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PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025
(Fourth Semester)

Branch – **FOOD TECHNOLOGY MANAGEMENT**

PLAN LAYOUT DESIGN AND MANAGEMENT

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 is an important consideration in plant layout design? a) Production System b) Material Handling System c) Operator System d) Testing System	K1	CO1
	2	Relate the term that refers to facility planning. a) Plant design b) Process Control c) Product Control d) Plant layout	K2	CO1
2	3	Recall the layout that produces identical products? a) Mixed Position Layout b) Process Layout c) Fixed Position Layout d) Product Layout	K1	CO2
	4	Infer the layout that allows manufacturers to produce the product in small or medium batches. a) Process Layout b) Mixed Position Layout c) Product Layout d) Fixed Position Layout	K2	CO2
3	5	Which of the following does not belong to the category of utility? a) Gas b) Water c) Electricity d) Internet	K1	CO3
	6	Infer the purpose of using Water in boilers. a) Generation of Power b) Generation of Electricity c) Generation of Steam d) Generation of Current	K2	CO3
4	7	Relate the following part that is not a fundamental component of IoT. a) Sensor b) Data processing unit c) User interface d) Transformer	K1	CO4
	8	Infer the sensor that is used for measuring carbohydrate and amino acid in sample. a) Biosensor b) Pressure sensor c) Infrared sensor d) Temperature sensor	K2	CO4
5	9	Which of the following statements best describes the difference between fixed costs and variable costs? a) Fixed costs vary with the level of production, while variable costs remain constant regardless of production. b) Fixed costs remain constant regardless of the level of production, while variable costs vary with the level of production. c) Fixed costs are always higher than variable costs. d) Variable costs are always higher than fixed costs.	K1	CO5
	10	Relate the cost that includes salary paid to permanent employees. a) Implicit cost b) Variable cost c) Fixed cost d) Explicit cost	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.	Identify the general design considerations in a food plant	K3	CO1
		(OR)		
	11.b.	Develop the steps in preliminary screening ideas and rating of product ideas.		
2	12.a.	Organize the factors involved in selection of plant location and plant size.	K3	CO2
		(OR)		
	12.b.	Construct the various types of layout and its advantages and disadvantages.		
3	13.a.	Analyze the factors to be considered while designing utility areas.	K4	CO3
		(OR)		
	13.b.	Identify the steps involved in maintenance of roofs, walls and drains.		
4	14.a.	Categorize the components and working of IoT systems and its application in food industry.	K4	CO4
		(OR)		
	14.b.	Classify the types of automation and its application in various food processing sectors.		
5	15.a.	Explain the fixed capital and recurring expenses involved in food industry.	K5	CO5
		(OR)		
	15.b.	Interpret the calculations involved in break even analysis and its importance in financial management of a food industry.		

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 process steps involved in food plant design .	K4	CO1
2	17	Classify the various types of pilot plant and enlist the symbols used in plant design and layout.	K4	CO2
3	18	Analyze the general requirement for building construction.	K4	CO3
4	19	Classify the different types of sensors and its working.	K5	CO4
5	20	Develop a food plant design report for a fruit and vegetable processing plant with symbols and layout .	K5	CO5

Z-Z-Z END