

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**MSc DEGREE EXAMINATION DECEMBER 2024
(Second Semester)**

Branch - FOOD TECHNOLOGY MANAGEMENT

**POST-HARVEST MANAGEMENT AND PROCESSING OF FRUIT AND
VEGETABLES**

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 of the following chemical is not permitted for artificial ripening of fruits under FSSAI? a. Ethylene gas b. Calcium carbide gas c. Ethephon d. Ethrel	K1	CO1
	2	Identify the maturing index of cabbage a. Firm head b. Immature and glossy skin c. Skin color changes d. Vegetable size and color	K2	CO1
2	3	Recall the dose of Irradiation in fruits and vegetables, low doses of _____ are used to inhibit sprouting of potatoes and onions a. up to 0.1 kGy b. up to 1 kGy c. up to 10 kGy d. up to 20kGy	K1	CO2
	4	Mention the appropriate sizing mechanism for round citrus fruits a. Mesh screens b. Rope grader c. Sizing roller d. Diverging belts	K2	CO2
3	5	Which of the following drying methods are used to intensify moisture removal and lower drying temperature to protect heat-sensitive foods? a. Tunnel drying b. Foam drying c. Contact drying d. Vacuum drying	K1	CO3
	6	Retorting for fruits require _____ temperature and _____ pressure a. 100°C and 10 – 15 lb/sq inch b. 90°C and 5 – 10 lb/sq inch c. 80°C and 10 – 15 lb/sq inch d. 70°C and 5 – 10 lb/sq inch	K2	CO3
4	7	Name the cooling method which is achieved by immersion or by spraying water on fresh produce. a. Room cooling b. Forced-air cooling c. Hydrocooling d. Vacuum cooling	K1	CO4
	8	Frozen peas shall be stored at a. - 15°C or below b. - 18°C or below c. -10°C or below d. 0°C or below	K2	CO4
5	9	Which of the following technique is used to remove scum or foam in marmalade? a. Addition of sugar b. Sheet test c. Addition of edible oil d. Addition of paraffin wax	K1	CO5
	10	Soup powders shall not contain more than _____% moisture (m/m) a. 4 b. 5 c. 8 d. 10	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.	Identify the factors affecting the respiration rate and suggest strategies to control gas exchange rates of fruits and vegetables.	K3	CO1
	(OR)			
	11.b.	Develop 10 strategies to prevent post-harvest losses in horticulture commodities.		
2	12.a.	Plan various physical and chemical postharvest treatments for fresh produce.	K3	CO2
	(OR)			
	12.b.	Determine the various types of cleaning and sorting operations for oranges.		
3	13.a.	Illustrate the processes of canning fresh peas.	K4	CO3
	(OR)			
	13.b.	Examine the factors affecting aseptic packaging and storage of horticulture products.		
4	14.a.	Compare cryogenic freezing and freeze drying.	K4	CO4
	(OR)			
	14.b.	Examine the role of IQF in fruit and vegetable preservation.		
5	15.a.	Explain the manufacturing technology of tomato puree.	K5	CO5
	(OR)			
	15.b.	Appraise the role of different stages of sugar cookery and temperatures involved for crystalline and non-crystalline sugar products.		

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	Appraise the metabolic changes that occur in fruits and vegetables during the ripening process.	K5	CO1
2	17	Explain the impact of minimal processing of fruits and vegetables on the physical, chemical and microbial degradation.	K5	CO2
3	18	Compare the applications of different types of drying techniques on fruit and vegetable products.	K4	CO3
4	19	Analyze the impact of CAP and MAP on storage and packaging of fruits and vegetables.	K4	CO4
5	20	Elaborate on the role of ingredients, technological and quality aspects of pickles.	K6	CO5