



**COURSE OUTCOMES**

**DEPARTMENT OF B.VOC**

**I B. Voc., Food Safety and Quality Management**

**SEMESTER 1**

**Subject Name: Communicative English- Paper I      Subject Code: EV22E11/ EV15E1**

<b>CO1:</b>	Provide the vital information required to understand the concepts underlying various communication skills.
<b>CO2:</b>	Cover the several aspects of communication in oral and written modes.
<b>CO3:</b>	Facilitate acquisition of necessary language skills.
<b>CO4:</b>	learn the basic grammar of English language
<b>CO5:</b>	apply knowledge of word power and grammar rules in formal an informal letter writings

**Subject Name: BASICS OF FOOD, FOOD SAFETY AND QUALITY MANAGEMENT**

**Subject Code: B22FSC11**

<b>CO1:</b>	become familiar with the safe handling of foods.
<b>CO2:</b>	get acquaint with the principles and methods of food quality control.
<b>CO3:</b>	recognize the quality management system and recognize the importance of quality assurance system in food industry.
<b>CO4:</b>	understand the food regulation and standards at the national and international
<b>CO5:</b>	identify general principles of food safety risk management

**Subject Name: APPRENTICESHIP AT ANY FOOD INDUSTRY FOR BFFSQM**

**Subject Code: B22FSC12/ B19FSC12**

<b>CO1:</b>	To study about the importance of Food Safety Display Board (FSDB) in an industry.
<b>CO2:</b>	To study about the FSSAI regulations of a product in the nearby industry.
<b>CO3:</b>	To analyze the FSSAI license number for a product.
<b>CO4:</b>	To visit the food testing labs in the industry.
<b>CO5:</b>	To study the color code followed by FSDB in various business sectors.

**Subject Name: FOOD MICROBIOLOGY – I      Subject Code: B22FSA11/ B19FSA11**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	Identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.
<b>CO2:</b>	Assess the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods.
<b>CO3:</b>	Utilize laboratory techniques to identify microorganisms in food.



<b>CO4:</b>	Aware the principles involving food preservation via fermentation processes.
<b>CO5:</b>	describe beneficial roles of microorganisms

**Subject Name: FOOD MICROBIOLOGY PRACTICAL – I**

**Subject Code: B22FSAP11**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	aware the various Culture media and their applications and also understand various physical and chemical means of sterilization
<b>CO2:</b>	demonstrate theory and practical skills in microscopy and their handling techniques and staining procedures
<b>CO3:</b>	understand the basic microbial structure and function and study the comparative characteristics of prokaryotes and eukaryotes
<b>CO4:</b>	utilize the aseptic techniques and be able to perform routine culture handling tasks safely and effectively
<b>CO5:</b>	Evaluate the various Physical and Chemical growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.

**Subject Name: FOOD PACKAGING**

**Subject Code: B22FSS11/ B19FSS11**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	Explain the principles and current practices of processing techniques and the effects of processing parameters on product quality.
<b>CO2:</b>	Understand the properties and uses of various packaging materials.
<b>CO3:</b>	Describe the basic principles and practices of cleaning and sanitation in food processing operations.
<b>CO4:</b>	Evaluate the quality and safety of packaging.
<b>CO5:</b>	utilize the Aseptic and shrink packaging methods

**Subject Name: INDUSTRIAL VISIT & REPORT**

**Subject Code: B22FSIV11/ B19FSIV1**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	Visits industries which offer a great source to gain practical knowledge.
<b>CO2:</b>	Observe and learn as to how theatrical concepts are put to into action, thereby aiding their practical learning.
<b>CO3:</b>	Exposed to real working environment and shown how things are done in an organization.



**SEMESTER – II**

**Subject Name: Communicative English- Paper II**

**Subject Code: EV22E21/ EV15E2**

**In this course the students will**

<b>CO1:</b>	Understand basic mathematics, data interpretations.
<b>CO2:</b>	Learn about effective presentation of data.
<b>CO3:</b>	acquire knowledge about applications of Differentiation
<b>CO4:</b>	enrich the knowledge about methods of data collection
<b>CO5:</b>	demonstrate the Computations

**Subject Name: FOOD LAWS AND STANDARDS (FLS)**

**Subject Code: B22FSC21**

On successful completion of the course, the learners will be able to

<b>CO1:</b>	Explore the history and basic ideas underlying quality management and have a detailed knowledge of the role of food laws and standards in modern
<b>CO2:</b>	Demonstrate knowledge of food laws and standards systems, their implementation and the practical steps needed for implementation.
<b>CO3:</b>	Aware of how to control and maintain a quality management system.
<b>CO4:</b>	Select and apply appropriate regulations and standards and evaluate data generated.
<b>CO5:</b>	utilize the licensing and registration of food business

**Subject Name: FOOD MICROBIOLOGY – II**

**Subject Code: B22FSA21**

On successful completion of the course, the learners will be able to

<b>CO1:</b>	aware the role and significance of microbial inactivation, adaptation and environmental factors (i.e., aW, pH, temperature)
<b>CO2:</b>	Analyze the growth and response of microorganisms in various environments.
<b>CO3:</b>	Identify the conditions, under which the important pathogens and spoilage microorganisms are commonly inactivated, killed or made harmless in foods.
<b>CO4:</b>	demonstrate the Quality testing of Milk
<b>CO5:</b>	acquire knowledge of food preservation techniques



**Subject Name: FOOD MICROBIOLOGY PRACTICAL – II**

**Subject Code: B22FSAP21**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	understand the beneficial role of microorganisms in fermented foods and in food processing and the microbiology of different types of fermented food products – dairy, pickles, Legume and cereal based food products
<b>CO2:</b>	acquire knowledge of microbial techniques for isolation of pure cultures of bacteria, fungi and algae
<b>CO3:</b>	aware the spoilage mechanisms in foods and thus identify methods to control deterioration and spoilage
<b>CO4:</b>	Recognize and describe the characteristics of important pathogens and spoilage microorganisms in foods.
<b>CO5:</b>	identify ways to control microorganisms in foods and thus know the principles involving various methods of food preservation

**Subject Name: BASICS OF COMPUTERS FOR REPORTS MAINTENANCE**

**Subject Code: B22FSS21**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	enrich the knowledge to produce a quality manual.
<b>CO2:</b>	understand the regulation of certification and accreditation.
<b>CO3:</b>	acquire knowledge and insight of different quality management systems i.e. product quality management, safety and environmental management.
<b>CO4:</b>	demonstrate the auditing and auditing systems.
<b>CO5:</b>	critique the current state of the art in Quality Management

**Subject Name: INDUSTRIAL VISIT & REPORT**

**Subject Code: B22FSIV21/B19FSIV2**

**On successful completion of the course, the learners will be able to**

<b>CO1:</b>	visits industries which offer a great source to gain practical knowledge.
<b>CO2:</b>	observe and learn as to how theoretical concepts are put to into action, thereby aiding their practical learning.
<b>CO3:</b>	exposed to real working environment and shown how things are done in an organization



**Subject Name: Lab: Water analytical**

**Subject Code: EV22CP21**

**In this course the students will**

<b>CO1:</b>	Get adequate knowledge about water sampling methods for microbiological analysis.
<b>CO2:</b>	Study the isolation and identification of Microbes from soil and air using air sampler.



## **COURSE OUTCOME**

### **SEMESTER III**

#### **SOFT SKILL DEVELOPMENT - Part III**

Subject code: B19FSC31

- CO1 : Describe and analyze the principles of food processing design and production techniques.
- CO2 : Demonstrate the capacity to research, assimilate and apply advances in food processing technology.
- CO3 : Understand the principles of quality management systems.
- CO4 : Use and apply quality management systems to food processing.

#### **PRINCIPLES OF FOOD SAFETY AND QUALITY MANAGEMENT (PFSQM)**

Subject code: B19FSC32

- CO1 : Analyze and communicate issues relevant to food processing technology and food quality management systems.
- CO2 : Perform experiments assessing the effect of processing conditions on quality parameters.
- CO3 : Communicate the science and technology involved in food processing and quality assurance through IT implemented reports and presentations.
- CO4: Review and report upon the latest scientific literature pertaining to the areas of Food Processing and Quality Assurance.

#### **TRAINING (AT ANY FOOD INDUSTRY FOR (PFSQM)**

Subject Code: B19FSC33

- CO1: Narrate and compile the information and data that is used to construct and assess about the company safety and risk management programs.
- CO2: Introduction review on instrumentation, labors and processing. And predict the company future developments.

#### **FOOD CHEMISTRY-I**

Subject code: B19FSA31

- CO1 : Learn the food materials and its origin
- CO2 : Know the various nature of food materials and its importance
- CO3 : Analyze the various food materials based on its physical and chemical properties.
- CO4 : Learn the processes of preservation and storage without contamination and learn waste management system



### **FOOD CHEMISTRY – 1 PRACTICAL**

Subject Code: B19FSP31

- CO1: Learn moisture present in the food materials
- CO2: Learn ingredient level of protein, fat, vitamins and pH values of the various food products
- CO3: Estimate chemical components present in the food products
- CO4: Learn the presence of pigments and micro chemicals

### **FOOD PROCESSING IN PULSES AND OIL SEEDS**

Subject Code: B19FSE31

- CO1. Understand the technology for Wheat Milling & Wheat based Food Products.
- CO2. Acquire the knowledge of the technology for Rice Milling & Rice based other Food Products.
- CO3. Know the technology for Oil Extraction & Oil Seed Processing along with equipments.

### **FOOD PROCESSING IN CEREALS**

Subject Code: B19FSE32

- CO1. Understand the working of equipments related to Wheat & Rice Milling along with equipments related to Wheat based & Rice based Food Products.
- CO2. Understand technology for Milling of Corn & Corn based other Food Products along with equipments and know how to operate it.

### **FOOD PROCESSING IN FRUITS AND VEGETABLES**

Subject Code: B19FSE33

- CO 1: Understand Biological, Chemical & Physical Properties of Fruits & Vegetables.
- CO2: Understand Technologies involved in Processing, Preservation & Value- Addition of Fruits & Vegetables.
- CO3: Gain knowledge on Industrial Processes for Commercial Production of Jams, Jellies, Marmalade, Fruit Juices, Juice Powder, Dehydrated Fruits, and Canning of Fruits & Vegetables.
- CO4: Understand Basics of New Food Products Development & Ideas Generation for Product Development.

### **INDUSTRIAL VISITS**

Subject Code: B19FSIV3

- CO1: Industrial visits offer a great source to gain practical knowledge.
- CO2: Students can observe and learn as to how theatrical concepts are put to into action, thereby aiding their practical learning.
- CO3: Students are exposed to real working environment and shown how things are done in an organization.



**SEMESTER IV**

**MARKETING, BUSINESS ADMINISTRATION AND INTERNATIONAL TRADE**

Subject code: B19FSC41

- CO1 : Contribute to economic development by maintaining consumer confidence in the food system and providing a regulatory foundation for international trade in food
- CO2: Create and modify food safety and quality assurance system components such as policies, procedures, and instructions, based on scientific principles.
- CO3: Recommend means to mitigate and control risks through cleaning and sanitation, traceability, HACCP, Good Manufacturing and Good Agricultural Practices

**FOOD COMMODITIES AND FOOD PRESERVATION TECHNOLOGY (FCFP)**

Subject code: B19FSC42

- CO1: Identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.
- CO2: Identify the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods.
- CO3: Know the principles involving food preservation via fermentation processes.

**TRAINING (AT ANY FOOD INDUSTRY FOR FCFP)**

Subject Code: B19FSC43

- CO1 It helps to narrate and compile the information and data that is used to construct and assess about the company safety and risk management programs.
- CO2 Format: Introduction review on instrumentation, labors and processing. And predict the company future developments.

**FOOD CHEMISTRY-II**

Subject code: B19FSA41

- CO1: Know the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage.
- CO2: Enlist the principles that make a food product safe for consumption.
- CO3: Get knowledge about the transport processes and unit operations in food processing as demonstrated both conceptually and in practical laboratory settings
- CO4: Operate the mass and energy balances for a given food process and describe the unit operations required to produce a given food product.

**FOOD CHEMISTRY – II PRACTICAL**

Subject code: B19FSP41

- CO1: Explain the principles and current practices of processing techniques and the effects of processing parameters on product quality.
- CO2: Apply principles from general chemistry, biology, physics, statistics, and mathematics to food science problems
- CO3: Generate nutritional panels for food products using the vital program. Hygiene and sanitation, including good manufacturing practice





### **FOOD PROCESSING IN POULTRY AND ITS PRODUCTS**

Subject Code: B19FSE41

- CO1: Know the significance and necessity of organized animal products sector, humane slaughtering of poultry and value addition of poultry egg.
- CO2: Understand need and importance of livestock, egg and poultry industry
- CO3: Learn the structure, composition and nutritional quality of animal products.
- CO4: Learn the processing and preservation of poultry foods.
- CO5: Understand technology behind preparation of various poultry food products and by product utilization.
- CO6: Gain knowledge on status & scope of Poultry industry worldwide.

### **FOOD PROCESSING IN FISH AND ITS PRODUCTS**

Subject Code: B19FSE42

- CO 1. Know about the significance & necessity of organized animal product sector.
- CO 2. Acquire the ability of value- addition Fish.
- CO 3. Understand the processing, preservation & quality control of Fish in Food Industry.
- CO 4. Gain knowledge of manufacturing practices of fish based by products & their processing techniques.

### **PROJECT WORK**

Subject Code: B19FS4PR

- CO1: Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.
- CO2: Acquire the skills to communicate effectively and to present ideas clearly and coherently to specific audience in both the written and oral forms.
- CO3: Acquire collaborative skills through working in a team to achieve common goals.
- CO4: Learn on their own, reflect on their learning and take appropriate actions to improve it.
- CO5: Learn to work in groups, they will also learn independently through self-reflection and evaluation of their own work processes.



**COURSE OUTCOMES**

**UNDERGRADUATE**

**III - Year**

**V - Semester**

**Employability Skills**

**Subject Code: U1PS51**

**In this course, the students will**

<b>CO1:</b>	Enrich them with the employability skills like reasoning skills and aptitude skills.
<b>CO2:</b>	Get adequate exposure to various types of competitive examinations.
<b>CO3:</b>	Get enough training in OMR based answer sheet.



**COURSE OUTCOMES**

**UNDERGRADUATE**

**I - Semester**

**Value Education**

**Subject Code: U1VE11**

**In this course, the students will**

<b>CO1:</b>	Learn to choose their own personal moral and spiritual values.
<b>CO2:</b>	Learn to become responsible citizens.
<b>CO3:</b>	Get sensitized to value formation.