

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

**B.E/ B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY
2025**

Sixth Semester

Agricultural Engineering

AI3006 - Food Plant Design and Management

Regulations - 2021

Duration : 3 Hrs

Maximum: 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	List any two materials of construction used in food processing plants.	L1	1	2
2.	Illustrate the need for computer-aided location selection.	L2	1	2
3.	Differentiate between product and process design.	L4	2	2
4.	Explain the significance of feasibility reports in plant design.	L4	2	2
5.	Discuss how hygiene is maintained in food plant layouts.	L5	3	2
6.	Describe the relevance of profitability analysis in plant design.	L3	3	2
7.	Explain the importance of utility consumption flow sheets.	L2	4	2
8.	Define equipment layout.	L1	4	2
9.	Distinguish between PERT and CPM.	L4	5	2
10.	Interpret the factors influencing cost estimation in a food plant project.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a Recall the interaction of plant location factors using a suitable location theory model.	L1	1	16
	Or			
	b Show a layout plan considering the human factors in design and selection of construction materials.	L1	1	16
12.	a Summarize the importance of integrating utility planning with process economics in food plant design.	L2	2	16
	Or			
	b Explain the steps involved in feasibility analysis for food plant layout.	L2	2	16

13.	a	Organize a detailed project report for setting up a frozen food processing unit and justify its feasibility.	L3	3	16
		Or			
	b	Identify the application of network analysis in the construction phase of a food plant.	L3	3	16
14.	a	Assess the efficiency of equipment layout in a real-time food plant and suggest alternatives.	L5	4	16
		Or			
	b	Explain the principles behind layout planning for meat and fish processing plants.	L5	4	16
15.	a	Explain a complete project plan including plant layout, PERT/CPM analysis, material and utility flows, and cost estimation for a functional food product facility.	L2	5	16
		Or			
	b	Demonstrate a case study of a real food processing plant and interpret the flow of materials, utilities, and their cost implications.	L2	5	16