

Exam.Code:0037  
Sub. Code: 0985

2012  
B.Sc. (Hons.) Biotechnology  
Fifth Semester  
BIOT-Sem-504-T: Enzymology

Time allowed: 3 Hours

Max. Marks: 67

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.*

*x-x-x*

I. Attempt the following :-

- a) What is Transition State Theory? (2)
- b) Define Cofactor and Prosthetic group. (2)
- c) What are Zymogens? (2)
- d) What are Thrombolytic enzymes? (2)
- e) Give one method of Enzyme Immobilization. (2)
- f) What are Allosteric enzymes? Give examples. (2)
- g) Give examples of Stereospecificity of Enzymes. (3)

**UNIT - I**

- II. a) Explain Free energy profile and Thermodynamics of Enzyme Catalysed Reaction.  
b) Discuss Strain /Distortion and Transition State Stabilization Theory for Enzyme Substrate interaction. (2x6½)
- III. Elaborate on various Coenzymes involved in metabolic pathways Giving examples of reactions Catalysed. (13)

**UNIT - II**

- IV. Derive and Discuss Michaelis Menten rate equation. Write assumptions used. (13)
- V. Explain factors Affecting Enzyme Activity and rate of Reaction. (13)

**UNIT - III**

VI. Write notes on:-

- a) Covalent modification as a mechanism of enzyme regulation
- b) Catalytic antibodies (2x6½)

P.T.O.

(2)

- VII. a) What are different mechanisms of Enzyme Catalysis? Explain any two with examples.
- b) Explain mechanism of Feedback Inhibition and Allosteric Regulation. (2x6½)

**UNIT - IV**

- VIII. Write notes on:-
- a) Thermophilic enzymes
- b) Isozymes (2x6½)
- IX. Write about application of Enzymes as Thrombolytic and Anti inflammatory agents. (13)

x-x-x