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(20426) Roll No. .....

B.Sc. Bio-Tech.-II Year

3472

B.Sc. (Biotechnology)

Examination, April-2026

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 enzyme inhibition? With the help of diagram explain competitive, non-competitive and uncompetitive inhibition. 10

2. Discuss the significance of V_{max} and K_m including the derivation and graphical representation for the 10

   (a) Michaelis-Menten equation

   (b) Lineweaver-Burk plot

P.T.O.

3. Define enzymes. Explain enzyme classification system with examples. 10

4. What is enzyme purification? Explain the various methods involved in enzyme purification. 10

5. Explain the following with examples: 10

   (a) Enzyme Thermistor

   (b) Bi-substrate reactions

   (c) Affinity chromatography

   (d) ISO enzymes

   (e) Allosteric enzymes

6. Elaborate the applications of enzymes immobilization in pharmaceutical and food industries. 10

7. Write short notes on the following: 10

   (a) Lock and key hypothesis

   (b) Enzyme commission number

   (c) Feed back inhibition

   (d) Induced fit hypothesis

8. Discuss the various procedures of enzyme extraction from microbial, plant and animal tissues. 10

9. What is enzyme engineering? Discuss the various techniques involved to modify the enzyme properties. 10

10. Discuss the role of covalent modification in enzyme regulation. Explain how these modifications can activate or inhibit enzyme activity giving examples. 10

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