MARIS STELLA COLLEGE (AUTONOMOUS), VIJAYAWADA

A College with Potential for Excellence

NAAC Accredited & ISO 21001: 2018 Certified

PROGRAMME REGISTER: 2023-26

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

INDEX

PROGRAMME OUTCOMES (POs)

2023-26

Students of all Undergraduate Programmes at the time of graduation will be able to possess

PO1: Essential Knowledge:

Have comprehensive discipline knowledge and understanding, the ability to engage with different schools of thought and to apply their knowledge in practice including in multidisciplinary or multi-professional contexts.

PO2: Creative, Critical Thinking and Problem-Solving Abilities:

Be effective problem-solvers, able to apply critical and evidence-based thinking to conceive innovative responses to future challenges.

PO3: Teamwork and Communication Skills:

Convey ideas and information effectively to a range of audiences for a variety of purposes and contribute in a positive and collaborative manner to achieving common goals.

PO4: Motivated, Self-directed, and Life-long Learning:

Exhibit life-long skills; broad-based multiple career oriented general skills; self and field-based learning skills; digital skills; preparedness for living, learning and working in any environment.

PO5: Professionalism and Leadership Readiness:

Engage in professional behaviour and have the potential to be entrepreneurial and take leadership roles in their chosen occupations and communities.

PO6: Intercultural and Ethical Competency:

Be responsible and effective global citizens whose personal values and practices are consistent with their roles as responsible members of society.

PO7: Self-awareness and Emotional Intelligence:

Be self-aware and reflective, flexible and resilient and act with integrity and take responsibility for their actions as empowered women.

PO8: Social Responsibility and Effective Citizenship:

Exhibit social responsibility and compassionate commitment; Be sensitive to and demonstrate institution in matters of environment, gender and other social issues to promote an equitable society and sustainable development.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

2023-26

At the end of the programme students will be able to possess/exhibit:

PSO1: Quantitative Analysis:

Interpret principles, classifications, concepts, theories and mechanisms learnt.

PSO2: Practical and Analytical Skills:

Analyse hypotheses, procedures, properties, experimental facts and draw conclusions.

PSO3: Logical and Critical Thinking:

Apply knowledge and techniques in sample analysis, problem-solving, results, and production.

PSO4: Teamwork and Communication:

Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.

Course Outcomes (COs)

2023-26

S. No.	Sem	Course Code	Course Title	Course Outcomes (COs)
1.	I	23FTCCFN14	Introduction to Food Science & Nutrition	**CO1:** Design food products that meet the various food regulations and laws
				CO2: Comprehend the idea of food safety of the product and preserving it in goodcondition.
				CO3: Plan adequate meals for different stages of life cycle to maintain health.
				CO4: Principles of diet therapy and different therapeutic diets.
				CO5: Research and standards organization of Food Science and Food Technology.
2.	I	23FTCCHW14	Health, Hygiene & Wellness	**CO1:** Possess an understanding of the concept of good health and means to achieveit.
				CO2: Display the ability to identify the morphology, growth and reproductive features of various microorganisms.
				CO3: Acquire the skills in various sterilization techniques.
				CO4: To gain knowledge about prevention and control measures of infections.
				CO5: To learn about managing health and wellness.
3.	II	23FTCCFB23	Food Biochemistry	**CO1:** To study about classification structure and functions of carbohydrates.
				CO2: To study about classification structure and function of proteins.
				CO3: To study about classification, structure and functions of lipids.
				CO4: To study about classification and specificity of enzymes

				CO5: To know about the fundamental properties of water classification of vitamins and minerals.
4.	II	23FTP1FB21	Food Biochemistry-Practical	**CO1:** Estimate Titrable acidity in food samples to understand their preservation potential,
				CO2: Develop, build, and assess electrical circuits using diverse components, andmeasuring instruments.
				CO3: Demonstrate experimental skills to accurately record, analyze experimental data, and determine the respective physical parameters.
5.	II	23FTCCHN23	Human Nutrition	**CO1:** To Understand about Nutrition, and importance of food for Health
				CO2: To Analyze about different vitamins and minerals and their importance.
				CO3: To know about Balanced diet and Recommended Daily Allowances
				CO4: To study about diet surveys and Vitamin Deficiency Control Programmes.
				CO5: To gain knowledge about International agencies like WHO, FAO, UNICEF andCARE
6.	II	23FTP2HN21	Human Nutrition-Practical	**CO1:** Demonstrate the ability to identify nutrient-rich food sources using food composition tables and apply this knowledge to nutritional analysis and dietary planning.
				CO2: Analyze and interpret individual dietary data using the 24-hour dietary recall method and nutritional status indicators, such as BMI, to assess and improve dietary intake.
				CO3: Plan and develop balanced, customized meal plans catering to various age groups, activity levels, and income groups, including specialized diets for weaning and elderly individuals.
7.	III	23FTCCFM33	Food Microbiology	**CO1:** To understand about scope of microbiology & classification of microorganisms & sterilization methods.

				CO2: To study about the prokaryotic cells like bacteria, yeast, Molds & viruses which are associated with food
				CO3: To learn about physical & chemical factors affecting growth of microorganisms.
				CO4: To understand about metabolism & growth of microorganisms.
				CO5: To study bacterial genetics & mutation.
8.	III	23FTP3FM31	Food Microbiology-Practical	**CO1:** Apply Gram staining techniques to differentiate microbes based on their cell wall characteristics.
				CO2: Perform microbial motility tests using the hanging drop method to assess microbial movement.
				CO3: Recognize fungi present in food items such as bread, pickles, jam, and groundnuts.
9.	III	23FTCCFO33	Chemistry of Fats & Oils	**CO1:** To study about the composition & classification of fats
				CO2: To study about the nutritional aspects & characteristics of fats.
				CO3: To know about the processing aspects of fats.
				CO4: To gain knowledge about the various value added products from facts oftechnologies to improve.
				CO5: To understand the utilization of byproducts from oil & fat industry.
10.	III	23FTP4FO31	Chemistry of Fats & Oils - Practical	**CO1:** List out, identify and handle laboratory instruments related to chemistry of Fats and Oils.
				CO2: Identify and quantify free fatty acids (FFA) in fats and oils using titration methods
				CO3: Determine the melting point of fats to assess their thermal behaviour and applications.
11.	III	23FTCCDT33	Diary Technology	**CO1:** To study about the different methods of processing.
				CO2: To study about the knowledge.

				CO3: The understanding about freezing food industry.
				CO4: To understand about microorganisms.
				CO5: To understand about sterilization method.
12.	III	23FTP5DT31	Diary Technology - Practical	**CO1:** List out, identify and handle laboratory instruments related to DairyTechnology.
				CO2: Gain practical skills in determining fat content and total solids in milk samples.
				CO3: Operate cream separators to separate cream from milk and quantify cream yield.
13.	III	23FTCCCT33	Confectionery Technology	**CO1:** To gain knowledge about the status of confectionery industries & information about sugar.
				CO2: To learn about the various ingredients used in confectionery product.
				CO3: To learn the manufacturing methods of chocolates.
				CO4: To study the technology & ingredients involved in production of jams & jellies.
				CO5: To understand the causes of cereal bars.
14.	III	23FTP6CT31	Confectionery Technology- Practical	**CO1:** List out, identify and handle laboratory instruments related to confectionaryTechnology.
				CO2: Interpret analytical results to assess the quality and characteristics of differentconfectionery items
				CO3: Acquire hands-on experience in recipe formulation, cooking processes, andproduct finishing
15.	IV	23FTCCFA43	Food Additives & Toxicology	**CO1:** To learn about the effective processing on vitamins.
				CO2: To study about the flavoring agents & nutritional, preservatives.
				CO3: To know about the food colors & sources.

				CO4: To learn about the fruits & vegetables composition.
				CO5: To understand milk and egg composition and processing effects.
16.	IV	23FTP7FA41	Food Additives & Toxicology - Practical	**CO1:** List out, identify and handle laboratory instruments related to Food additives and toxicology.
				CO2: Understand the quality control methods applicable to food industry setting
				CO3: Capability to analyse experimental results, identify patterns, and draw conclusions.
17.	IV	23FTCCFP43	Food Packaging	**CO1:** To understand about packing methods of food & preservation.
				CO2: To study about food packing materials.
				CO3: To understand flexible packing materials.
				CO4: To know the evaluation of packing material & packing performance.
				CO5: To understand about recent trends in packing
18.	IV	23FTP8FP41	Food Packaging – Practical	**CO1:** Identify and classify different types of packaging materials used in the foodindustry.
				CO2: Demonstrate proficiency in vacuum packaging, gas flushing, and shrinkwrapping of food products.
				CO3: Develop innovative packaging solutions that address food safety,sustainability, and consumer preferences.
19.	IV	23FTCCCP43	Technology of Cereals Pulses & Oil Seeds	**CO1:** Student will have basic knowledge of Cereals Pulses and oil seeds
				CO2: Student will learn how to Mill cereals pulses and oil seeds at home scale, and large scale.
				CO3: Student will learn about changes occurring during processing of Cereals Pulses and oil seeds.

				CO4: Student will learn about various processing Technologies.
				CO5: Student will learn how to prepare value added products from Cereals Pulses and oil waste.
20.	IV	23FTP9CP41	Technology of Cereals Pulses & Oil Seeds - Practical	**CO1:** Identify the chemical constituents present in spices and understand their roles in flavor, aroma, and health benefits
				CO2: Evaluate factors influencing extraction efficiency, yield, and quality of spiceextracts
				CO3: Explore emerging technologies and innovations in spice processing,extraction, and product formulation
21.	V	23FTCCQC53	Food Safety & Quality Control	**CO1:** To gain the knowledge about the food safety of various hazards involved in it.
				CO2: To understand the quality assurance & various voluntary & obligatory food standards
				CO3: To learn the sampling methods & testing of raw materials & finished food products.
				CO4: To learn about sensory parameters & its associated subjective & objective tests
				CO5: To study about the sanitation, hygiene & quality assurance in food industries.
22.	V	23FTP10QC51	Food Safety & Quality Control - Practical	**CO1:** chemical evaluation of dairy products to analyze their quality, flavor, and safety.
				CO2: Perform microbiological quality control using SWAB and RINSE methods.
				CO3: Conduct sensory evaluation of canned foods.
23.	V	23FTCCBT53	Baking Science & Technology	**CO1:** To gain knowledge about the bread, formulation & ingredients.
				CO2: To learn the bread making & its baking process.

				CO3: To understand the methods & ingredients used in biscuit production.
				CO4: To learn the principles & procession preparation of cakes.
				CO5: To learn the preparation of frozen dough products & application of starches in bakery industry.
24.	V	23FTP11BT51	Baking Science & Technology – Practical	**CO1:** Analyze the structural and functional properties of wheat gluten protein and its role in baking.
				CO2: Evaluate the importance of gluten proteins
				CO3: Understand the role of major and minor bakery ingredients
25.	V	23FTEC11MP53	Technology of Meat, Fish Poultry & Their Products	**CO1:** To gain knowledge about various sources, feed, & structure of meat.
				CO2: To study about the various steps involved in slaughtering of meat animals.
				CO3: To know about the preservative & processing methods of meat.
				CO4: To understand the steps involved in the processing of poultry meat.
				CO5: To gain knowledge about the types of fish, its composition & processing & preservation methods
26.	V	23FTP1211MP51	Technology of Meat, Fish Poultry & Their Products - Practical)	**CO1:** Understand the pre-slaughter operations of meat animals and poultry.
				CO2: Perform slaughtering and dressing of meat animals.
				CO3: Study the anatomy of poultry to understand the structure.
27.	V	23FTEC12PE53	Food Process Engineering	**CO1:** Study about units & dimensions.
				CO2: Solve problems involved in dilution, concentration & dehydration.

				CO3: Study about fluid dynamics
				CO 4: Understand about heat transfer
				CO5: To understand about filtration sedimentation & reverse osmosis.
28.	V	23FTP1312PE51	Food Process Engineering - Practical	**CO1:** Analyze the cooking properties of parboiled and raw rice.
				CO2: Estimate the microbial load in food materials to assess their safety and quality.
				CO3: Evaluate the properties of milk, including composition and physicochemical characteristics.
29.	V	23FTEC21FV53	Technology of Fruits, Vegetable & Plantation Crops	**CO1:** Student will learn overview of fruit and vegetable production and its handling
				CO2: Student will learn how the preserve the harvested fruits and vegetables
				CO3: Student will learn how to prepare various products from fruits as per FASSAI standards
				CO4: Student will learn how to prepare various products Vegetables fruits as per FSSAI Standards
				CO5: Student will learn how to prepare value added products from fruit and vegetable waste
30.	V	23FTP1421FV51	Technology of Fruits, Vegetable & Plantation Crops - Practical (OR)	**CO1:** Perform primary processing of selected fruits and vegetables.
				CO2: Conduct qualitative analysis of pectin to assess its suitability for jam, jelly.
				CO3: Determine the salt concentration in processed and preserved products
31.	V	23FTEC22FI53	Fermentation Technology	**CO1:** Learn the Basics of Fermentor and types of fermentation.
				CO2: Learn about traditional fermented food.

				CO3: Learn about various types about beverages.
				CO4: Learn aboutfruit based Juices and beverages, tea, coffee, cocoa processing
				CO5: Learn about fermentation of various alcolohic To know types of beverages & quality control in beverage industry.
32.	V	23FTP1522FI51	Fermentation Technology - Practical	**CO1:** Perform the screening and isolation of industrially important microorganisms
				CO2: Prepare yogurt using starter cultures and optimize the fermentation process for quality.
				CO3: Prepare buttermilk using traditional and industrial methods.

Mapping of COs with PSOs & POs

S.No.	Sem	Course Code	Course Title	COs	PSOs	POs
1.	I	23FTCCFN14	Introduction to Food Science & Nutrition	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
2.	I	23FTCCHW14	Health, Hygiene & Wellness	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3.	II	23FTCCFB23	Food Biochemistry	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6

				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5,
4.	II	23FTP1FB21	Food Biochemistry-Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
5.	II	23FTCCHN23	Human Nutrition	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6 PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6 PO7
6.	II	23FTP2HN21	Human Nutrition-Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6 PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6, PO7
7.	III	23FTCCFM33	Food Microbiology	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
8.	III	23FTP3FM31	Food Microbiology-Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
9.	III	23FTCCFO33	Chemistry of Fats & Oils	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10.	III	23FTP4FO31	Chemistry of Fats & Oils - Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11.	III	23FTCCDT33	Diary Technology	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12.	III	23FTP5DT31	Diary Technology - Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
13.	III	23FTCCCT33	Confectionery Technology	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
14.	III	23FTP6CT31	Confectionery Technology- Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
15.	IV	23FTCCFA43	Food Additives & Toxicology	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7

				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
16.	IV	23FTP7FA41	Food Additives & Toxicology - Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
17.	IV	23FTCCFP43	Food Packaging	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
18.	IV	23FTP8FP41	Food Packaging – Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO7
19.	IV	23FTCCCP43	Technology of Cereals Pulses & Oil Seeds	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
20.	IV	23FTP9CP41	Technology of Cereals Pulses & Oil Seeds - Practical	CO1	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
21.	V	23FTCCQC53	Food Safety & Quality Control	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7

				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
22.	V	23FTP10QC51	Food Safety & Quality Control - Practical	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
23.	V	23FTCCBT53	Baking Science & Technology	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
24.	V	23FTP11BT51	Baking Science & Technology – Practical	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
25.	V	23FTEC11MP53	Technology of Meat, Fish Poultry & Their Products	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
26.	V	23FTP1211MP51	Technology of Meat, Fish Poultry & Their Products - Practical)	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
27.	V	23FTEC12PE53		**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7

			Food Process Engineering	**CO2**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
28.	V	23FTP1312PE51	Food Process Engineering - Practical	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
29.	V	23FTEC21FV53	Technology of Fruits, Vegetable & Plantation Crops	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4.
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO6
30.	V	23FTP1421FV51	Technology of Fruits, Vegetable & Plantation Crops - Practical (OR)	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5,
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
31.	V	23FTEC22FI53	Fermentation Technology	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4.
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO4	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO5	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
32.	V	23FTP1522FI51	Fermentation Technology - Practical	**CO1**	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO3	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

Mapping of Courses with PSOs

Course Title	PSO1 Quantitative Analysis	PSO2 Practical and Analytical Skills	PSO3 Logical, Critical Thinking	PSO4 Teamwork and Communication
Introduction to Food Science & Nutrition	✓	✓	✓	✓
Health, Hygiene & Wellness	✓	✓	✓	✓
Food Biochemistry	✓	✓	✓	✓
Food Biochemistry - Practical	✓	✓	✓	✓
Human Nutrition	✓	✓	✓	✓
Human Nutrition - Practical	✓	✓	✓	✓
Food Microbiology	✓	✓	✓	✓
Food Microbiology - Practical	✓	✓	✓	✓
Chemistry of Fats & Oils	✓	✓	✓	✓
Chemistry of Fats & Oils - Practical	✓	✓	✓	✓
Diary Technology	✓	✓	✓	✓
Diary Technology - Practical	✓	✓	✓	✓
Confectionery Technology	✓	✓	✓	✓
Confectionery Technology - Practical	✓	✓	✓	✓

Food Additives & Toxicology	✓	✓	✓	✓
Food Additives & Toxicology - Practical	✓	✓	✓	✓
Food Packaging	✓	✓	✓	✓
Food Packaging – Practical	✓	✓	✓	✓
Technology of Cereals Pulses & Oil Seeds	✓	✓	✓	✓
Technology of Cereals Pulses & Oil Seeds - Practical	✓	✓	✓	✓
Food Safety & Quality Control	✓	✓	✓	✓
Food Safety & Quality Control - Practical	✓	✓	✓	✓
Baking Science & Technology	✓	✓	✓	✓
Baking Science & Technology – Practical	✓	✓	✓	✓
Technology of Meat, Fish Poultry & Their Products	✓	✓	✓	✓
Technology of Meat, Fish Poultry & Their Products - Practical	✓	✓	✓	✓
Food Process Engineering	✓	✓	✓	✓
Food Process Engineering - Practical	✓	✓	✓	✓
Technology of Fruits, Vegetable & Plantation Crops	✓	✓	✓	✓

Technology of Fruits, Vegetable & Plantation Crops - Practical	✓	✓	✓	✓
Fermentation Technology	✓	✓	✓	✓
Fermentation Technology - Practical	✓	✓	✓	✓

Mapping of Courses with POs

Course	PO1 Essential Knowledge	PO2 Creative, Critical thinking and Problemsolving abilities	PO3 Teamwork and Communication skills	PO4 Motivated, Self-directed and Life-long Learning	PO5 Professionalism and Leadership Readiness	PO6 Intercultural and Ethical Competency	PO7 Self-awareness and Emotional Intelligence	PO8 Social Responsibility and Effective Citizenship
FS	✓	✓	✓	✓				
HW	✓	✓	✓	✓				
FB	✓	✓	✓	✓	✓	✓	✓	
FB-P1	✓	✓	✓	✓	✓	✓	✓	
HN	✓	✓	✓	✓	✓	✓	✓	
HN-P2	✓	✓	✓	✓	✓	✓	✓	
FM	✓	✓	✓	✓	✓		✓	
FM-P3	✓	✓	✓	✓	✓		✓	
CFO	✓	✓	✓	✓	✓		✓	
CFO-P4	✓	✓	✓	✓	✓		✓	

DT	✓	✓	✓	✓	✓		✓	
DT-P5	✓	✓	✓	✓	✓		✓	
CT	✓	✓	✓	✓	✓		✓	
CT P6	✓	✓	✓	✓	✓		✓	
FA	✓	✓	✓	✓	✓		✓	
FA P7	✓	✓	✓	✓	✓		✓	
FP	✓	✓	✓	✓	✓		✓	
FP-P8	✓	✓	✓	✓	✓		✓	
CP	✓	✓	✓	✓	✓		✓	
CP-P9	✓	✓	✓	✓	✓		✓	
FS	✓	✓	✓	✓	✓		✓	
FS-P10	✓	✓	✓	✓	✓		✓	
BS	✓	✓	✓	✓	✓		✓	
BS-P11	✓	✓	✓	✓	✓		✓	
MP	✓	✓	✓	✓	✓		✓	
FE	✓	✓	✓	✓	✓		✓	
MP-P12	✓	✓	✓	✓	✓		✓	

FE-P13	✓	✓	✓	✓	✓		✓	
TFV	✓	✓	✓	✓	✓	✓	✓	
TFV-P14	✓	✓	✓	✓	✓		✓	
FT	✓	✓	✓	✓	✓	✓	✓	
FT-P15	✓	✓	✓	✓	✓		✓	