

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

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

Fifth Semester

Agricultural Engineering

AI3003-Process Engineering of Fruits and Vegetables

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.	List the general Principles of Fruits and Vegetables Preservation.	1	1	2
2.	Define the term value addition.	1	1	2
3.	Difference between Pasteurization and Sterilization.	2	2	2
4.	What are the uses of edible coating in food industry?	1	2	2
5.	Write a short note on drum drier.	1	3	2
6.	Difference between osmotic dehydration and freeze drying.	2	3	2
7.	Define Minimal processing of Fruits and Vegetables.	1	4	2
8.	Write a short note on blanching.	1	4	2
9.	What happens in spoilage of canned foods?	1	5	2
10.	Summarize the principle of canning and its types.	1	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 i Explain in detail about Controlled Atmospheric Storage (CAS) and Modified Atmospheric Storage (MAS) and discuss the changes takes place in foods during storage.	2	1	8
	ii Explain the Nutritive and Nutraceutical Properties of Fruits and Vegetables.	2	1	8
Or				
b i	Discuss the Morphology, Structure, and Composition of Fruits and Vegetables in India.	2	1	8
	ii Explain in detailed about the changes in habits of fruits and vegetables during storage.	2	1	8

12.	a	Explain in detail about the Machinery involved in processing of fruits and vegetables products.	2	2	16
		Or			
	b	Explain the principles behind the formation of jams, jellies, and marmalades, and what are some common defects encountered during their manufacturing process?	2	2	16
13.	a	What are the different dehydration techniques used for fruits and vegetables, such as tray drying, vacuum drying, foam mat drying, fluidized bed drying, spray drying, freeze drying, microwave drying, and heat pump drying?	2	3	16
		Or			
	b	What are the physical and chemical changes that occur in fruits and vegetables during the drying process, and how do these changes affect the final product's quality?	2	3	16
14.	a	What are the different types of fermentation used in the preservation of fruits and vegetables, and how do they differ in terms of process and end products?	2	4	16
		Or			
	b	What are minimally processed fruits and vegetables, and how are they processed and packaged to maintain their freshness and nutritional value?	2	4	16
15.	a i	How can spoilage in canned foods be detected and controlled?	2	5	8
	ii	What are the methods used for detecting spoilage in canned foods?	2	5	8
		Or			
	b	Explain in detail about the general considerations in establishing a commercial fruit and vegetable cannery, machineries involved in canning and bottling unit.	2	5	16