CBCS SCHEME

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BBT515A

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Food Processing and Nutraceuticals

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain the various food preservation techniques and their functions to extend the shelf life of food.	10	L2	CO1
	b.	Describe how specific processing techniques impact the bioavailability of nutrients in foods like fruits, vegetables and grains.	10	L1	CO1
		OR			
Q.2	a.	Discuss the mechanism of pulse electric field and its applications in food preservation.	10	L2	CO1
	b.	Describe the pasteurization and sterilization and their effectiveness in ensuring food safety.	10	L2	CO1
		Module – 2			
Q.3	a.	Describe the primary components of cereals and millets, legumes and explain how these contribute to their overall nutritional profile.	10	L2	CO2
	b.	Discuss the health benefits of incorporating whole grains into the diet, providing evidence from nutritional studies.	10	L2	CO2
		OR			
Q.4	a.	Discuss the structural difference between millets and more commonly consumed cereals like wheat and rice, explain their implications for nutrition and cooking.	10	L2	CO2
	b.	Discuss the role of phytochemicals in cereals and millets, legumes explaining their potential health benefits and mechanism of action.	10	L2	CO2
		Module – 3			
Q.5	a.	Describe the physiological charges that affect the quality of animal products during the post-harvest period.	10	L2	CO3
	b.	Discuss the impact of frozen storage on the quality of meat and fish, including potential charges in texture and flavor.	10	L2	CO3

		OR			
Q.6	**a.**	Describe the role of omega 3 fatty acids found in certain fish, explaining their health benefits and dietary recommendations.	**10**	**L2**	**CO3**
	b.	Describe the types of fats present in different types of meat and fish, discussing their impact on health.	**10**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	Discuss how roasting and blanching can affect the flavor and nutritional quality of nuts, providing specific examples.	**10**	**L2**	**CO4**
	b.	Describe the role of oil extraction methods for oil seeds and explain how different methods influence the quality and nutritional content of oil.	**10**	**L2**	**CO4**
		OR			
Q.8	**a.**	Describe how the storage of oil seeds affects oil quality, discussing the factors like oxidation and rancidity.	**10**	**L2**	**CO4**
	b.	Determine the nutritional difference between raw and cooked vegetables, illustrating the changes in vitamin content and bioavailability.	**10**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Determine the importance of phytochemicals in plant defense mechanisms and how this relate to their health benefits for their human.	**10**	**L2**	**CO4**
	b.	Determine how the composition of animal feed affects the level of beneficial zoochemicals in meat and dairy products.	**10**	**L2**	**CO4**
		OR			
Q.10	**a.**	Determine the role of fermentation in enhancing the nutritional value of foods and the specific microbial stains involved in this process.	**10**	**L2**	**CO4**
	b.	Explain the mechanism by which probiotics contribute to guthealth and overall wellness.	**10**	**L2**	**CO4**

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