

(i) Printed Pages : 2

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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B.Sc. (Hons.) Biotechnology 5th Semester
(2122)

ENZYMOLGY

Paper : BIOT-504-T

Time Allowed : Three Hours]

[Maximum Marks : 67

Note :— Attempt FIVE questions in all. Question No. 1 is compulsory.
Select ONE question from each Unit. All questions carry
equal marks except Q. 1.

1. (a) Define Activation energy. 2
- (b) What is K_m and K_{cat} ? 2
- (c) What are Units of Enzyme Activity ? 2
- (d) Differentiate between Metal activated enzymes and Metalloenzymes. 3
- (e) What are Thermophilic Enzymes ? How do they function ? 3
- (f) How does sigmoidal kinetics relate to Allosteric enzymes ? 3

UNIT—I

2. (a) What are important properties of enzymes ? 6
- (b) What is Transition State Stabilization Hypothesis of ES complex formation ? How is it different from earlier Models ? 7
3. (a) Discuss concept of Activation Energy and its relation to rate of a reaction in Enzyme Catalysis. 6

- (b) How are Coenzymes different from Cofactors ? Explain role of Coenzymes in metabolic pathways with example. 7

UNIT—II

4. (a) How do pH and temperature affect enzyme activity ? Discuss. 6
(b) What is Michaelis Menten equation ? State assumptions used for Michaelis Menten rate equation and discuss the significance of K_m . 7
5. (a) Discuss the role of enzymes as Thrombolytic and Anti Inflammatory agents. 8
(b) What is Enzyme activity and Specific Activity ? What are the Units to measure enzyme activity ? 5

UNIT—III

6. (a) Write about Feedback Inhibition and Allosteric Regulation. 7
(b) What are Ribozymes ? Discuss their mode of action. 6
7. (a) Elaborate on different mechanisms of Enzyme Catalysis. 8
(b) What are Catalytic Antibodies ? Discuss their mechanism of action. 5

UNIT—IV

8. (a) How are Amylases and Lipases applied in industrial Fermentations ? 6
(b) How are Immobilized Enzymes applied in industry ? 7
9. (a) Write a note on Metal Degrading Enzymes. 7
(b) How are Enzymes applied as Antiinflammatory agents ? 6