

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/ B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Fifth Semester

Agricultural Engineering

AI3004 - Storage and Packaging Technology

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>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define fumigation.	RE	1	2
2.	What are the different signs of food spoilage?	RE	1	2
3.	Define self-life of a food.	RE	2	2
4.	What are gas and water vapour transmission rates?	RE	2	2
5.	Compare hypobaric storage with hyperbaric storage.	UN	3	2
6.	Relate the effect of scavengers in packaging.	UN	3	2
7.	List the raw materials of can making.	RE	4	2
8.	Infer the importance of sterilizing bottles.	UN	4	2
9.	Compare rigid plastic packaging from semi rigid plastic packaging.	UN	5	2
10.	Identify the role of sensors and IoT in food packaging.	UN	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i List the various types of silo storage structures and explain about any 2 of them.	UN	1	7
	ii Examine about various physical properties of grains affecting the storability.	AN	1	6
	Or			
	b Examine the quality changes in stored food grains and remedial measures taken.	AN	1	13
12.	a i Relate the effect of mechanical forces and biological factors on food quality.	UN	2	7
	ii Explain briefly about major roles and functions of food packaging.	UN	2	6
	Or			
	b Classify the various tests on packaging materials relevant to mechanical strength and explain them with a neat sketch.	UN	2	13
13.	a i Identify the biochemical aspects of CA storage and explain briefly.	AP	3	7
	ii Interview regarding the effects of compositional gas concentrations on fruits and vegetables.	AP	3	6
	Or			
	b Construct a vacuum, gas, and shrink packaging method with a neat sketch and explain.	AP	3	13

14.	a i	Examine about basics of canning operations and can closure techniques	AN	4	7
	ii	Classify different types of caps and liners used in bottle and jar closure. Explain them briefly.	AN	4	6
Or					
	b	Categorize different plastics used as packaging material with its advantages and disadvantages.	AN	4	13
15.	a i	Explain about the fabrication methods of thermo forming and blow moulding.	UN	5	7
	ii	Demonstrate how films and pouches are formed.	UN	5	6
Or					
	b	Explain in detail about nano packaging and smart packaging.	UN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Analyze the design considerations and heat load calculation of cold storage.	AN	1	15
Or					
	b i	Analyze the role of modified interactive packaging.	AN	3	8
	ii	Examine about closing and sealing of rigid plastic containers with various seal types.	AN	4	7