

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - **FOOD TECHNOLOGY MANAGEMENT**

FOOD PROCESSING & 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	What is one of the primary reasons for food deterioration? a) Microbial growth b) Proper storage c) Low temperature d) High pressure	K1	CO1
	2	Show one major application of secondary food processing. a) Cultivating crops b) Canning fruits c) Packaging d) Harvesting	K2	CO1
2	3	Which of the following methods involves heating food to destroy pathogens without sterilization? a) Canning b) Blanching c) Pasteurization d) UHT	K1	CO2
	4	Relate the effect of cryogenic freezing on food preservation. a) Increases flavor b) Slows down spoilage c) Changes color d) Reduces texture	K2	CO2
3	5	Which drying technique removes moisture in a controlled low-air environment? a) Conventional drying b) Air drying c) Supercritical drying d) Vacuum drying	K1	CO3
	6	Show the main purpose of using forced circulation in an evaporator. a) Enhances taste b) Improves aroma c) Increases heat transfer d) Adds nutrients	K2	CO3
4	7	Which enzyme is commonly used in the food industry for its specificity in breaking down proteins? a) Pectinase b) Lactase c) Amylase d) Protease	K1	CO4
	8	Relate one primary role of starter cultures in fermentation. a) To increase temperature b) To initiate microbial growth c) To reduce water content d) To change food color	K2	CO4
5	9	What principle is ultrasonic preservation based on? a) Temperature reduction b) Microbial growth c) High-frequency sound waves d) Magnetic fields	K1	CO5
	10	Show one advantage of nanotechnology in food processing. a) Decreases food cost b) Reduces shelf life c) Enhances nutrient delivery d) Increases spoilage	K2	CO5

Cont...

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.	Analyze the historical developments in food processing and their impact on modern food industries.	K4	CO1
	(OR)			
	11.b.	Justify the need for food preservation and its significance in today's global food industry.	K5	
2	12.a.	Compare different freezing methods and determine their effects on food quality.	K4	CO2
	(OR)			
	12.b.	Evaluate the use of aseptic processing as an alternative to traditional canning in food preservation.	K5	
3	13.a.	Apply the principles of drying in designing a preservation technique for perishable fruits.	K3	CO3
	(OR)			
	13.b.	Examine the various types of evaporators and their effectiveness in food concentration.	K4	
4	14.a.	Develop a fermentation process for dairy products using starter cultures, detailing each step.	K3	CO4
	(OR)			
	14.b.	Discover the enzymatic mechanisms involved in lactose breakdown and discuss its applications.	K4	
5	15.a.	Experiment with microwave and infrared technologies in food processing to achieve rapid cooking.	K3	CO5
	(OR)			
	15.b.	Discover the advantages and limitations of high-pressure processing (HPP) for microbial control.	K3	

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	Criticize the current status of food processing in India, comparing it with international advancements and evaluating areas for improvement.	K5	CO1
2	17	Discover and categorize various methods of heat transfer used in high-temperature preservation, assessing their impact on food texture and flavor.	K4	CO2
3	18	Examine the theory behind conventional and novel drying techniques and compare their effectiveness in prolonging shelf life.	K4	CO3
4	19	List and evaluate the benefits of using enzyme-specific processes in food preservation and processing, particularly for the bioconversion of natural substances.	K4	CO4
5	20	Explain the principle of pulsed electric field (PEF) technology and appraise its applications in extending shelf life while maintaining food quality.	K5	CO5

Z-Z-Z END