

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2024

B. Tech. BT/BI-3rd Semester

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

MAX. MARKS: 25

COURSE NAME: **Microbiology**

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

MAX. TIME: 1 Hour 30 Minutes

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

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

Section I

Q 1 Answer the following questions.

- Why bacterial endospores are most resistance to microbial control? [Mark 1]
- All archaeobacteria are extremophiles. Explain with suitable example [Mark 1]
- What are broad & narrow spectrum antibiotics? Give one example of each. [Mark 1]
- Differentiate between moist heat and dry heat sterilization and which one is most effective? [Mark 1]
- How do the phenol, hydrogen peroxide, chlorine, and ozone exert their effects to control the growth of microorganisms? [Mark 1]

Section II

Q 2 How the transduction does differs from transformation in microbial reproduction? Discuss the role of various scientists to explain the understanding of transfer of genetic materials and changes in cell physiology? (Marks 2.5)

Q 3 With the help of a suitable example discusses the action of antibiotics on the ribosomal subunits (30S and 50S) 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 the High frequency recombination (Hfr) plasmids? How do these plasmids formed inside the cell. Explain diagrammatically. (Marks 2.5)

Section III

Q 7 Give a detailed account of various antibiotic sensitivity tests used to check the efficacy of the antibiotics against microorganisms **(Marks 4)**

Q 8 Discuss the epidemiology, pathogenesis and diagnosis of following bacterial diseases in human beings. Write causative agents, incubation period and symptoms for given diseases. **(Marks 6)**

- a) Tuberculosis
- b) Tetanus
- c) Q fever

JUIT TEST-2 EXAMINATION-APRIL-2024