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(20425) Roll INo. R2306862500621

B.Sc. Bio-Tech.-II Year

3472

B.Sc. (Biotechnology)

Examination, April-2025

ENZYMES AND ENZYME TECHNOLOGY

(B-209)

(B.Sc. Biotech.)

Time : Three Hours] *[Maximum Marks : 50*

Note : Attempt any **five** questions. **All** questions carry equal marks.

1. What is reversible inhibition? Derive Michaelis Meten Equation for initial velocity in the presence of a non-competitive type of inhibitor. Recast the equation in the form of double-reciprocal plot and make inference from the plot. 10

P.T.O.

2. Define the process of immobilization. Name the various methods of immobilization. Describe physical adsorption and covalent methods of immobilization. 10

3. Write note on following: 10

   (i) Multienzyme complexes

   (ii) Coenzymes

   (iii) Enzyme engineering

   (iv) Salt precipitation

   (v) Allosteric enzymes

4. Discuss following methods of plotting kinetic data and determining Km and Vmax values: 10

   (i) Double reciprocal plot,

   (ii) Hofstee's plot.

5. What are Bi-substrate reactions? Discuss various mechanisms of Bi-substrate reactions. 10

6. Write major historical landmarks in the field of enzymology. 10

7. Derive Michaelis-Menten equation by assuming the steady state conditions. 10

8. What is active site? Write its common features. Discuss Lock and Key model and induced fit hypothesis. 10

9. Briefly discuss various methods of extraction of enzymes from microbial, plant and animal tissues. 10

10. Write note on followings: 10

    (i) EC number (ii) Isozyme

    (iii) Vmax (iv) Km

    (v) Coenzyme