

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

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

Seventh Semester

Biomedical Engineering

OBT352 - Basics of Microbial Technology

(Common to Agricultural Engineering)

Regulations - 2021

Duration : 3 Hrs

Maximum Marks : 100

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.	How do microbes contribute to nutrient cycling in ecosystems?	RE	1	2
2.	What ways do microbes affect human health?	UN	1	2
3.	What factors influence the efficacy of chemical sterilization methods?	RE	2	2
4.	How does anaerobic fermentation differ from aerobic fermentation?	RE	2	2
5.	List the major symptoms of malaria.	UN	3	2
6.	Recall the prevention strategies to dengue fever.	RE	3	2
7.	What are biopesticides and how are they used in agriculture?	RE	4	2
8.	Identify the common methods used to study marine microbial communities.	AP	4	2
9.	Select the role of nitrogen-fixing bacteria in biofertilizers.	UN	5	2
10.	What role do vaccines play in controlling infectious diseases?	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 Explain the impact of microorganisms on human health and how do beneficial microbes contribute to our well-being.	UN	1	13
	Or			
	b Outline the biological classification of fungi. How do their unique characteristics differentiate them from plants and other microorganisms?	UN	1	13
12.	a Distinguish the role of cryopreservation in long-term storage of microorganisms.	AN	2	13
	Or			
	b Examine the importance of rapid diagnostic tests in clinical microbiology.	AN	2	13

13.	a	Identify the role of causative agents in the development of infectious diseases.	AP	3	13
		Or			
	b	Select the implications of long-term effects of COVID-19 and HIV on public health systems. How can healthcare infrastructure be strengthened to better address both acute and chronic infectious diseases?	AP	3	13
14.	a	Describe the methods used to detect and quantify microorganisms in food products.	UN	4	13
		Or			
	b	Illustrate the significance of the microbiome in animal health and disease.	UN	4	13
15.	a	Categorize the fermentation processes involved in the production of various fermented beverages.	AN	5	13
		Or			
	b	Analyze the mechanisms of action of different classes of antibiotics.	AN	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	Examine the various strategies used to prevent and control infectious diseases and list the roles of vaccination, sanitation, and public health policies in reducing disease incidence.	AN	3	15
		Or			
	b	Compare the various types of biopesticides. How do they differ from traditional chemical pesticides in terms of composition, mechanism of action and environmental impact?	AN	5	15