Sub: Enzyme Engineering.

22/5/15

(24)

BT/VI/CBGS/EE

QP Code : 5190

Max Marks: 80

Duration: 03 Hrs

N. B: i) Q.No 1 is compulsory

ii) Answer any three of remaining five questions

Q1. A) Explain different structures of protein [06]

B) Explain acid base catalysis and metal ion catalysis. [06]

C) Explain Koshland's induced fit model for mono substrate reaction. [08]

Q2. A) Explain active site and its structure. [06]

B) List out various enzyme specificities. [06]

C) What are the factors affecting the enzyme activity? Explain. [08]

Q3. A) Describe methods of immobilization of enzyme. Explain any two in detail. [10]

B) Following experimentai data were collected during the study of catalytic activity of [10]

Glycylglycine + H_2O ⟶ 2 Glycine

[S] µmol	1.5	2	3	4	8	16
Product µmol/min	0.21	0.24	0.28	0.33	0.4	0.45

Evaluate V_{max} and K_m by Michaelis Menten plot and Lineweaver Burk plot.

Q4. A) Explain in detail applications of enzymes in different industries. [10]

B) Explain how enzymes are incorporated in biosensors and biochips. [10]

Q5. A) What is enzyme inhibition? Classify and derive the equation for competitive inhibition. [10]

B) Explain different techniques of enzyme activity analysis. [10]

Q6. Write a short note on: [20]

i) Western blotting
ii) Spectrophotometry
iii) Isolation protocol for intra cellular and extracellular enzymes
iv) List of various enzymes used in leather and detergent industry.

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