(i) Printed Pages : 3

(ii) Questions : 9

Roll No. .....

Sub. Code : 0985

Exam. Code : 0037

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

(2123)

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 Active site and Activation energy. 2

(b) What is the difference between Apoenzyme and Holoenzyme ? 2

(c) What is Km and Kcat ? 2

(d) What is product inhibition ? 2

(e) What is Stereospecificity ? Give examples. 2

(f) List and define units of enzyme activity. 2

(g) What are Isozymes ? Give examples. 3

UNIT—I

2. (a) What are Enzymes ? Discuss their important properties. 7

   (b) Discuss the concept of activation energy and enzyme catalysis. 6

3. (a) Differentiate between group and absolute specificity giving examples. 6

   (b) What is Strain Distortion and Transition State stabilization Hypothesis of ES complex formation ? Discuss. 7

UNIT—II

4. (a) List and discuss factors affecting Solubility/Activity of Enzymes. 7

   (b) What do you know about Competitive and Uncompetitive and Non-Competitive **inhibitors** ? 6

5. (a) Derive Michaelis Menten Rate Equation. 7

   (b) List the assumptions used for Michaelis Menten rate equation and discuss significance of Km. 6

UNIT—III

6. (a) Discuss Acid Base, Covalent and Metal Ion Catalysis. 7

   (b) What are Ribozymes ? Discuss mode of action. 6

7. (a) What are Multienzyme Complexes ? Discuss their significance in metabolism. Give example. 7

(b) Write a note on Feedback Inhibition and Allosteric Regulation. Give examples. 6

UNIT—IV

8. (a) What are Immobilized Enzymes ? How are Immobilized Enzymes applied in industry ? 7

(b) Discuss the application of Proteolytic enzymes in leather industry. 6

9. (a) Deliberate on Enzymes as Thrombolytic agents. Discuss giving examples. 7

(b) What are Metal degrading enzymes ? Discuss application. 6