303**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Define & classify the Carbohydrates, Lipids, Amino acids, Protein, Nucleic acids & Enzymes.	K1, K2
CO2	List out the functions of various nutrients in the human system.	K1
CO3	Outline the structure and interpret the properties of organic molecules.	K2
CO4	Compare the theoretical concepts in qualitative analysis of various nutrients.	K2
CO5	Apply the acquired knowledge in identifying the new food sources for better nutrition.	K3

Course Title	FOOD SERVICE MANAGEMENT	
CODE	**23NDUC406**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Relate the knowledge of basic food principles in food purchase, planning and preparation.	K1
CO2	Compare the principles of menu planning in standardization of recipes, quality and portion control.	K2
CO3	Define the sanitation and hygienic practices in food preparation and extend the same in equipment and personnel management.	K1 & K2
CO4	Organize a food service institution through proper utilization of human resource and financial management.	K3
CO5	Apply nutritional standards as expected in the field of food service management.	K3

Course Title	CORE PRACTICAL IV – INTERNATIONAL CUISINE	
CODE	**23NDUCP04**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Identify the relationship between climate, topography, and diet of the region and the use of herbs, spices, oils and vinegars.	K3
CO2	Interpret regional foods and related terminology which aids them in identifying the similarities and differences between the cuisines of the countries.	K2
CO3	Solve nutritional needs of diverse clients in health care and other food service settings in collaboration with or under the direction of health care professionals.	K3
CO4	Plan menus to accommodate the nutritional, dietary, cultural and regional requirements, and personal preferences of clients.	K3
CO5	Demonstrate and apply their knowledge on international cooking techniques into recipe development.	K2

Course Title	ALLIED II - BIOCHEMISTRY II	
CODE	**23NDUA404**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Explain the metabolic pathways of carbohydrates, proteins & lipids.	K2
CO2	Interpret the concept of acid base indicators.	K2
CO3	Utilize the fact of interrelationship of carbohydrate, protein and fat metabolism in diet counseling.	K3
CO4	Understand the application of various quantitative analysis.	K2
CO5	Develop their employability in clinical laboratories.	K3

Course Title	ALLIED II – BIOCHEMISTRY PRACTICAL	
CODE	**23NDUAP01**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Identify the reactions of various macronutrients through qualitative analysis.	K3
CO2	Demonstrate the basic concepts with blood and urine sample.	K2
CO3	Make use of advanced technology for both quantitative and qualitative analysis.	K3
CO4	Utilize the scientific knowledge in scientific investigations and health care services.	K3
CO5	Apply and practice the art in clinical settings, community and research.	K3

Course Title	FOOD MICRBIOLOGY	
CODE	**21NDUC507**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Aware of the basic principle of Microbiology	K1
CO2	Apply the basic principles of sanitation in food industries,	K2
CO3	Understand the importance of personal hygiene for food and service personnel.	K2& K3
CO4	Interpret diseases caused by various microorganisms	K3
CO5	Examine the importance of food safety and to apply in future research.	K3

Course Title	FOOD PRODUCTION AND AGRICULTURE	
CODE	**21NDUC508**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Exemplify the information on the productivity of agricultural systems	K2
CO2	Infer knowledge on the importance of Agriculture in the economy of a Nation	K2
CO3	Experiment the skills in exploring organic farming	K3
CO4	Develop innovative, complementary Agriculture Monitoring Systems	K3
CO5	Integrate the new advances in elementary knowledge on insects and pests' control	K3

Course Title	PUBLIC HEALTH NUTRITION	
CODE	**21NDUC509**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Develop knowledge on Vital statistics, Causes and consequences of malnutrition.	K1
CO2	Interpret diseases using various nutritional assessments	K2
CO3	Examine the National level nutrition Intervention programme	K2& K3
CO4	Identify the National agencies involved in improving the nutritional status of the Community	K3
CO5	Implement Nutrition education for prevention of nutrition related problems	K3

Course Title	FOOD BIOTECHNOLOGY	
CODE	**21NDUC510**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Gain knowledge on fundamentals in food biotechnology	K_2
CO2	Comprehend and apply the concept of biotechnology in various fields.	K_3
CO3	Understand the role of enzymes and apply enzyme technology in contemporary needs.	K_3
CO4	Apply the applications of recombinant DNA technology in Production of therapeutic proteins.	K_1
CO5	Identify the importance of microbes in food industries.	K_2

Course Title	CORE PRACTICAL V - FOOD PRESERVATION	
CODE	**21NDUCP05**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand underlying principles in food preservation techniques.	K_2
CO2	Develop appropriate skill set required for problem identification, technology development and implementation.	K_3
CO3	Understand the role and action of preservation techniques in product shelf life and nutritional consequences.	K_2
CO4	Identify issues and regulations in food quality.	K_2
CO5	Apply and analyze novel food preservation techniques.	K_3

Course Title	BAKERY SCIENCE	
CODE	**21NDUE511**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand the basic principles and ingredients of Baking	K1
CO2	Provide knowledge on Yeast raised Bakery Products	K2
CO3	Figure out the principles and methods of preparing pastry products	K2 & K3
CO4	Infer the methods of cake making along with internal and external characteristics	K3
CO5	Identify the equipment for setting up a Bakery Unit as a entrepreneurial approach	K3

Course Title	TECHNOLOGY OF BEVERAGES	
CODE	**21NDUE521**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand the history and types of Beverages	K2
CO2	Learn the beverage manufacturing process	K2
CO3	Understand carbonated beverage manufacturing	K3
CO4	Examine the process involved in alcoholic and non-alcoholic Beverages	K3
CO5	Analyze the packaged drinking water	K4

Course Title	DAIRY SCIENCE	
CODE	**21NDUE531**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand the equipment's used in processing of dairy products	K2
CO2	Analyze the traditional dairy products and its packaging	K2
CO3	Relate the significance of microorganisms in dairy industry	K3
CO4	Illustrate the role of membrane technology in preparation of special foods	K4
CO5	Infer on importance of food fortification in dairy products	K4

Course Title	FOOD PROCESSING AND PRESERVATION	
CODE	**21NDUS503**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand the principles of food processing	K_1
CO2	Understand the effective ways to process and store agricultural crops.	K_2
CO3	Acquire knowledge on various process, equipment and applications.	K_3
CO4	Analyze and apply novel techniques in food processing.	K_2
CO5	Acquire knowledge on advanced techniques expected in commercial industries.	K_3

Course Title	COMPUTER CONCEPTS IN NUTRITION	
CODE	**21NDUC611**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Describe the computer concepts, historical developments and Operating system	K2
CO2	Acquire knowledge on basic operations on a window	K3
CO3	Apply skills in exploring windows applications in development of documents, data analysis in spread sheet and power point presentation.	K3
CO4	Construct queries, forms, reports, macros and charts	K3
CO5	Interpret the new advances in IOT and e-learning techniques	K3

Course Title	NUTRITION AND PHYSICAL FITNESS	
CODE	**21NDUC612**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Illustrate the components of fitness and Wellness with its principles	K1
CO2	Provide knowledge on principles and methods of physical training	K2
CO3	Figure out the importance of physical activity and various physiological assessment for fitness	K1 & K2
CO4	Infer the importance of nutrition in Sports and Dietary management for atheletes	K3
CO5	Describe the various ergogenic aids and Diet related problems of sports persons	K3

Course Title	CASE STUDY AND VIVA - VOCE	
CODE	**21NDUCV01**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Accomplish knowledge and depth information on various cases for different age, sex and physiological groups.	K2
CO2	Apply skills in experiments and framing new theories to the pre-existing theories.	K3
CO3	Construct the observation of cases into useable data and simplifies the complex concepts	K3
CO4	Understand the science behind an experiment or case.	K2
CO5	Develop innovative advances and delves a solution for a problem through investigation	K3

Course Title	INTERNSHIP AND VIVA - VOCE	
CODE	**21NDUTV02**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Acquire skills and knowledge in the fields of medical and health science	K2
CO2	Apply skills in exploring work experiences that go together with classroom learning	K3
CO3	Constructs the closed direction or mentoring by a specialized expert	K3
CO4	Discover the new advances in Clinical and Food Processing, Preservation techniques	K3
CO5	Develop intern's individual through challenging occupational coursework.	K3

Course Title	CORE PRACTICAL VI – FOOD ANALYSIS & QUALITY CONTROL	
CODE	**21NDUCP06**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Knowledge on chemical properties of food.	K_1
CO2	Identify and select suitable analytical technique for a problem.	K_3
CO3	Describe the appropriate methods to check food quality.	K_2
CO4	Comprehend the implications and toxic effects of adulterants.	K_2
CO5	Integrate and apply knowledge to solve a real industry problem	K_3

Course Title	FOOD QUALITY CONTROL	
CODE	**21NDUE612**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Protect Public Health by reducing the risk of food borne illness.	K1
CO2	Protect consumers from in wholesome or adulterated food.	K2
CO3	Set Standards to meet the specifications which ensure customer needs are met.	K2 & K3
CO4	Help Companies meet consumer demands for better products, through Food laws	K3
CO5	Understand the quality Evaluation of Foods	K3

Course Title	FOOD SAFETY AND CONSUMER PROTECTION	
CODE	**21NDUE622**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Demonstrate good personal hygiene and safe food handling procedures	K3
CO2	Understand the issues relevant to food pipeline	K2
CO3	Interpret the concept of sanitary facilities in food chain	K2
CO4	Understand about the laws on consumer protection	K3
CO5	Aware of the basic procedures for handling consumer disputes	K3

Course Title	FOOD PACKAGING AND LABELLING	
CODE	**21NDUE632**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Understand the need and role of packaging materials used for a range of food products	K2
CO2	Measure and evaluate packaging materials	K2
CO3	Relate the different packaging and labelling methods to commercial scale	K3
CO4	Illustrate the technology involved in the testing of various packaging materials and packages	K4
CO5	Evaluate the impact of packaging in Environment	K4

Course Title	ELECTIVE III – PROJECT AND VIVA - VOCE	
CODE	**21NDUE6PV**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Paraphrase the information relating to current research, novel theories and technologies	K2
CO2	Access to high quality research work in the Public health nutrition	K3
CO3	Predicts the effects of dietary interventions on biological or health-related endpoints in human participants.	K2
CO4	Relates the role of food science in human nutrition	K3
CO5	Evaluates the nutrient components of formulated diets	K4

Course Title	FOOD PRODUCT DEVELOPMENT AND MARKETING	
CODE	**21NDUS604**	
CO NO.	**Course Outcomes**	**Knowledge Level**
CO1	Prepare a prototype for a new food product	K_1
CO2	Apply the principles of quality assurance, food safety and GMP to a food product design.	K_3
CO3	Prepare a prototype for a new food product	K_3
CO4	Apply the principles of quality assurance, food safety and GMP to a food product design.	K_2
CO5	Demonstrate an understanding of the functionality of packaging in new product development.	K_1