

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2022

M. Tech. Ist Semester (BT)

COURSE CODE (CREDITS):18M1WBT134

MAX. MARKS: 15

COURSE NAME: **Microbial Ecology**

COURSE INSTRUCTORS: **Dr. Ashok Kumar Nadda**

MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Section I

Q1. Answer the following questions.

- a) What is the difference between microbial mat and biofilm? **(Mark 1)**
- b) Explain the microbial niche and microbial community. **(Mark 1)**
- c) Give two examples of sulphur reducing bacteria. **(Mark 1)**
- d) What is the low nutrient environments commonly found in nature? **(Mark 1)**
- e) What is Neuston layer and how the environmental factor affects the microbial growth in this layer? **(Mark 1)**

Section II

Q 2 Discuss the role of decomposers to maintain the health of ecosystem. How do the saprophytic bacteria play a crucial role in biochemical cycles? **(Marks 1.5)**

Q 3 Enlist the various analytical techniques used to study the microorganisms in microbial ecosystem. **(Marks 1.5)**

Q 4 How the estuarine habitat does differ from the fresh water and marine habitat? Explain in brief. **(Marks 2)**

Section III

Q 5 What are the Lentic and Lotic environments in fresh water ecosystem. Classify ~~these~~ both of them into different zones. **(Marks 2.5)**

Q 6 Discuss the role of microorganism to maintain the nitrogen and phosphorus cycle. **(Marks 2.5)**