

MARIS STELLA COLLEGE (AUTONOMOUS), VIJAYAWADA
A College with Potential for Excellence
NAAC Accredited & ISO 9001: 2015 Certified



PROGRAMME REGISTER

2020-2023

DEPARTMENT OF FOOD SCIENCE & TECHNOLOGY

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UG PROGRAMMES OFFERED

S.No.	Programme	Combination offered	Programme Code
1	B.Sc.	Food science & technology, Microbiology, Chemistry	308
2		Food science & technology, Microbiology, Bio- chemistry	311

PROGRAMME OUTCOMES (POs) 2020-2023

At the end of the programme students will have

PO1: Essential Knowledge:

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

PO2: Creative and 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:

Be able to 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: Motivation and preparation in life-long learning:

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

PO5: Professionalism and leadership readiness:

Be able to 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:

Be sensitive to and demonstrate agency in matters of environment, gender and other social issues to promote an equitable society.

PROGRAMME SPECIFIC OUTCOMES (PSOs): 2020-2023

At the end of the programme students will be able to:

PSO1: Interpret principles, classifications, concepts, theories and mechanisms.

PSO2: Analyse hypothesis, procedures, properties, experimental facts and draw conclusions.

PSO3: Apply techniques in solving problems, results, sample analysis and production.

PSO4: Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.

Course Outcomes (COs): 2020-2023

S.No	Semester	Course Code	Course Title	Cos
1	I	20FTCCIF13	Introduction to food science	CO1: Summarize the history and basic concepts of food science and technology.
				CO2: Compare different cooking methods.
				CO3: Outline the structure, sources and composition of different food components.
				CO4: Classify different food components.
2	I	20FTP1CT1 2	Cooking Techniques-Practical	CO1: Evaluate the germination of pulses , gelatinization of legumes and enzymatic reactions for fruits and vegetables, animal foods
				CO2: Analyse Bulls eye and poached egg, green ring formation and nutritional status parameters.
				CO3: Differentiate between conventional and microwave cooking methods.
3	II	20FTCCBN23	Basic Nutrition	CO1: Demonstrate the concepts of basics of nutrition.
				CO2: Classify various types of nutrients.
				CO3: Analyse the composition, Classification and food sources of proteins & lipids
				CO4: Explain the concepts of meal planning and nutritional labelling
4	II	20FTP2NF22	Nutritional Facts of Foods-Practical	CO1: Identify the seasonal availability of nutrient rich foods, sources, prices, low cost nutrient rich foods.
				CO2: Evaluate the nutritive value of different foods and saponification value.
				CO3: Design the meal plans for different age and income groups.
5	III	20FTCCFP33	Food Technology & Preservation	CO1: Explain the principles and classification of food preservation.
				CO2: Outline various food preservation technologies.
				CO3: Classify food and microorganism and explain

				factors affecting shelf life of food.
6	III	20FTP3FP32	Food Technology & Preservation - Practical	CO 1: Practice food preservative techniques.
				CO 2: Prepare sauces, ketchup, squashes & syrups.
				CO 3: Perform pasteurization of fluids and blanching of plant foods.
7	IV	20FTCCFP43	Food Processing Techniques	CO1: Explain the processing of major cereals after harvesting
				CO2: Outline the preparations of fruit and vegetable products
				CO3: Summarize the technology of milk and milk products.
				CO4: Summarize the technology of meat and meat products
				CO5: Explain the properties, processing and products of spices and oil seeds.
8	IV	20FTP4FP42	Food Processing Techniques-Practical	CO1: To detailed learning on the processing of fruits in making different products.
				CO2: Identification of cereals and cereal products
				CO3: Learn about processing of milk and milk products.
9	IV	20FTCCNF43	Nutraceuticals & Functional foods	CO1: Categorise and explain various aspects of health food.
				CO2: Outline various aspects of pharma and designer foods and their therapeutic applications.
				CO3: Explain the details of dietary supplements and low-fat foods.
				CO4: Summarize the basics of food biotechnology.
10	IV	20FTP5NF42	Nutraceuticals & Functional foods - Practical	CO1: Practice the testing of newly developed product.
				CO2: Prepare score cards, ranking & rating cards.
				CO3: Perform shelf life studies on developed products.

11	V/VI (SET 1)	20FTSEC11DT3	Dietetics	CO1: Discuss the role of dietician
				CO2: Correlate dietary modifications for obesity and leanness
				CO3: Summarize the importance of diet plan for gastrointestinal disorders
				CO4: Analyse dietary treatment for kidney and liver diseases.
				CO5: Illustrate the need and role of diet in Diabetes, CVD & Febrile conditions.
12	V/VI (SET 1)	20FTP611DT2	Dietetics-Practical	CO1: Gain knowledge on the principles of diet therapy and different therapeutic diets.
				CO2: Develop aptitude for taking up Dietetics as a profession.
13	V/VI (SET 1)	20FTSEC12FQ3	Food safety and Quality Control	CO1: Summarize the basic concepts of food safety and standards.
				CO2: Illustrate the role of international standards for quality control and management.
				CO3: Impart knowledge on different techniques used to detect food adulteration.
				CO4: Discuss the role of quality management in food industries.
14	V/VI (SET 1)	20FTP712FQ2	Food safety and quality control - Practical	CO1: Analyse the common adulterants in different foods
				CO2: Developing product following the food safety & quality parameter
15	V/VI (SET 2)	20FTSEC21NH3	Nutrition in Health	CO1: Impart knowledge on planning a diet to pregnant & lactating women.
				CO2: Understand the concept of BMI calculation
				CO3: Demonstrate the dietary requirements for infants & school going children
				CO4: Understand the Nutritional status assessment.
				CO5: Explain the importance of nutrition during adolescent & adulthood
16	V/VI (SET 2)	20FTP621NH2	Nutrition in Health - Practical	CO1: Impart knowledge on planning and preparation of nutritious snacks
				CO2: Discuss the role of diet during pregnancy & lactation

				CO3: Understand the record analysis of 24-hour dietary recall
17	V/VI (SET 2)	20FTSEC22BT3	Bakery Technology	CO1: Discuss the basic concepts of the bakery industry.
				CO2: Summarize the process of bread making.
				CO3: Correlate the processes, quality characters for cakes, biscuits and cookies.
				CO4: Develop different bakery food products.
18	V/VI (SET 2)	20FTP722BT2	Bakery Technology - Practical	CO1: Analyse the quality of bakery products
				CO2: Demonstration of bakery food products
19	V/VI (SET 3)	20FTSEC31FM3	Food service Management	CO1: Demonstrate the importance of food services and management
				CO2: Correlate the factor responsible for food cost and maintenance of equipment.
				CO3: Discuss the importance of environmental hygiene and sanitation in food service centres.
20	V/VI (SET 3)	20FTP631FM2	Food service Management - Practical	CO1: Impart knowledge on planning a physical layout of food service institutions
				CO2: Understand the role of kitchen layout in hospital institutions
				CO3: Demonstration on the importance of Mid-day meal programmes in schools.
21	V/VI (SET 3)	20FTSEC32PT3	Food Packaging Technology	CO1: Summarize food packing process and types of packaging material.
				CO2: Explain various tests for packaging materials.
				CO3: Describe the packaging requirements for raw and processed foods.
				CO4: Demonstrate different types of packaging machinery
22	V/VI (SET 3)	20FTP732PT2	Food Packaging Technology - Practical	CO5: Extract importance and functions of package labelling.
				CO1: Analyse the bursting strength of packaging materials to prevent food contamination.

				<p>CO2: Demonstrate the importance of packaging by using various packaging materials.</p> <p>CO3: Describe the packaging requirements for raw and processed foods</p>
23	III	20SDCFV2	Fruits & Vegetables Preservation	<p>CO 1: Identify various types of fruits and vegetables and explain their nutritive values.</p>
				<p>CO 2: Understand the fragile nature of fruits and vegetables and causes for their damage.</p>
				<p>CO 3: Evaluate various methods of preservation for fresh fruits and vegetables.</p>
24	III	20SDCCN2	Community Nutrition	<p>CO 1: Explain dietary guidelines, supplementary foods and nutritional requirements.</p>
				<p>CO 2: Demonstrate low-cost nutritious recipes.</p>
				<p>CO 3: Outline direct and indirect methods of nutritional status assessment</p>

Mapping of COs with PSOs

S.No	Semester	Course Code	Course Title	Cos	PSOs	POs
1	I	20FTCCIF13	Introduction to Food Science	CO1	PSO1	PO1
				CO2	PSO1 PSO3 PSO4	PO1 PO2 PO5
				CO3	PSO1 PSO3	PO1 PO6
				CO4	PSO1 PSO2 PSO4	PO1 PO2 PO4
2	I	20FTP1C T12	Cooking Techniques - Practical	CO1	PSO1 PSO3 PSO4	PO1 PO2 PO5
				CO2	PSO1 PSO3	PO1 PO6
				CO3	PSO1 PSO2 PSO4	PO1 PO2 PO4
3	II	20FTCCBN23	Basic Nutrition	CO1	PSO1 PSO2 PSO4	PO1 PO3
				CO2	PSO1	PO1 PO2 PO3
				CO3	PSO1 PSO3	PO1 PO5 PO6
				CO4	PSO1 PSO4	PO1 PO3 PO6
4	II	20FTP2NF22	Nutritional Facts of Foods- Practical	CO1	PSO1 PSO2 PSO4	PO1 PO3
				CO2	PSO1	PO1 PO2

						PO3
				C03	PSO1 PSO3	PO1 PO5 PO6
5	III	20FTCCFP33	Food Technology & Preservation	C01	PSO1	PO1
				C02	PSO1 PSO2 PSO3	PO1 PO2 PO3 PO5
				C03	PSO1 PSO2 PSO3	PO1 PO2 PO3
6	III	20FTP3FP32	Food Technology & Preservation - Practical	C01	PSO1 PSO2 PSO3	PO1 PO2 PO3 PO5
				C02	PSO1 PSO2 PSO3 PSO4	PO1 PO2 PO3 PO4 PO5
				C03	PSO1 PSO2 PSO3 PSO4	PO1 PO2 PO3 PO4
7	IV	20FTCCFP43	Food Processing Techniques	C01	PSO1 PSO2 PSO3	PO1 PO2 PO3
				C02	PSO1 PSO3	PO1 PO3 PO4
				C03	PSO1 PSO3	PO1 PO3
				C04	PSO1 PSO3	PO1 PO3
				C05	PSO1 PSO2 PSO3	PO1 PO2 PO3 PO4
8	IV	20FTP4FP42	Food Processing Techniques - Practical	C01	PSO1 PSO2 PSO3	PO1 PO2 PO3

					PSO4	PO4
				CO2	PSO1	PO1 PO3
				CO3	PSO3	PO1 PO3
9	IV	20FTCCNF43	Nutraceuticals & Functional foods	CO1	PSO1 PSO2	PO1 PO2 PO3
				CO2	PSO1 PSO2 PSO3	PO1 PO2 PO3
				CO3	PSO1 PSO3	PO1 PO2 PO3 PO4
				CO4	PSO1	PO1 PO3
10	IV	20FTP5NF42	Nutraceuticals & Functional foods - Practical	CO1	PSO1 PSO2 PSO3 PSO4	PO1 PO2 PO3 PO4
				CO2	PSO1 PSO2	PO1 PO2 PO3 PO5
				CO3	PSO1 PSO2 PSO4	PO1 PO3 PO4
11	V/VI (SET 1)	20FTSEC11DT3	Dietetics	CO1	PSO1	PO1 PO3
				CO2	PSO1	PO1 PO2 PO3
				CO3	PSO1 PSO2 PSO3	PO1 PO2 PO3 PO4
				CO4	PSO1 PSO2 PSO3	PO1 PO2 PO3 PO4

				C05	PSO1 PSO4	PO1 PO2 PO3 PO4
12	V/VI (SET1)	20FTP611DT2	Dietetics - Practical	C01	PSO1	PO1
				C02	PSO3 PSO4	PO1 PO2 PO6
13	V/VI (SET 1)	20FTSEC12FQ3	Food Safety & Quality Control	C01	PSO1	PO1
				C02	PSO1	PO1 PO3 PO4
				C03	PSO1 PSO3	PO1 PO2 PO3 PO4
				C04	PSO1 PSO3	PO1 PO3 PO4
14	V/VI (SET 1)	20FTP712FQ2	Food Safety & Quality Control - Practical	C01	PSO1 PSO2 PSO3	PO1 PO3 PO4
				C02	PSO3 PSO4	PO1 PO3 PO4
15	V/VI (SET 2)	20FTSEC21NH3	Nutrition in Health	C01	PSO1 PSO2	PO1 PO2
				C02	PSO1	PO1
				C03	PSO1 PSO3 PSO4	PO1 PO2 PO3 PO4
				C04	PSO1 PSO3 PSO4	PO1
				C05	PSO1 PSO3	PO1 PO3 PO4
16	V/VI (SET 2)	20FTP621NH2	Nutrition in Health -	C01	PSO3 PSO4	PO1 PO2

			Practical			PO3 PO4
				C02	PSO1 PSO4	PO1 PO3
				C03	PSO2 PSO4	PO2 PO3
17	V/VI (SET 2)	20FTSEC22BT3	Bakery Technology	C01	PSO1	PO1 PO3
				C02	PSO1 PSO2	PO1 PO2 PO4
				C03	PSO1 PSO2	PO1 PO2 PO3
				C04	PSO2 PSO3 PSO4	PO1 PO2 PO3 PO4
18	V/VI (SET 2)	20FTP722BT2	Bakery Technology - Practical	C01	PSO2 PSO3	PO1 PO2 PO3 PO4
				C02	PSO1 PSO3 PSO4	PO1 PO2 PO3 PO4
19	V/VI (SET 3)	20FTSEC31FM3	Food Service Management	C01	PSO3 PSO4	PO1 PO2 PO3 PO4
				C02	PSO3 PSO4	PO1 PO2
				C03	PSO1 PSO3 PSO4	PO1 PO2 PO3 PO4
				C04	PSO1	PO1 PO3
20	V/VI (SET 3)	20FTP631FM2	Food Service Management - Practical	C01	PSO1	PO1 PO3
				C02	PSO1	PO1

					PSO4	PO3 PO4
				C03	PSO3 PSO4	PO1 PO2 PO3 PO4
21	V/VI (SET 3)	20FTSEC32PT3	Food Packaging Technology	C01	PSO1	PO1 PO3
				C02	PSO1 PSO2 PSO4	PO1 PO2 PO3
				C03	PSO3 PSO4	PO1 PO2 PO3
				C04	PSO3 PSO4	PO1 PO2 PO3 PO4
				C05	PSO2 PSO4	PO1 PO2 PO3 PO4
22	V/ VI (SET 3)	20FTP732PT2	Food Packaging Technology - Practical	C01	PSO3 PSO4	PO1 PO2 PO3 PO4
				C02	PSO3 PSO4	PO1 PO2 PO3 PO4
				C03	PSO1	PO1 PO2 PO3
23	III	20SDCFV2	Fruits & Vegetables Preservation	C01	PSO1	PO1 PO2
				C02	PSO3 PSO4	PO1 PO2 PO3 PO4
				C03	PSO1 PSO2	PO1 PO2 PO3

24	III	20SDCCN2	Community Nutrition	CO1	PSO1	PO1 PO2
				CO2	PSO3 PSO4	PO1 PO2 PO3 PO4
				CO3	PSO1 PSO2	PO1 PO2 PO3

Mapping of Courses with PSOs

Course Title	Course Code	PSO1	PSO2	PSO3	PSO4
Introduction to Food Science	20FTCCIF13	✓	✓	✓	✓
Cooking Techniques - Practical	20FTP1CT12	✓	✓	✓	✓
Basic Nutrition	20FTCCBN24	✓	✓	✓	✓
Nutritional Facts of Foods- Practical	20FTP2NF22	✓	✓	✓	✓
Food Technology & Preservation	20FTCCFP33	✓	✓	✓	-
Food Technology & Preservation - Practical	20FTP3FP32	✓	✓	✓	✓
Food Processing techniques	20FTCCFP43	✓	✓	✓	-
Food Processing techniques - Practical	20FTP4FP42	✓	✓	✓	✓
Nutraceutical & Functional foods	20FTCCNF43	✓	✓	✓	-
Nutraceutical & Functional foods - Practical	20FTP5NF42	✓	✓	✓	✓
Dietetics	20FTSEC11DT3	✓	✓	✓	✓
Dietetics - Practical	20FTP611DT2	✓	-	✓	✓
Food Safety & Quality Control	20FTSEC12FQ3	✓	-	✓	-
Food Safety & Quality Control- Practical	20FTP712FQ2	✓	✓	✓	✓
Nutrition in Health	20FTSEC21NH3	✓	✓	✓	✓
Nutrition in Health - Practical	20FTP621NH2	✓	✓	✓	✓

Bakery Technology	20FTSEC22BT3	✓	✓	✓	✓
Bakery Technology - Practical	20FTP722BT2	✓	✓	✓	✓
Food Service Management	20FTSEC31FM3	✓	-	✓	✓
Food Service Management - Practical	20FTP631FM2	✓	-	✓	✓
Food Packaging Technology	20FTSEC32PT3	✓	✓	✓	✓
Food Packaging Technology- Practical	20FTP732SSPT2	✓	-	✓	✓
Fruits & Vegetables Preservation	20SDCFV2	✓	✓	✓	✓
Community Nutrition	20SDCCN2	✓	✓	✓	✓

Mapping of Courses with POs

Course	PO1 Essential Knowledge	PO2 Creative and critical thinking and problem solving abilities	PO3 Teamwork and communication skills	PO4 Digital capabilities	PO5 Professionalism and leadership readiness	PO6 Intercultural and ethical competency	PO7 Self awareness and emotional intelligence	PO8 Social Responsibility
IF	✓	✓	-	✓	✓	✓	-	-
CT-P1	✓	✓	-	✓	✓	✓	-	-
BN	✓	✓	✓	-	✓	✓	-	-
BN-P2	✓	✓	✓	-	✓	✓	-	-
FP	✓	✓	✓	-	✓	-	-	-
FP-P3	✓	✓	✓	✓	✓	-	-	-
FP	✓	✓	✓	✓	-	-	-	-
FP-P4	✓	✓	✓	✓	-	-	-	-
NF	✓	✓	✓	✓	-	-	-	-
NF-P5	✓	✓	✓	✓	✓	-	-	-
DT	✓	✓	✓	✓	-	-	-	-
DT-P6	✓	✓	-	-	-	✓	-	-
FQ	✓	✓	✓	✓	-	-	-	-
FQ-P7	✓	-	✓	✓	-	-	-	-

NH	✓	✓	✓	✓	-	-	-	-
NH-P6	✓	✓	✓	✓	-	-	-	-
BT	✓	✓	✓	✓	-	-	-	-
BT-P7	✓	✓	✓	✓	-	-	-	-
FM	✓	✓	✓	✓	-	-	-	-
FM-P6	✓	✓	✓	✓	-	-	-	-
PT	✓	✓	✓	✓	-	-	-	-
PT-P7	✓	✓	✓	✓	-	-	-	-
FV	✓	✓	✓	✓	-	-	-	-
CN	✓	✓	✓	✓	-	-	-	-