

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

1	7	9	8	4
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Exam. Code :

0	0	3	7
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**B.Sc. (Hons.) Biotechnology 5th Semester
(2125)**

ENZYMOLGY

Paper : BIOT-504-T

Time Allowed : Three Hours]

[Maximum Marks : 67

Note :—Five questions are to be attempted in total. Q. No. 1 is compulsory. **One** question is to be attempted from each Unit.

1. (a) Differentiate between holoenzyme and apoenzyme.
- (b) Explain the concept of the transition state in enzyme catalysed reaction.
- (c) Explain group specificity with example.
- (d) Define specific activity of enzyme.
- (e) How temperature affects the enzyme activity?
- (f) Define turnover number.
- (g) What are allosteric enzymes?
- (h) What are catalytic antibodies?
- (i) Explain ribozymes.
- (j) Define isoenzymes with an example. 10×1.5

UNIT—I

2. Explain the following :
- (a) General properties of enzymes.
 - (b) Concept of the active centre.
 - (c) Coenzymes and cofactors with examples 5,4,4
3. Write short note on the following :
- (a) Activation energy in enzyme catalysis.
 - (b) Stereo specificity.
 - (c) Lock and key and Induced fit hypothesis. 4,4,5

UNIT—II

4. (a) Derive the Michaelis-Menten equation and explain the significance of K_m and V_{max} .
- (b) Explain enzyme activity with example. 10,3
5. (a) Explain how enzyme activity is affected by pH and substrate concentration.
- (b) Discuss competitive and non-competitive inhibition with kinetic plots. 6,7

UNIT—III

6. (a) Explain the mechanisms of feedback inhibition with suitable example.
- (b) Write a short note on organization of enzymes in the cell. 7,6

7. (a) Discuss with example how acid-base catalysis is used by enzymes.
- (b) Explain multienzyme complexes. Why do multienzyme complexes increase reaction efficiency? 7,6

UNIT—IV

8. (a) Describe the industrial applications of immobilized enzymes.
- (b) Explain the applications of amylases and proteases in industries. 7,6
9. (a) Discuss the role of enzymes in medicine as thrombolytic and anti-inflammatory agents.
- (b) Explain metal degrading enzymes. 7,6