

Reg.No.:

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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 90036

M.E. / M.Tech. DEGREE END-SEMESTER EXAMINATIONS – FEB. 2025

First Semester

Biotechnology

P23BTE03 – FOOD PROCESSING AND BIOTECHNOLOGY

(Regulation 2023)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Define Blanching?	2	K1	CO1
2.	What is mechanism and purpose of Pulsed electric field processing?	2	K2	CO1
3.	Explain single cell protein and name two sources of single cell protein.	2	K1	CO2
4.	What is the role of protease and pectinase in food processing?	2	K3	CO2
5.	Recall the different types of fermented foods available commercially.	2	K1	CO3
6.	List the health benefits of fermented food.	2	K3	CO3
7.	What is food poisoning and how can we prevent it?	2	K1	CO4
8.	Name the different methods of cold preservation. Explain.	2	K2	CO4
9.	Define mycotoxins with examples.	2	K1	CO5
10.	Give a detailed analysis of heavy metals present in food.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	What is heat sterilization? Explain different methods of heat sterilization.	13	K2	CO1
	(OR)			
b)	Give an overview of different methods of heat processing using hot air.	13	K3	CO1
12. a)	Explain production and utilization of pectinase in food processing.	13	K4	CO2
	(OR)			
b)	What are the different enzymes used in bakery and cereal products? Explain the method of soya sauce production.	13	K3	CO2
13. a)	Explain biotechnological approaches to improve nutritional quality of food?	13	K2	CO3
	(OR)			
b)	Give an overview of nutritive value of fermented food.	13	K2	CO3
14. a)	Discuss the role of microorganism in spoilage of different type of food including meat, milk and vegetables.	13	K2	CO4
	(OR)			
b)	Evaluate the effectiveness of chemical food preservation methods including the use of natural antioxidants, antimicrobial enzymes and edible coatings.	13	K4	CO4
15. a)	Give detailed analysis of herbicide and pesticide contamination in food.	13	K4	CO5
	(OR)			
b)	Illustrate an overview of microbial and chemical safety of food products.	13	K5	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Describe the advantages and limitations of various heat processing techniques used in food preservation particularly in relation to nutrient retention and safety in food processing?	15	K3	CO2
	(OR)			
b)	Give a detailed note of how heavy metal, pesticide and herbicide contamination be analysed in food.	15	K4	CO5