



MANNAR THIRUMALAI NAICKER COLLEGE

A Co-educational, Autonomous and Linguistic Minority Institution

Affiliated to Madurai Kamaraj University

Re-accredited with "A" Grade by NAAC

Pasumalai, Madurai – 625 004 Tamil Nadu.

CURRICULUM RELEVANCE TO THE LOCAL, REGIONAL, NATIONAL AND GLOBAL NEEDS

NAME OF THE PROGRAMME: FOOD & DAIRY TECHNOLOGY
PROGRAMME CODE: UFD

PROGRAMME OUTCOMES

PO1: Demonstrate about the knowledge and understanding of Science concepts and its relevant fields

PO2: Communicate the known concepts effectively within the profession and with any forum

PO3: Use ICT tools in various learning situations, related information sources, suitable software to analyze data and furthermore participating in learning activities throughout life to meet the demands of work place through knowledge /up

PO4: Employ critical and analytical thinking in understanding the concepts and apply them in various problems appearing in different branches of Science and in competitive examinations in various sectors.

PO5: Identify, formulate, analyse complex problems and methodologies of Science.

PO6: Function successfully as a member/leader in any team and to apply ethics, accountability and equity in their life.



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PROGRAMME SPECIFIC OUTCOMES

PSO1: To enlighten the student's knowledge about the functioning of milk procurement organizations.

PSO2: To enable students to acquire skill in processing of various food and dairy products.

PSO3: To understand the science behind the processing of food and its impacts on nutritive value of food stuffs.

PSO4: To apply Food and Dairy technology in the field of selection, preservation, packing, distributing, and using safe and nutritious food.

PSO5: The ability to apply standard practices and regulation in developing the food and allied products

PSO6: To Identify the various engineering techniques involved in food.



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Sl. No	Course Code	Course Name	Course Outcomes
1	21UFDC11	Principles of Food Science	CO1: Identify the science behind the food products. CO2: Explain various foods and their CO3: Apply various methods of cooking. CO4: Analyze the role of difference foods in cookery. CO5: Discover various new food products.
2	21UFDCP1	Principles of Food Science Practical	CO1: Remember the processing and preparation of food products. CO2: Understand the science behind various cooking methods. CO3: Apply different methods of cooling. CO4: Analyze skills in handling appliances in laboratories. CO5: Examine different pigments, acids, alkali in foods.
3	21UFDC12	Fundamentals of Food Technology	CO1: Understand the history and evolution of food processing. CO2: Identify the structure, composition, nutritional quality and post-harvest changes of various plant foods. CO3: Analyze different technology involved in foods. CO4: Apply the importance of changes in foods. CO5: Create various new food products.
4.	21UFDA11	Principles of Food Production	CO1: Understand the methods of professional cookery. CO2: Study the process of



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			<p>shortenings.</p> <p>CO3: Analyze the selection procedure of meat and sea foods.</p> <p>CO4: Apply various methods of cookery.</p> <p>CO5: Create many dishes using condiments and spices</p>
5	21UFDS11	Dairy Farming and Rural Development	<p>CO1: Understand the Development of Dairy</p> <p>CO2: Classify Methods for procurement of milk.</p> <p>CO3: Analyze Cooperative dairying.</p> <p>CO4: Student able to appraise the rural resources</p> <p>CO5: Identify the cost of production of mil</p>
6	21UFDC21	Food Processing Technology	<p>CO1: Identify Mechanism and freezers.</p> <p>CO2: Explain various Dehydration</p> <p>CO3: Apply various methods of preservation</p> <p>CO4: Analyze the different types of Packaging.</p> <p>CO5: Discover various new food products using processing methods.</p>
7	21UFDC22	Technology of Food Preservation	<p>CO1: Identify microorganisms in food preservation</p> <p>CO2: Explain various Food Preservation.</p> <p>CO3: Apply various methods of Evaporation.</p> <p>CO4: Analyze the different types of Dehydration.</p> <p>CO5: Test for Food Preservation</p>
8	21UFDCP2	Technology of	CO1: Exhibit the Procedures



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		Food Preservation Practical	used for phmetere CO2: Comparing the shelf life of different types of foods. CO3: Find the various foods using CO4: Apply the learned procedures in industrial level. CO5: Classify different blanching of different plant food
9.	21UFDA21	Fast Foods and Catering Service	CO1: Identify Concepts of Fast Foods. CO2: Explain various Continental cookery CO3: Apply various methods used in Catering Industry. CO4: Analyze the different types Front Office CO5: Classify eating etiquettes
10.	21UFDS21	Market Milk	CO1: Understand the organization and level, private and government levels. CO2: Explain the processing and marketing of milk. CO3: Develop technical knowledge and skills. CO4: Analyze the quality of milk CO5: Examine the variation among marked milk product
11	21UFDC31	Introduction to Biochemistry	CO1: Understand the basic principle . CO2: Identify the cell metabolism. CO3: Analyze the concept of catalysis. CO4: Apply the knowledge in gene transformation. CO5: Discover ideas on energy pathways.



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12.	21UFDC32	Technology of Fruits and Vegetables	<p>CO1: Identify the science behind the food products.</p> <p>CO2: Explain various methods of food preservation</p> <p>CO3: Apply various methods of preparation of food products.</p> <p>CO4: Analyze the role of difference</p> <p>CO5: Discover various new food.</p>
13.	21UFDCP3	Technology of Fruits and Vegetables - Practical	<p>CO1: Remember the processing and preparation of food products.</p> <p>CO2: Understand the technologies for preservation of fruits and vegetables.</p> <p>CO3: Apply different method of processing technologies.</p> <p>CO4: Analyze skills in handling appliances in laboratories.</p> <p>CO5: Examine the product quality with reference to standard specifications</p>
14.	21UFDA31	Food Product Development and Marketing	<p>CO1: Remember the processing and preparation of food products.</p> <p>CO2: Understand the technologies for preservation of fruits and vegetables.</p> <p>CO3: Apply different method of processing technologies.</p> <p>CO4: Analyze skills in handling appliances in laboratories.</p> <p>CO5: Examine the product quality with reference to standard specifications.</p>
15.	21UFDSP1	Traditional Indian Dairy Products -	<p>CO1: Remember the processing techniques</p> <p>CO2: Understand the value of</p>



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		Practical	the products CO3: Apply different methods of Preparation CO4: Evaluate the Sensory quality of the prepared products CO5: Examine Cost Analysis
16.	21UFDN31	Nutrition for Health and Fitness	CO1: Identify different kinds of disease conditions. CO2: Explain diet management for specific disease. CO3: Apply knowledge of nutrition in day today life CO4: Analyze the concept of fitness. CO5: Examine the nutrients
17.	21UFDC41	Technology of Cereals, Pulses and Oilseeds	CO1: Identify the technologies used in various kinds of food. CO2: Explain the techniques of pulses CO3: Apply various technological methods in food. CO4: Analyze different kinds of equipments involved in food technology. CO5: Discover new technologies for future development in food technology
18.	21UFDC42	Food and Industrial Microbiology	CO1: Understand History and Scope of Food Microbiology. CO2: Identify the basic characters of CO3: Analyze importance of food spoilage microorganisms CO4: Apply the process of fermentation and application of microorganisms in fermentation process CO5: Examine Isolation,



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			Screening Techniques and Strain development
19.	21UFDCP4	Food and Industrial Microbiology – Practical	<p>CO1: Identify various Staining techniques.</p> <p>CO2: Enable to isolate and characterize microorganisms food products.</p> <p>CO3: Understand basic knowledge to operate overall equipment in food microbiology laboratory.</p> <p>CO4: Apply knowledge in preparation of various Isolation medium.</p> <p>CO5: Examine different kinds of microorganisms.</p>
20.	21UFDAP1	Bakery and Confectionary	<p>CO1: Remember the processing and preparation of Bakery products</p> <p>CO2: Understand the technologies on Bakery and confectionery</p> <p>CO3: Apply different method of processing technologies</p> <p>CO4: Analyze skills in handling appliances in laboratories.</p> <p>CO5: Examine the new product quality</p>
21.	21UFDSP2	Fermented Dairy Products	<p>CO1: Remember the processing and preparation of food products.</p> <p>CO2: Understand the technologies for preservation of fruits and vegetables.</p> <p>CO3: Apply different method of processing technologies. CO4: Analyze skills in handling appliances in laboratories.</p>



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			CO5: Discover the product quality with reference to standard Specification,
22.	21UFDN41	Dairy Business Management	CO1: Learn the necessary skills and hands dairy business. CO2: Get outline to start a Dairy farm CO3: Acquire knowledge and technique to expose their potentials CO4: Discover the basic dairy business related activities CO5: Discover entrepreneurship development in dairy processing and management of dairy business
23.	21UFDE51	Food Biotechnology	CO1: Define the concepts of biotechnology, its branches and scope CO2: Classify the food microorganisms and to Identify the factors affecting the microbial growth CO3: Explain the techniques of preparation of culture media, sterilization, inoculation and staining CO4: Build knowledge on fermentation process and its application CO5: Infer the production of single cell protein
24.	21UFDE53	Dairy By Product Technology	CO1: Identify the dairy by-products availability. CO2: Explain the physical properties of by products. CO3: Apply knowledge on its manufacturing process. CO4: Analyze the nutritive value



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			of the by-products. CO5: Discover the new methods to prepare by-products
25.	21UFDE52	Food Toxicology	CO1 : Identify the toxicants in Food CO2 : Explain the most important contaminants in food CO3 : Apply various mechanisms of action of specific food toxicants CO4 : Analyze food allergies in versus food toxicants CO5 : Discover master terminology related to food toxicology
26.	21UFDE54	Dairy Extension Education	CO1: Identify the different between formal education and extension education. CO2: Explain the extension methods. CO3: Apply knowledge on audio-visual aids. CO4: Analyze the socio-economic causes of their surroundings. CO5: Discover the new ideas to extend their entrepreneurship activities
27.	21UFDE55	Physio-Chemical Aspects of Milk	CO1: Identify the major constituents of different milk CO2: Explain the factors affecting the composition of milk. CO3: Apply knowledge on distinguishing the various properties of milk. CO4: Analyze the nutritive value of colostrums. CO5: Acquire knowledge on desirable characteristics of metal



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			for dairy equipment
28.	21UFDE56	Human Nutrition	<p>CO1: Identify the relationship between food, nutrition and health.</p> <p>CO2: Explain various food groups and balanced diet.</p> <p>CO3: Apply various the functions of food.</p> <p>CO4: Analyze the digestion, absorption and function of various nutrients and their sources.</p> <p>CO5: Discover the role in nutrition in life.</p>
29.	21UFDSP3	Technology of Ice Cream and Frozen Desserts - Practical	<p>CO1: Remember the different methods of preparation.</p> <p>CO2: Understand the technologies to estimate different types of ice cream.</p> <p>CO3: Apply different methods of technologies.</p> <p>CO4: Analyze skills in handling appliances in laboratories.</p> <p>CO5: Examine the product quality with reference to standard specifications.</p>
30.	21UFDC61	Food Quality and Sensory Evaluation	<p>CO1: Remember the quality characteristics of different foods.</p> <p>CO2: Understand the quality of food products.</p> <p>CO3: Apply different methods of Preparation.</p> <p>CO4: Evaluate the Sensory quality of the prepared products.</p> <p>CO5: Examine sensory Analysis.</p>
31.	21UFDIP1	In plant Training	<p>CO1: Identify different analysis of food product development and storage.</p>



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			<p>CO2: Explain the technologies learned throughout degree.</p> <p>CO3: Apply the knowledge of developing a product and evaluation.</p> <p>CO4: Analyze the shelf life and preservation of products.</p> <p>CO5: Discover new products and innovations.</p>
32.	21UFDPR1	Project and Viva Voce	<p>CO1: Identify different technologies involved in food industries.</p> <p>CO2: Explain various departments of food industries.</p> <p>CO3: Apply theoretical knowledge at food and dairy industry.</p> <p>CO4: Analyze different machineries and products.</p> <p>CO5: Evaluate processing methods involved in food and dairy industries.</p>
33.	21UFDE61	Functional foods and Nutraceuticals	<p>CO1 : Define the concept of Nutraceuticals</p> <p>CO2 : Classify the Bio available compound in food</p> <p>CO3 : Explain the techniques used in Food recommended for metabolic disorder</p> <p>CO4 : Build the knowledge on supplementation in foods</p> <p>CO5 : Examine the marketing environment for Functional foods</p>
34	21UFDE62	Technology of Poultry and Meat Processing	<p>CO1: Identify the carcass</p> <p>CO2: Explain the composition</p> <p>CO3: Apply knowledge in preparation methods.</p> <p>CO4: Analyze the processing</p>



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			techniques. CO5: Discover the new methods for hygiene.
35	21UFDE63	Effluent Treatment and Environmental Safety	CO1: To describe methods for waste water treatment. CO2: To understand the different waste water treatment process. CO3: To apply the tools for effluent treatment . CO4: To interpret and evaluate the results. CO5: To grasp the microbiological processes in the activated sludge process.
36	21UFDE64	Value Added Dairy Products	CO1: Identify the different types of value added products. CO2: Explain the methods of preparation. CO3: Apply knowledge on preparing the products by own. CO4: Analyze the Nutritive value of the products. CO5: Discover the new ideas about the value added products.
37	21UFDE65	Technology of Sea Foods	CO1: Identify different types of sea foods. CO2: Explain methods of preservation and processing. CO3: Apply awareness on preservation and processing CO4: Analyze the shelf life of different types of fish CO5: Discover the importance of fish industry
38	21UFDE66	Food Packaging Technology	CO1: Identify different kinds of packaging materials. CO2: Explain various Packaging systems and methods CO3:



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			<p>Apply various Packaging material and their properties</p> <p>CO4: Analyze the right application in Food Industry</p> <p>CO5: Discover new technologies of packaging.</p>
39.	21UFDS61	<p>Entrepreneurship Development and Industrial Consultancy</p>	<p>CO1: To understand the process and procedures for entrepreneurial programmes.</p> <p>CO2: Explain various method used for Entrepreneurship Development</p> <p>CO3: Apply knowledge on SWOT analysis</p> <p>CO4: Analyze the role of Supporting Agencies</p> <p>CO5: Discover the importance of certification in milk industry</p>