

## **PROGRAMME OUTCOMES**

### **NUTRITION AND DIETETICS:**

1. Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food and nutrients in health and disease processes.
2. Provide nutrition counseling and education to individuals, groups, and communities throughout the lifespan using a variety of communication strategies.
3. Evaluate nutrition information based on scientific reasoning for clinical, community, and food service application.
4. Apply technical skills, knowledge of health behavior, clinical judgment, and decision-making skills when assessing and evaluating the nutritional status of individuals and communities and their response to nutrition intervention.
5. Implement strategies for food access, procurement, preparation, and safety for individuals, families, and communities.
6. Perform food management functions in business, health-care, community, and institutional arenas.
7. Practice state-of-the-art nutrition care in collaboration with other health-care providers in interdisciplinary settings within the bounds of ethical, legal, and professional practice standards.
8. Provide culturally competent nutrition services for individuals and communities.
9. Accurately interpret data and research literature to solve complex problems.
10. Critically evaluate information on food science and nutrition issues appearing in the popular press.
11. Analyze the environmental dimensions of issues facing professionals.
12. Demonstrate creativity in the discipline in ways that have practical benefits.
13. Competence in the skills of assessment, planning, management and evaluation of food service, nutrition and dietetic services in institutional food, community nutrition, and clinical dietetics settings.
14. Students will utilize advanced principles of health literacy, including critical thinking skills, literature searches, data collection and interpretation, necessary for the implementation of food and nutrition services in professional settings.

**UG.PROGRAMME OUTCOMES**  
**B.Sc., NUTRITION AND DIETETICS**

S.NO	COURSE CODE	COURSE TITLE	OUTCOMES
<b>SEMESTER-I</b>			
1	17UND1C1	<b>Core – I</b> Food science	To enable students to 1.Understand the major chemical reactions that occur during food preparation and storage 2.Able to describe the techniques that can be used to monitor quality of raw ingredients and final products.
2	17UND1CP2	<b>Core – II</b> Food science practical	To enable students to 1.Occurring knowledge to identify the major chemical components of food 2.Able to conduct basic sensory analysis of food 3.Gain training to manufacture a range of simple food products
3	17UND1A1	<b>Allied –I</b> Principles of Nutrition	To enable students to 1. Educate others about holistic Nutrition, life style ,wellness and healthy living 2. Design and critique evidence-based nutrition intervention for prevention and control of chronic diseases
4	17UND1AP2	<b>Allied –II</b> Principles of Nutrition practical	To enable students to 1.Assess the structure and component of food system and analyze the relationships between nutritional health and food selection 2.Use appropriate laboratory techniques and chemicals to enumerate, and identify the nutrients and micro organism in food.
<b>SEMESTER-II</b>			
5	17UND2C3 III	<b>Core – III</b> Nutrition Through Life Cycle	To enable students to 1.Familiarize nutritional assessment, RDA and Recommendations & Guidelines. 2.Gain knowledge on changes during various stages of growth and development throughout life cycle. 3.Thorough understanding of basis of

			human nutritional requirements and recommendations throughout human life cycle.
<b>6</b>	17UND2CP4	<b>Core – IV</b> Nutrition Through Life Cycle practical	To enable students to 1.Understanding the nutritional requirements through the life cycle. 2.Practically gain knowledge to plan diet for each stage of life according to the guidelines for dietary needs.
<b>7</b>	17UND2A3	<b>Allied – III</b> Human physiology	To enables the students to <b>1.</b> Gain of knowledge on different parts of the body. <b>2.</b> Gain knowledge on parts of the body and its diseases and disorders. <b>3.</b> Plan diet towards the therapeutic approaches of the diseases.
<b>8</b>	17UND2AP4	<b>Allied –IV</b> Human physiology practical	To enables the students to <b>1.</b> Gain knowledge on different tissues, muscles and organs of the body. <b>2.</b> Assess an individual through biochemical and biophysical method.
<b>SEMESTER-III</b>			
<b>9</b>	17UND3C5	<b>Core– V</b> Dietetics-I	To enable students to 1. understand the basic principles of diet and diet therapy. 2. acquire the knowledge of modifications of normal diet for therapeutic purposes.
<b>10</b>	17UND3CP6	<b>Core– VI</b> Dietetics-I practical	To enable students to 1. acquire the skills and techniques involved in the planning and preparation of therapeutic diets for various ailments. 2. develop the capacity and attitude for taking dietetics as a profession.
<b>11</b>	17UND3A5	<b>Allied– V</b> Nutritional Biochemistry	To enable students to 1. Capable of describing biochemical pathways relevant in nutrient metabolism 2. Capable of using selected biochemical techniques that are relevant for the investigation of the nutrient metabolism.  3. Capable of using selected biochemical techniques relevant in nutritional biochemical research. 4. Provide nutritional advice based

			on sound scientific findings. 5. Critically evaluate and apply current scientific findings in Nutrition and Health
<b>12</b>	17UND3AP6	<b>Allied–VI</b> Nutritional Biochemistry practical	To enable students to 1. Acquire skills on preparation of solutions 2. Colorimetric estimation of biochemical molecules
<b>13</b>	17UND3N1	Non Major Elective I Food and Health	To enable non –major students to 1.Explain nutrients in foods and the specific functions in maintaining health 2.Identify what foods are good sources for what nutrients 3.Apply knowledge of the role of nutrition and healthy eating for disease prevention and wellness
<b>SEMESTER-IV</b>			
<b>14</b>	17UND4C7	<b>Core– VII</b> Dietetics-II	To enable students to 1.Apply the principles of diet for the management of metabolic diseases. 2.Use the nutrition care process for special conditions like allergy and burns. 3.Develop the dietary models for cancer and HIV.
<b>15</b>	17UND4CP8	<b>Core - VIII</b> Dietetics-II practical	To enable students to 1.Acquire skills to plan a diet for metabolic diseases based on the dietary modification 2.Evaluate the related food source for the special conditions.
<b>16</b>	17UND4A7	<b>Allied– VII</b> Food Microbiology	To enable students to 1. understand about morphological characteristics of different micro-organism associated to food. 2. know about the spoilage and factors affecting the growth of microorganisms in food . 3. Impart the knowledge about the role of micro-organisms in fermentation of foods. 4 aware about hygiene and sanitation in food industry.
<b>17</b>	17UND4AP8	<b>Allied–VIII</b> Food Microbiology practical	To enable students to 1. understand the operational functions of microscope and sterilizing equipments .

			<p>2. develop skills in performing various microbiological tests used in food industry.</p> <p>3. update the knowledge in identifying the important microorganism present in food.</p>
<b>18</b>	17UND4N2 IV	Non Major Elective - II Nutrition For the Family	<p>To enable students to</p> <ol style="list-style-type: none"> <li>1.Explain rationale for nutrient intake recommendations across the lifespan.</li> <li>2.Describe a healthy diet and food choices, and explain why such choices will help prevent health problems</li> </ol>
<b>SEMESTER-V</b>			
<b>19</b>	17UND5C9I	<b>Core – IX</b> Dietetics Internship	<p>To enable students to</p> <ol style="list-style-type: none"> <li>1.Evaluate the patient’s medical records and interpret their medical history related to the conditions.</li> <li>2.Analyse the food habits and bring about the dietary changes.</li> <li>3.Gain experience to plan and calculate the modified diet</li> <li>4.Acquire skill to supervise and handle the food preparation and service in the dietary department of the hospital.</li> </ol>
<b>20</b>	17UND5C10	<b>Core – X</b> Food Service Management-I	<p>To enable students to</p> <ol style="list-style-type: none"> <li>1.This subject equips the students for skill development, academic, understanding entrepreneurship.</li> <li>2.Employment in various field of food industry, health clinic, NGO’s etc</li> <li>3.Perform training and communication skills relevant to the restaurant, food industry etc</li> </ol>
<b>21</b>	17UND5C11	<b>Core – XI</b> Food Preservation and Bakery	<p>To enable students to</p> <ol style="list-style-type: none"> <li>1.Students are able to understand the basic knowledge relating to food safety and principles of preservation.</li> <li>2.Students will understand the concept of processing and preservation of fruits and vegetables.</li> <li>3.Equip the students to gain basic knowledge relating to the principles of baking</li> <li>4.Introduce them to the techniques of cake and pastry making</li> </ol>

22	17UND5CP12	<b>Core - XII</b> Food Preservation and Bakery practical	To enable students to 1.Student will enable to understand different food preservation techniques, process. 2.Student will enable to extend shelf life of different food product by using the various methods of food preservation. 3.Understand to describe properties and functions of the basic ingredients used in baked goods. 4.Students will learn the Weigh and measure ingredients used in baking. 5.Gain practical knowledge to prepare high ratio, chiffon cakes and genoise. washes, glazes, icings, frostings and fillings.
23	17UND5M1	Major Based Elective-I Food Chemistry/ Food Biotechnology	Food Chemistry To enable the students to 1. Develop the scientific attitude of the students towards the principle of food chemistry. 2. Study the physico-chemical changes occurring in foods during cooking Food Biotechnology To enable the students to 1. Understand the basic principles of biotechnology 2. Apply the knowledge of biotechnology for the development of new food products
24	17UND5S2	Skill Based Elective II Basics in Computer / Nutrition for Physical Fitness	Basics in Computer: To enable the students to 1. Gain knowledge on computer operations and applications 2. Facilitate students to design and use computer based projects and programs. 3. Enable utilization of existing health and nutrition based software. Nutrition for Physical Fitness: To enable the students to 1. Understand the components of health and fitness and the role of nutrition in these. 2. Make nutritional, dietary and physical activity recommendations to achieve fitness and wellbeing.

			3. Develop ability to evaluate fitness and well-being.
<b>25</b>	17UND5S3 Skill Based Elective – III	Skill Based Elective – III Food and Nutrition / Basics in Nutrition	Food and Nutrition To enable students to 1. Understand the importance of food and meaning of nutrition 2. Understand the role of nutrition in human life 3. Increase the ability to overcome deficiency. Basics in Nutrition The enable the students to 1. Gain knowledge about basics in nutrition. 2. Acquire knowledge about their functions, RDA, food sources of nutrients
<b>26</b>	17UND5EC1	<b>Extra Credit Course - I</b> Food Packaging	To enable students to 1. Apply and examine the knowledge of properties for selection of packaging materials for foods food products 2. Evaluate new and emerging technology and related underpinning science in food science in packaging 3. Demonstrate advanced knowledge and skills in selecting packaging materials and technologies based on the characteristics of food product and characteristics of packaging materials and storage and distribution of requirements
<b>SEMESTER-VI</b>			
<b>27</b>	17UND6C13	<b>Core - XIII</b> Food Service Management	To enable students to 1. Assess leadership, supervisory and human relation skills within the restaurant and food service Industry 2. Perform training and communication skills relevant to the restaurant, food industry etc
<b>28</b>	17UND6C14	<b>Core - XIV</b> Community Nutrition	To enables the students to 1. Assess the nutritional status of the community. 2. Addressing the nutrition problems in the community through proper evaluation.
<b>29</b>	17UND6CP15	<b>Core - XV</b> Food Service Management Practical	To enable students to 1. Acquire skill to plan, compile and

			<p>prepare meals based on the different region.</p> <p>2. Gain experience to standardize the recipes and to calculate the cost per yield.</p>
<b>30</b>	17UND6C16	<b>Core - XVI Food Standards and Quality Control</b>	<p>To enable students to</p> <ol style="list-style-type: none"> <li>1. Gains knowledge on the importance of quality assurance in food industry.</li> <li>2. Thorough knowledge on various tests and quality assessment, using standards for quality assessment and food safety.</li> <li>3. Awareness on regulatory and statutory bodies in India and the world.</li> </ol>
<b>31</b>	17UND6M2	Major Based Elective II Human Development/ Basics in Food Safety	<p>Human Development: To enable non-major students to</p> <ol style="list-style-type: none"> <li>1. Understand the importance of food and meaning of nutrition</li> <li>2. Understand the role of nutrition in human life</li> <li>3. Increase the ability to overcome deficiency</li> </ol> <p>Basics in Food Safety To enable the students to</p> <ol style="list-style-type: none"> <li>1. Understand the Food regulation Acts in India.</li> <li>2. Acquire skills in Food Sanitation and Safety.</li> </ol>
<b>32</b>	17UND6M3	Major Based Elective III Community Development/ Nutrition in Critical Care	<p>Community Development To enable the students to</p> <ol style="list-style-type: none"> <li>1. Understand the Food regulation Acts in India.</li> <li>2. Acquire skills in Food Sanitation and Safety.</li> </ol> <p>Nutrition in Critical Care To enable the students to</p> <ol style="list-style-type: none"> <li>1. Gain knowledge in handling hospitalized patients</li> <li>2. Know the nutritional assessment of ill patients</li> </ol>
<b>33</b>	17UND6EC2	<b>Extra Credit Course - II</b> Principles of Resource Management and Interior Design	<p>To enables the students to</p> <ol style="list-style-type: none"> <li>1. Gain knowledge on the utility of available resources and different designs.</li> <li>2. Plan programmes ahead through work simplification techniques.</li> <li>3. Apply the knowledge of interior design in furnishing things.</li> </ol>

**PG.PROGRAMME M.Sc., NUTRITION AND DIETETICS**

<b>S.NO</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>OUTCOMES</b>
<b>SEMESTER-I</b>			
<b>1</b>	17PND1C1	Core– I Advances in Food Science	To enable students to 1.understanding of novel and innovative food sciences and emerging technologies 2.Understanding and ability to apply these novel technologies and the underpinning science to preserve and control the nutritional, microbiological and functional properties of foods. 3.Ability to apply and adapt novel technologies to real-life innovative products and processes
<b>2</b>	17PND1C2	Core – II Human Nutrition	To enable students to 1.Better understanding on the physiological and metabolic functions of nutrients. 2.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.
<b>3</b>	17PND1C3	Core– III Diet Therapy-I	To enable the students to 1.Become a Registered dietitian 2.Individual counseling and defending a position on issues impacting the nutrition and dietetics profession 3.Recognize the disease and prevention of the disease.
<b>4</b>	17PND1CP4	Core– IV Food Analysis Practical	To enable the students to 1.To acquire knowledge in qualitative and quantitative estimation of the nutrients present in agricultural commodities 2.To independently set-up and execute standard laboratory methods and techniques for chemical analysis of agricultural raw materials

4	17PND1CE1	Elective– I Applied Physiology/ Nutritional Needs for Special Children	Applied Physiology To enable students to 1.Explain the basic knowledge of human anatomy and physiology 2.Describe and explain the normal function of the cells, tissues, organs and organ systems of the human body. Nutritional Needs for Special Children To enable students to 1.Know the nutrient needs of special children and the importance of meeting them. 2.Gain basic knowledge on importance of special nutritional needs. 3.Understand the importance of meeting nutrient requirements for special children.
<b>SEMESTER-II</b>			
5	17PND2C5	Core– V Nutrition For Growth and Development	To enable students to 1.Gain better understanding on the physiological changes and nutrient demands during life cycle. 2.Understand the nutritional requirements and adaptations by the human body through various stages of life cycle. 3.Gain knowledge on the nutritional requirements and planning diets for vulnerable group and special group in the society
6	17PND2C6	Core– VI Nutritional Bio chemistry	To enable students to 1. Describe the major metabolic pathways involved in the metabolism of nutrients in the human body. 2. Understand the principles of biochemical methods and be able to use them with appropriate instruction. 3. Understand the basis of reactivity of biologically relevant molecules and their interactions. 4. Analyse and evaluate experimental data.

7	17PND2C7	Core– VII Diet Therapy-II	To enable students to 1.Know the metabolic condition of the life style related diseases. 2.Explain the risk factors for degenerative diseases and toward the management of the several disease conditions.
8	17PND2CP8	Core– VIII Diet Therapy Practical	To enable the students to 1. develop skills in planning, calculating, modifying the nutrient requirements and in preparation of therapeutic diets 2. acquire skills in diet counselling and feeding of patients.
9	17PND2CE2	Elective– II Functional Foods and Nutraceuticals/ Nutritional Management and Safety for Food Service	Functional Foods and Nutraceuticals: To enable the students to 1.To recognize the structure of the major bio-active food constituents that are being incorporated into functional foods 2.Physiological and functional basis of various phytochemical compounds of natural as well as synthetic compounds 3.Students will learn and get awareness about latest research area on nutraceutical and functional food compounds. Nutritional Management and Safety for Food Service: To enable the students to 1.Implement safety and sanitation measures within the restaurant and food service industry. 2.The graduates are highly regarded by hospitals, food industries, food and pharmaceutical companies.
<b>SEMESTER-III</b>			
10	17PND3C9I	Core– IX Diet Therapy Internship	To enable students to 1.Evaluate the patient’s medical records and interpret their medical history related to the conditions. 2.Analyse the food habits and bring about the dietary changes. 3.Gain experience to plan and calculate the modified diet 4.Acquire skill to supervise and

			handle the food preparation and service in the dietary department of the hospital.
<b>11</b>	17PND3C10	Core– X Food Microbiology	<ol style="list-style-type: none"> <li>1. Understand the nature of micro organisms involved in food spoilage, food infections and intoxications.</li> <li>2. Comprehend various techniques used for isolation, purifications, identifications and controlling the growth of micro organisms.</li> <li>3. Assess the microbial safety of personal hygiene, water, milk and food products in various food operations.</li> </ol>
<b>12</b>	17PND3C11	Core– XI Research Methodology and Statistics	<ol style="list-style-type: none"> <li>1. Demonstrate knowledge of the scientific methods, purpose and approaches to research.</li> <li>2. Compare and contrast quantitative and qualitative research.</li> <li>3. Explain research design and the research cycle</li> <li>4. Prepare a key elements of a research proposal.</li> </ol>
<b>13</b>	17PND3CP1 2	Core– XII Nutritional Biochemistry and Food Microbiology Practical	<p>Nutritional Biochemistry</p> <ol style="list-style-type: none"> <li>1. Acquire skills on preparation of solutions</li> <li>2. Colorimetric estimation of biochemical molecules</li> <li>3. Acquire the skills on analysis of blood and urine samples</li> </ol> <p>Food Microbiology Practical</p> <ol style="list-style-type: none"> <li>1. Understand the morphology and structural features of micro organisms .</li> <li>2. Comprehend various principles of various preservation and control techniques.</li> <li>3. understand microbial safety in various food operations.</li> </ol>
<b>14</b>	17PND3CE3	Elective– III Sports Nutrition/ Nutritional Counselling and Education	<p>Sports Nutrition</p> <p>To enables the students to</p> <ol style="list-style-type: none"> <li>1. Gain knowledge on nutrition for sports.</li> <li>2. Plan nutritious formulas and diet for sports persons.</li> <li>3. Give guidance and counselling for sports persons to overcome their nutrition and other health problems.</li> </ol>

			Nutritional Counselling and Education: To enables the students to 1. Understand the principles and methods of counselling. 2. Apply counselling methods to patients with different diseases
<b>15</b>	17PND3EC1	Extra Credit Course - I Paediatric and Geriatric Nutrition	To enable the students to 1. Thorough knowledge on the nutritional requirements at various stages of child growth and development. 2. Effective understanding of diet planning principles and nutritional facts for balanced and healthy diet during pregnancy, infancy and childhood stage. 3. Gain knowledge on the aspects of aging and the importance of the nutritional requirements and dietary modification during old age.
<b>SEMESTER-IV</b>			
<b>16</b>	17PND4C13	Core– XIII Institutional Food Management	To enable the students to 1. understand the basic principles of management in food service units 2. develop managerial skills in food service industries. 3. update the skills and techniques in starting up a food service unit successfully. 4. aware about of the renewable sources of energy in food service industry.
<b>17</b>	17PND4C14	Core– XIV Community Nutrition and Public Health	To enables the students to 1. Gain knowledge on the current nutritional scenario. 2. Implement policies towards nutrition security. 3. Make improvements in developing the current public health programmes.
<b>18</b>	17PND4CP15	Core– XV Application of Computer in Nutrition and Dietetics Practical	To enables the students to 1. Apply to calculate the nutrient content using software 2. Evaluate and compute the raw data using statistical tool 3. Develop skills to evaluate and use the dietary database

			4. Impart the nutrition education using visual aids
<b>19</b>	17PND4EC2	17PND4EC2 Extra Credit Course - II Home Management	To enable the students to <b>1.</b> Gain in-depth knowledge of Home management, system approach of family, effective use of resources and efficient methods of utilization of resources. <b>2.</b> Gain knowledge on textile chemistry, apparel design, specifications, quality control and storing cloths.