

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATIONS-2023

B. Tech. 3rd Semester (Microbiology)

COURSE CODE (CREDITS): 18B11BT414

MAX. MARKS: 25

COURSE NAME: **Microbiology**

COURSE INSTRUCTORS: **Dr. Ashok Kumar Nadda** MAX. TIME: 1 Hour and 30 minutes

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

Section I

Q 1 Answer the following questions.

- a) Write the definitions of Lithoautotrophs, and Saprobies. **(Mark 1)**
- b) How do the benzyl peroxide, hydrogen peroxide, peracetic acid, and ozone exert their effects to control the growth of microorganisms? **(Mark 1)**
- c) What are broad & narrow spectrum antibiotics? Give one example of each. **(Mark 1)**
- d) Among the protozoan and enveloped viruses which one is most resistant towards chemical biocides and why? **(Mark 1)**
- e) What are the difference between halophile and alkaliphiles. **(Mark 1)**

Section II

Q 2 Among the direct methods of microbial growth count, why microscopic count is a better choice as compared to membrane filtration and viable plate count? **(Marks 2.5)**

Q 3 With the help of a suitable example discusses the action of antibiotics on the nucleic acid and cell wall. Explain diagrammatically. **(Marks 2.5)**

Q 4 During microbial growth in which phase, number of cells produced = number of cells dying and over all cell number does not increase? Explain with the help of suitable diagram and reason for the above statement. **(Marks 2.5)**

Q 5 What are synchronous and continuous bacterial growth cultures? **(Marks 2.5)**

Section III

Q 6 What are the various physical methods of microbial growth control? Explain briefly. Why moist heat is more effective than dry heat to kill the microorganisms? **(Marks 3.0)**

Q 7 Give a detailed account of various antibiotic sensitivity tests used to check the efficacy of the antibiotics against microorganisms **(Marks 3.5)**

Q 8 How to obtain a pure culture of bacteria from the given soil sample containing a mixture of bacteria fungi and other living microbial genera? Explain diagrammatically. **(Marks 3.5)**