(i) Printed Pages : 2

(ii) Questions : 9

Roll No. .....

Sub. Code : 0985

Exam. Code : 0037

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

**(2122)**

**ENZYMOLOGY**

**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 Km and Kcat ? 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 Km. 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