

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026***First Semester***ENVIRONMENTAL ENGINEERING****PEVT2402 – ENVIRONMENTAL MICROBIOLOGY***Regulations - 2024**Duration: 3 Hrs.**Maximum: 100 Marks***PART – A(ANSWER ALL QUESTIONS (Marks 10*2=20))**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Classify the various types of microorganisms.	L2	1	2
2.	Differentiate between DNA and RNA.	L1	1	2
3.	Write the importance of microbial diversity.	L1	2	2
4.	Specify the role of microorganism in nutrient cycle.	L2	2	2
5.	Recall the process of anaerobic fermentation.	L1	3	2
6.	State the principles of bioenergetics.	L2	3	2
7.	Compare α - oxidation and β – oxidation.	L2	4	2
8.	What is meant by bioleaching? Give examples.	L1	4	2
9.	List the lab testing methods of toxicity.	L1	5	2
10.	Predict the significance of bioconcentration.	L2	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 Compare the difference between prokaryotes and eukaryotes.	L2	1	10
	i List and explain the effects of water and air borne pathogens on human health.	L2	1	06
	Or			
b	i Illustrate the various techniques used in recombinant DNA technology in detail.	L2	1	06
	i How does the preservation of microorganisms contribute to industrial applications? Explain it.	L2	1	10
12. a	Analyze the step-by-step biosafety procedures followed in your laboratory in detail.	L4	2	16
	Or			
b	Compare nitrogen cycle and carbon cycle with suitable examples. Also state the significance of biochemical cycles.	L4	2	16

13.	a	i	Elaborate about the nutrition, metabolism and growth phases in microorganisms in detail.	L3	3	9
		i	Categorize the application of respiration measurements in environmental microbiology.	L3	3	7
	Or					
	b	i	Develop the steps involved in kreb's cycle and hexose monophosphate pathway in detail.	L3	3	9
		i	How does biodegradation apply to organic pollutants? Explain.	L3	3	7
		i				
14.	a	i	Identify and explain the various methods followed in the biological treatment process of waste water.	L2	4	10
		i	Infer about nitrification and denitrification process in waste water treatment systems.	L2	4	6
	Or					
	b	i	Examine about coliform and E-coli. How does this definition relate to presumptive, confirmed and completed tests? Explain in detail.	L2	4	6
		i	Outline the importance and environmental significance of BOD.	L2	4	10
		i				
15.	a		What is ecotoxicology? Evaluate the various factors influencing toxicity in detail.	L5	5	16
	Or					
	b		Explain in detail about bioassay and biomonitoring with suitable examples.	L5	5	16
