

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2024
(First Semester)

Branch – FOOD TECHNOLOGY MANAGEMENT

FOOD PROCESSING AND PRESERVATION TECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which unit operation involves transforming primary products into finished goods, such as making yogurt from milk? a) Primary processing b) Secondary processing c) Tertiary processing d) Packaging	K1	CO1
	2	Infer the key steps involved in food processing. a) Sorting, packaging, distribution b) Cleaning, cooking, drying, packaging c) Grading, refrigeration, transportation d) None of the above	K2	CO1
2	3	Which novel freezing method uses pressure to achieve rapid freezing and preserve food quality? a) Cryogenic freezing b) Spray freezing c) Ultra-rapid freezing d) High-pressure freezing	K1	CO2
	4	Infer the properties of foods that render them less susceptible to freezing and degradation during low-temperature preservation. a) High water content b) High fat content c) High protein content d) Low water content	K2	CO2
3	5	Which theory explains the fundamental mechanisms of moisture removal during drying? a) Theory of relativity b) Theory of drying c) Theory of evaporation d) Theory of conservation	K1	CO3
	6	Infer the type of evaporator commonly used to reduce the moisture content of fruit juices. a) Open pan kettle b) Single effect evaporator c) Short tube evaporator d) Forced circulation evaporator	K2	CO3
4	7	What is the main purpose of starter cultures in fermentation? a) Enhance flavor b) Speed up the process c) Increase acidity d) Reduce shelf life	K1	CO4
	8	Show the structural features of enzymes that enable them to interact with specific substrates. a) Active site b) Nucleus c) Covalent bonds d) Hydrogen bonds	K2	CO4
5	9	What is the primary purpose of employing cold plasma technology in food processing? a) Reducing food safety b) Enhancing food flavor c) Sterilizing surfaces and packaging d) Promoting microbial growth	K1	CO5
	10	Infer the advantage provided by ohmic heating in food processing. a) Slow and uniform heating b) Limited control over temperature c) Enhanced microbial growth d) Reduced energy consumption	K2	CO5

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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the scope of food processing in India from both national and international perspectives.	K2	CO1
	(OR)			
	11.b.	Illustrate the fundamental principles of food processing and preservation.		
2	12.a.	Outline modes of heat transfer involved in high-temperature preservation processes.	K2	CO1
	(OR)			
	12.b.	Summarize the three important properties of foods that can influence their response to freezing.		
3	13.a.	Develop a fundamental theory of drying, including the principles behind moisture removal during the drying process.	K3	CO1
	(OR)			
	13.b.	Construct a comparison and contrast between open and closed pan kettles as types of evaporators.		
4	14.a.	Examine the various types of fermenters.	K4	CO1
	(OR)			
	14.b.	Categorize the structural features of enzymes, focusing on the active site and its role in enzyme-substrate interactions.		
5	15.a.	Determine the principles and applications of nanotechnology in the food industry.	K5	CO1
	(OR)			
	15.b.	Explain the principle of High Pressure Processing (HPP) in preserving food.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the importance of food safety and quality control in the food-processing industry.	K2	CO1
2	17	Summarize any two novel freezing methods and their applications in food preservation.	K2	CO2
3	18	Develop an explanation of the concept and various types of evaporation and concentration in food preservation.	K3	CO3
4	19	Examine the application of Enzymes in food industry.	K4	CO4
5	20	Determine the concept and application of ohmic heating in food industry.	K5	CO5