

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

MTech-I Semester (BT)

COURSE CODE (CREDITS): 18M1WBT134

MAX. MARKS: 35

COURSE NAME: Microbial Ecology

COURSE INSTRUCTORS:

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
Q1	What do you understand by Microcosm?	2
Q2	Name any two ecological biomarkers. How biomarkers could be utilized to study host-microbe interactions?	2
Q3	What is the utility of Pyro-sequencing in studying microbial communities? Discuss briefly.	2
Q4	Discuss briefly the microbial diversity of extremophiles.	2
Q5	Describe briefly the importance of the sulfur cycle in the ecosystem giving examples of the microbes involved in this cycle.	2
Q6	Explain the adaptations of microorganisms that enable them to survive in extreme environments such as deserts, hot springs, and mines.	5
Q7	Discuss the applications of microbial bioremediation in landfills and bioleaching. How do these processes benefit the environment?	5
Q8	Discuss the ecological significance of microorganisms in Terrestrial ecosystems: prairie and tundra.	5
Q9	What are microbial guilds, and how do they contribute to biogeochemical cycles?	5
Q10	How does quorum sensing facilitate interactions within microbial communities?	5