JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

M.Sc.-II Semester (M.Sc. Microbiology)

COURSE CODE(CREDITS): 21MS1MB211 (03)   MAX. MARKS: 15

COURSE NAME: Enzymes & Bioprocess Technology

COURSE INSTRUCTORS: Dr. Saurabh Bansal   MAX. TIME: 1 Hour

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.

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1. How the bioprocessing is advantageous over the conventional chemical methods of production? [2]

2. Differentiate between organic catalyst (Enzymes) and inorganic catalyst. [2]

3. How the absolute specificity is different from the relative specificity? Explain with suitable examples. [2]

4. What do you understand by holoenzymes? Give an example. [1]

5. In an experiment, when you incubate an enzyme 'A' with iodoacetamide, the enzyme loses its activity whereas other enzyme 'B' sustains its activity. How will you interpret the observation? [2]

6. Draw the MM Plot and LB Plot for competitive inhibition. [2]

7. Suppose an enzyme A has a 0.5 mM Km value for its substrate (X) and another enzyme B has shown 0.05 mM Km value for the same substrate. Which enzyme will you prefer for setting up the reaction and why? [2]

8. In an enzyme-catalyzed reaction at 25 °C, Km is equal to 0.1 mM. The rate of reaction is 1×10^{-3} Msec^{-1}, when the substrate concentration is 0.1 M. Determine the maximum velocity of the reaction. [2]