

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/BTECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026****Fifth Semester****Agricultural Engineering****AI3002 -Food and Dairy Engineering****Regulations - 2021***Duration : 3 Hrs**Maximum : 100 Marks***PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Define thermal processing in foods.	L1	1	2
2.	Name any two rheological properties of food materials.	L1	1	2
3.	What is freeze drying?	L1	2	2
4.	List two applications of spray drying.	L2	2	2
5.	Find two pasteurization methods for milk.	L1	3	2
6.	Infer equilibrium moisture content.	L2	3	2
7.	State the principle of cream separation.	L1	4	2
8.	What are clarifiers in dairy technology?	L1	4	2
9.	List any two non-thermal food processing methods.	L1	5	2
10.	Compare between aseptic packaging and canning.	L2	5	2

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

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain product-time-temperature relationships in the sterilization of food, using relevant examples.	L2	1	16
	Or			
	b Summarize the kinetics of microbial destruction during batch and continuous sterilization.	L2	1	16
12.	a Analyze the principles and challenges of spray drying in dairy processing.	L4	2	16
	Or			
	b Analyze membrane concentration processes and their applications in the dairy industry.	L4	2	16
13.	a Apply milk pasteurization concepts to design a modern dairy plant flow chart.	L3	3	16
	Or			
	b Apply thermal and non-thermal processing approaches for milk preservation with practical examples.	L3	3	16

14.	a	Evaluate current methods and future trends in milk plant sanitation and their impact on dairy product quality.	L5	4	16
		Or			
	b	Evaluate the effectiveness of advanced clarification techniques in improving the safety of dairy products.	L5	4	16
15.	a	Create an innovative packaging solution for enhancing shelf life of traditional milk-based products, justifying your approach.	L6	5	16
		Or			
	b	Design a novel non-thermal preservation method suitable for dairy products and detail its advantages.	L6	5	16