

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATIONS-2023

B. Tech. 3rd Semester

COURSE CODE (CREDITS): **18B11BT414**

MAX. MARKS: 35

COURSE NAME: **Microbiology**

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

MAX. TIME: 2 Hour

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

Section I

Q 1 Answer the following questions.

- a) What is an episome? How does the F factor play a role in conjugation? (Mark 1)
- b) Give two examples of bacterial and fungal disease in human beings? (Mark 1)
- c) What are prebiotics? Give one example. (Mark 1)
- d) What are bioguanides? Give one example (Mark 1)
- e) Write the two examples of thermophilic fungal genera. (Mark 1)

Section II

Q 2 How the saturation of fatty acids in the membrane of Barophilic microbes does aids to their survival in extreme conditions? Explain briefly and give two examples of barophiles (Marks 3.5)

Q 3 With the help of a suitable example discuss the free living and symbiotics nitrogen fixing biofertilizers. Why to use the biofertilizers in the modern agriculture (Marks 3.5)

Q 4 What are the health benefits of Probiotics? Discuss the mode of action & various factors that affect the probiotics ecosystem. (Marks 3.5)

Q 5 Write the major symptoms of Tuberculosis? Name the causal agent of tuberculosis and its treatment measures. How does this disease spread from one person to another, discuss briefly. (Marks 3.5)

P.T.O.

Section III

Q 6 How does the natural *Bacillus thurengiensis* (BT) works against the moth larvae of lepidopteran insect? Explain the various steps in the mechanisms of action of natural BT (Marks 4)

Q 7 Give a detailed account of various adaptation mechanisms of thermophilic microorganisms to survive in high temperature conditions (Marks 4)

Q 8 Discuss the symptoms epidemiology and treatment of cholera disease. How can we prevent the cholera infection in the healthy individuals (Marks 4)

Q 9 Give a brief account of size and shape of archaebacteria. What are the various phyla of archaebacteria. Discuss briefly the characteristics of each phylum with suitable example. (Marks 4)

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