

B.VOC. FOOD PROCESSING

Program Outcome

- Hand on training to students for skill development and encourage them for becoming entrepreneurs in food processing sector which provide a support base for the country's food security.
- To give quality education and training to meet growing demand of food processing industries in addition to pioneering the development of innovative technologies for conservation and processing of raw food with value addition.
- To acquire knowledge of emerging /alternative food processing technologies and enable a student to know the relative advantages/disadvantages over existing technologies.

Course Outcomes

| | Subject (semester 1) | Course outcome |
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| 1. | Introduction to computers | <ol style="list-style-type: none">1. Gain knowledge on historical developments and computer peripherals in the operation of computers.2. Acquire the skills in exploring windows applications in development of documents, data analysis in spread sheet and power point presentation3. Understand the computer networks in efficient utilization of internet and intranet connection in digital communication.4. Elicit multimedia presentation focusing on utilization of authorizing tools.5. Able to apply computer applications in meal management practices and explore the nutritional software and e-journals in professional and academic endeavour. |

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| 2 | Documentation in food processing | <ol style="list-style-type: none"> 1. Students will gain the information about programs needed to inspect raw materials in different food industries. 2. Learners will come to know about applications of computer in different food industries. 3. Students will learn and practice implementation, life cycle and applications of Enterprise resource planning (ERP). 4. Learners will have information about primary, secondary and tertiary packaging. 5. Students will perform analysis of data using statistical packages. 6. Learners will practice various software used in food industry. |
| 3 | Basics of food processing | <ol style="list-style-type: none"> 1. Comprehend the nature and properties of foods 2. Understand the principles of the various Food Processing Methods 3. Classify the various Foods based on their Structure 4. Understand the processing methods of different foods 5. Differentiate between Processing of different Food Groups |
| 4 | Dairy Processing | <ol style="list-style-type: none"> 1. Understand the processes related to storage, processing and distribution of milk and milk Products. 2. Perceive the different properties of milk and milk products. 3. Apprehend the thermal processing of milk. 4. Grasp the technology of fat rich dairy products. 5. Comprehend the technology of condensed milk, dried milk, cheese, yoghurt and indigenous products will be understood. 6. Have knowledge regarding hygiene and sanitation practices in the milk and milk products industry. |

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| | Semester 2 | |
| 1 | Introductory Food Microbiology | <ol style="list-style-type: none"> 1. Acquire the knowledge on the basic concepts of microbes in food and human welfare. 2. Relate the theoretical knowledge with microbes in environment. 3. Comprehend the knowledge gained on the characteristics of the microorganism in food and apply the techniques to control microbes. 4. Understand the relevance of microbial spoilage of various foods and its intoxications 5. Provide frame work on the concepts of Quality Control Activities |
| 2 | Basics of food packaging | <ol style="list-style-type: none"> 1. Understand the concepts of packaging in terms of history, principle and functions 2. Identify the various packaging materials available in the market 3. Gain knowledge on the packaging methods and systems 4. Enumerate the packaging of different food products 5. Ascertain the safety of packages through storage, handling and distribution |
| 3 | Holistic Development I :Personality Development | <ol style="list-style-type: none"> 1. Understand the basics of personality, Big five factors and role of Heredity and Environment on human personality 2. Determine the levels of personality through theories and assessing oneself and know the implications 3. Assess the determinants of personality and apply to life 4. Improve and groom one's own personality and to behave in a socially acceptable manner 5. Evaluate the causes of personality disorders and provide referral services |
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| 4 | Food products Packaging Technology | 1:Knowledge about packaging materials |

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| | | <p>2: Understanding the types and manufacturing process.</p> <p>3: Understand package testing methods</p> <p>4: Identifying suitable package functions for given product</p> |
| | Semester 3 | |
| 1 | Communication skills | <p>Communication skills are to convey your feelings, views, reasons, suggestions, arguments and information to the other person through your words, action and facial expressions. It also includes understanding the same when the other person expresses.</p> |
| 2 | Fundamentals of food and nutrition | <p>1. Acquire skill on various methods of assessing nutritional status.</p> <p>2. Relate metabolism of macronutrients with health. 3. Comprehend the functions of micronutrients with health</p> <p>4. Associate knowledge of nutrients with their deficiencies.</p> <p>5. Apply the knowledge in determining the nutritional requirements.</p> |
| 3 | Introduction to Grain Milling and Machineries | <p>1. Comprehend the structure and composition of cereals.</p> <p>2. Understand the processes for the preparation of various types of products from cereals.</p> <p>3. Identify suitable equipments required for processing of cereals.</p> <p>4. Comprehend the detailed manufacturing technologies of cereals consumed in daily life in food industries</p> |
| 4 | Fundamentals of Food Biochemistry | <p>1. Demonstrate proficiency in understanding physiochemical changes occurring in foods during cooking.</p> <p>2. Explain the properties and reactions of the</p> |

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| | | <p>various food components.</p> <p>3. Describe the basic principles and properties of starch proteins, fats and oils, pectic substances and spices and condiments.</p> <p>4. Gain sufficient knowledge about chemistry of starch proteins, fats and oils, pectic substances.</p> |
| 5 | Introduction to Cereal and Legume Processing | <p>1. Comprehend the recent advancement in the major cereal grains quality and processing aspects.</p> <p>2. Understand the mechanism underlying the interaction of various flour components and their role in end use quality.</p> <p>3. Grasp the basic and advanced milling methods for wheat, rice, maize.</p> <p>4. Know about by-product utilization of various grains.</p> |
| 6 | Environmental & Road Safety Awareness | <p>1. Knowledge on the importance of environment is elucidated</p> <p>2. Understanding on the various principles and relationships between the plants and environment is unraveled.</p> <p>3. Exposure to global issues like pollution and disasters to environment is given.</p> <p>4. Awareness to the save greenery</p> |
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| | Semester 4 | |
| 1 | Food Spoilage and Control | <p>1 Students will learn about various components of microscope and its principle.</p> <p>2 Students will gain information about spoilage of food by various microorganisms.</p> <p>3 Students will have knowledge about food adulteration.</p> <p>4 Students will evaluate major causes of food spoilage such as various physical, chemical and microbiological.</p> |

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| | | <p>5 Students will develop knowledge about bacterial and non-bacterial food born diseases.</p> <p>6 Learners will develop understanding about laboratory orientation and familiarization with various laboratory instruments.</p> |
| 2 | Quality Control and Regulations | <ol style="list-style-type: none"> 1. Recollect the food safety system and quality attributes. 2. Comprehend the knowledge gained on food laws and food safety regulations at regional and national levels. 3. Distinguish the role of national and international agencies in establishing food standards. 4. Execute Food laws and food safety standards in food service operations. 5. Monitor and evaluate food laws and standards in food service industry |
| 3 | Fruits and vegetables processing | <ol style="list-style-type: none"> 1. Understand the structure and composition of fruits and vegetables and their role in nutrition. 2. Apprehend different operations like cleaning, grading, peeling concentration and different aroma recovery systems.etc involved in processing fruits and vegetables 3. Grasp the concept of quality in relation to fruit and vegetable based products. 4. Understand the processing and preservation techniques for fruits and vegetables to improve the shelf life. |
| 4. | Holistic Development II: Physical Training | <ol style="list-style-type: none"> 1 Students will develop understanding about sports relationships and sports performance in India. 2 Students will gain knowledge about sports injuries and first aid, sports psychology and anxiety. 3 Learners will identify and evaluate rules and regulations of different games such as badminton, discuss throw and high jump. |

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| | | <p>4 Learners will perform the measurement and preparation of the field.</p> <p>5 Students will identify different requirements for game such as equipment's, materials and technique.</p> |
| | Semester 5 | |
| 51 | Communication skills | <p>Communication skills are to convey your feelings, views, reasons, suggestions, arguments and information to the other person through your words, action and facial expressions. It also includes understanding the same when the other person expresses. Food processing industry depends on the dealing of dealer and consumer to develop the market of product.</p> |
| 2 | Entrepreneurship Development in Food Processing | <ol style="list-style-type: none"> 1. Understand the forms and practices adopted at business organizations 2. Gain knowledge on the various sources of finance and marketing procedures 3. Develop competencies in accounting procedures practiced at the organizations 4. Compile the financing and entrepreneurial tasks at the food based business 5. Encourage Entrepreneurship ventures in food product development and processing sector |
| 3 | Food industry Waste Management | <p>1 Student will learn about classification & characterization of food industrial waste from dairy, fruit & vegetable processing etc.</p> <p>2 Students will gain information about waste disposal method, economical aspects of waste treatment etc.</p> <p>3 Students will evaluate different treatment methods for liquid waste etc.</p> <p>4 Student will acquire knowledge about treatment methods for solid waste, biogas and effluent</p> |

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| | | <p>waste treatment method.</p> <p>5 Learners will conduct experiments to determine BOD and COD of water sample.</p> <p>6 Learners will conduct experiments to find the TDS and TSS.</p> <p>7 Students will prepare flow process chart of food plant waste utilization processes</p> |
| 4 | Marketing and Retail Management | <p>1. Apply the principles in product development and design</p> <p>2. Understand the different steps involved in</p> <p>3. Development of food products, testing and evaluation</p> <p>4. Develop entrepreneurship skills in financial and marketing strategies</p> |
| 5 | Sugar Processing technology | <p>1 Students will learn about the properties of sugarcane and sugar beet.</p> <p>2 Students will gain information about different sugar production processes.</p> <p>3 Students will develop understanding about the techniques and instruments involved in preparation of different confectionary products.</p> <p>4 Students will prepare or manufacture different sugar products such as coffee, fudge, chewing gum etc.</p> <p>5 Learners will conduct experiments to determine acidity, ash content, and moisture content of sugar products.</p> |
| | SEMESTER 6 INDUSTRIAL INTERNSHIP | <p>Students works as a trainee in food industry in quality or production unit under the supervision of experts and leans all about quality control and production unit in practical way</p> |

