Reg.No.:												

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

Question Paper Code: 9017

B.E. / B.Tech DEGREE END-SEMESTER EXAMINATIONS – MAY / JUNE 2024
Sixth Semester
Biotechnology
U19BTV48 – FOOD MICROBIOLOGY
(Regulation 2019)

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 fermentation.	2	K1	CO1
2.	What is the role of starter culture?	2	K1	CO1
3.	List the factors affecting the spoilage of food.	2	K1	CO2
4.	Name two microorganism involved in food spoilage in canned foods.	2	K2	CO2
5.	Give two reasons for growth of mold in bakery products.	2	K2	CO3
6.	List the symptoms of shigellosis.	2	K1	CO3
7.	Write the advantage of naturally occurring antimicrobials and give examples.	2	K2	CO4
8.	"High pressure helps in control of microbes in food"- substantiate.	2	K2	CO4
9.	What is principle of standard plate count?	2	K1	CO5
10.	Define impedance.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.		Questions	Marks	KL	CO
11.	a)	Explain the fermentative pathway of lactic acid bacteria with neat sketch.	13	K2	CO1

(OR)

	b)	Explain in detail the fermentation of soy products with suitable examples.	13	K2	CO1
12.	a)	Illustrate on the history and scope of food microbiology.	13	K2	CO2
		(OR)			
	b)	Discuss in detail about the microbial spoilage problems associated with sea food products.	13	K2	CO2
13.	a)	Explain the microbial spoilage of fruits and vegetables with suitable examples.	13	K2	CO3
		(OR)			
	b)	Write in detail about the food toxins and their effect in food spoilage.	13	K2	CO3
14.	a)	Explain about the action of antimicrobial chemical agents with suitable examples.	13	K5	CO4
		(OR)			
	b)	Examine the factors that are involved in tolerance of microbes towards antimicrobial agents.	13	K4	CO4
15.	a)	Elaborate the most portable number method for microbial load assessment.	13	K5	CO5
		(OR)			
	b)	Discuss in detail about the direct epifluroscence microscopy with suitable diagram.	13	K2	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Explain how the membrane filters are used for microbial load assessment with suitable calculations.	15	K5	CO5
		(OR)			
	b)	Elaborate in detail the working principle of flow cytometry to assess the microbial load with neat sketch.	15	K6	CO5