

(i) Printed Pages : 2

Roll No.

(ii) Questions : 9

Sub. Code :

2	5	9	4	3
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Exam. Code :

0	4	3	6
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M.Sc. (Bio-Technology) 2nd Semester
(2056)

ENZYMOLGY AND ENZYME TECHNOLOGY

Paper : MBIO-203

Time Allowed : Three Hours]

[Maximum Marks : 80

Note :— Attempt **five** questions in all. Q No. 1 is compulsory. Attempt **one** question from each unit.

1. (a) Define active site and explain its significance in enzyme catalysis.
- (b) Define turnover number.
- (c) Explain K_m and its significance.
- (d) What is irreversible inhibition?
- (e) What are isoenzymes? Give one example.
- (f) What is the function of DNA polymerase?
- (g) Discuss functions of lipoproteins.
- (h) How does the fluidity of the membrane affect enzyme activity?

2×8

UNIT-I

2. (a) Describe enzyme specificity with example.
- (b) Explain the effect of temperature and pH on enzyme activity.

8,8

3. (a) Describe enzyme nomenclature and classification with examples.
(b) Explain the flow chart for methods for enzyme purification. 10,6

UNIT-II

4. (a) Derive and explain the Michaelis-Menten equation.
(b) Discuss Lineweaver-Burk and Eadie-Hofstee plots for enzyme kinetics. 8,8
5. (a) Describe competitive inhibition with suitable examples.
(b) Explain substrate inhibition with example. 8,8

UNIT-III

6. (a) Explain with example acid-base catalysis of enzyme-based reactions.
(b) Explain the mechanism of action of lysozyme. 8,8
7. (a) Describe the role of metal ions in enzyme catalysis.
(b) Write short notes on multienzyme complexes and catalytic antibodies. 8,8

UNIT-IV

8. (a) Describe membrane-bound enzymes and their extraction methods.
(b) Discuss glycoproteins and their biological functions. 8,8
9. (a) Explain the principle and working of biosensors with examples.
(b) Describe two methods of enzyme immobilization and their significance. 8,8