

S.Y.B.Sc. (With Credits)-Regular-Semester 2012 Sem IV  
**B.Sc.2481 - Biochemistry Paper-I (Enzymology)**

P. Pages : 2

Time : Three Hours



**GUG/W/16/5592**

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw well labelled diagrams wherever necessary.

1. Describe in detail about the covalently modulated regulatory enzymes and allosteric enzymes with suitable examples. **10**

**OR**

Give mechanism of action of Ribonuclease and chymotrypsin. **10**

2. Explain various inhibitors with graphical representations. **10**

**OR**

Describe in detail about the various fractionation procedures. **10**

3. a) Explain lock and key model. **2½**  
b) Explain the role of Riboflavin as a coenzyme precursor. **2½**  
c) Derive M.M. equation. **2½**  
d) Explain the importance of homogeneity in enzyme isolation and purification. **2½**

**OR**

- e) Explain induced fit model. **2½**  
f) Explain the effect of temperature on enzyme activity. **2½**  
g) Give general pH profile diagram and explain the effect of pH on enzyme activity. **2½**  
h) Give medicinal applications of enzymes. **2½**
4. a) Give only the classification of enzymes. **2½**  
b) Explain the effect of enzyme concentration on rate of reaction. **2½**  
c) Explain Ping- Pong mechanism. **2½**  
d) Give industrial applications of enzyme immobilization any five. **2½**

**OR**

- e) What is metal ion catalysis? **2½**

- f) Explain the role of thiamine as coenzyme precursors. 2½
- g) Give brief introduction of sequential mechanism. 2½
- h) Give importance of enzyme assay. 2½

**5.** Solve **any ten** of the following. **10**

- a) What is cofactor?
- b) What is proximity effect?
- c) What is acid-base catalysis?
- d) What is temperature quotient?
- e) Name the two co-enzymes obtained from Niacin.
- f) Give one factor responsible for upward curvature.
- g) Define enzyme kinetics.
- h) Define  $K_m$ .
- i) Define  $K_{cat}$ .
- j) What is dialysis?
- k) What is aspartame?
- l) Define Katal?

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