U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

August 2024 Semester End Main Examinations

Programme: B.E **Semester: III**
Branch: Chemical Engineering **Duration: 3 hrs.**
Course Code: 23CH3BSBFE **Max Marks: 100**
Course: Biology for Engineers

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Discuss physical and chemical methods for sterilization of contaminated microorganisms.	CO1	PO1	08
	b)	Explain the economic importance of fungi with examples.	CO1	PO1	08
	c)	What is the significance of lag phase in bacterial growth curve?	CO1	PO1	04
		OR			
2	a)	Explain the different sources of nutrients required to formulate the growth medium for microorganisms.	CO2	PO2	10
	b)	What are the environmental factors affecting microbial growth kinetics? Explain in detail.	CO2	PO2	10
		UNIT - II			
3	a)	Illustrate the structures of alpha helix and beta pleated sheets with sketches.	CO4	PO1	08
	b)	Discuss the classification of carbohydrates.	CO4	PO1	08
	c)	Enlist the functions of lipids.	CO4	PO1	04
		UNIT - III			
4	a)	Explain the factors affecting the kinetics of enzyme reactions.	CO2	PO1	10
	b)	Explain Applications of genetic engineering technology in agriculture.	CO3	PO2	10
		OR			
5	a)	How are enzymes classified based on their actions? Explain with suitable examples.	CO3	PO2	10
	b)	Define chromosomes. Explain the chromosome structure with a neat diagram and list its applications.	CO3	PO2	10

			UNIT - IV			
	6	a)	Write a note on applications of animal tissue culture.	***CO5***	***PO1***	**10**
		b)	Define plant tissue culture. What are the factors that affect the plant tissue culture?	***CO5***	***PO1***	**10**
			UNIT - V			
	7	a)	Define immunity. Discuss different types of active and passive immunity.	***CO2***	***PO1***	**10**
		b)	What are biosensors. Discuss their applications.	***CO6***	***PO2***	**10**

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