

1128

B.Sc. (Hons.) Biotechnology
Fifth Semester
BIOT-Sem-V-V-T: Enzymology

Time allowed: 3 Hours

Max. Marks: 67

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Define Transition State. (2)
- b) What is Stereospecificity? (2)
- c) What is Specific activity? (2)
- d) Differentiate between Cofactor and Prosthetic Group. (3)
- e) What is K_{cat} and K_m ? Define and differentiate. (3)
- f) How is Streptokinase used in therapeutics? (3)

UNIT - I

- II. a) Explain the concept of Active Site and Activation Energy.
- b) Discuss Evidences for ES complex Formation. (6,7)
- III. a) What are characteristic features of Enzymes.
- b) What are Coenzymes? Discuss their role in Metabolism. (7,6)

UNIT - II

- IV. a) Discuss Factors that influence enzyme activity.
- b) What is Steady state Kinetics? Derive Michaelis Menten rate equation. (6,7)
- V. a) How are enzymes used as Thrombolytic agents?
- b) Write a note on Isozymes. (7,6)

P.T.O.

(2)

UNIT - III

- VI. a) Discuss Feedback inhibition with reference to Allosteric regulation.
b) How is Covalent modification and Proteolytic activation involved in Enzyme regulation? (7,6)
- VII. a) Write about Multienzyme complexes and their role in metabolism.
b) What are Ribozymes? Discuss their mechanism of action? (6,7)

UNIT - IV

- VIII. a) How are Immobilized enzymes industrially important?
b) What are Metal Degrading Enzymes? Discuss their application with example. (8,5)
- IX. a) How are Enzymes applied in Fermentation? Discuss.
b) Write a note on Role of Enzymes in Meat industry. (7,6)

x-x-x