



## **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

Provide the vital information required to understand the concepts underlying various communication skills.
Cover the several aspects of communication in oral and written modes.
Facilitate acquisition of necessary language skills.
learn the basic grammar of English language
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

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

#### Subject Name: APPRENTICESHIP AT ANY FOOD INDUSTRY FOR BFFSQM Subject Code: B22FSC12/ B19FSC12

CO1:	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.
CO3:	To analyze the FSSAI license number for a product.
CO4:	To visit the food testing labs in the industry.
CO5:	To study the color code followed by FSDB in various business sectors.

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

<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.
CO3:	Utilize laboratory techniques to identify microorganisms in food.



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CO4:	Aware the principles involving food preservation via fermentation processes.
CO5:	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

CO1:	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
CO3:	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
CO5:	Evaluate the various Physical and Chemical growth requirements of bacteria and get equipped with various methods of bacterial growth measurement.

## Subject Name: FOOD PACKAGING

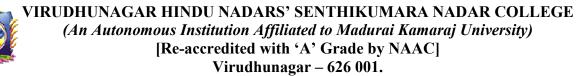
## Subject Code: B22FSS11/ B19FSS11

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

CO1:	Explain the principles and current practices of processing techniques and the effects
<b>CO2:</b>	of processing parameters on product quality. Understand the properties and uses of various packaging materials.
02.	
CO3:	Describe the basic principles and practices of cleaning and sanitation in food processing operations.
<b>CO4:</b>	Evaluate the quality and safety of packaging.
CO5:	utilize the Aseptic and shrink packaging methods

## Subject Name: INDUSTRIAL VISIT & REPORT Subject Code: B22FSIV11/ B19FSIV1

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





## SEMESTER – II

#### Subject Name: Communicative English- Paper II Subject Code:

#### Subject Code: EV22E21/ EV15E2

#### In this course the students will

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

CO1:	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.
CO3:	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.
CO5:	utilize the licensing and registration of food business

#### Subject Name: FOOD MICROBIOLOGY – II Subject Code: B22FSA21

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

CO1:	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
CO1.	
<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.
CO5:	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

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

## Subject Name: INDUSTRIAL VISIT & REPORT

#### Subject Code: B22FSIV21/B19FSIV2

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



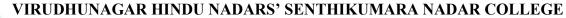


## Subject Name: Lab: Water analytical

## 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.





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## **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.



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### 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

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## 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**

# <u>III - Year</u>

## V - Semester

## **Employability Skills**

## Subject Code: U1PS51

#### In this course, the students will

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



## **COURSE OUTCOMES**

## **UNDERGRADUATE**

## I - Semester

## **Value Education**

## Subject Code: U1VE11

## In this course, the students will

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