

Seat No. : _____

XB-129
T.Y. B.Sc.
March-2013
New Course
Biochemistry (Paper-8)
(Enzymology)

Time : 3 Hours]

[Max. Marks : 70

1. (a) Compare and contrast biological catalysts with chemical catalysts. **6**
- (b) Describe the properties and significance of multi enzyme complex. **6**
- (c) Name two Enzymologists. **2**

OR

- (a) Describe the various associations of metal ions in metalloenzymes. Describe their properties. **6**
- (b) Give an account on enzyme specificity. **6**
- (c) What is a Zymogen ? Give an example. **2**

2. (a) Discuss the factors affecting the rate of enzyme reactions. Give necessary graphs. **12**
- (b) Name any contribution of Koshland to enzymology. **2**

OR

- (a) Giving suitable examples, explain mechanism of enzyme reaction with two substrates. **6**
- (b) Discuss four digit classification of enzymes. **6**
- (c) Give a reaction where Biotin acts as coenzyme. **2**

3. (a) With the help of examples explain enzyme inhibition and their effect on double reciprocal plot. **8**
- (b) Describe various methods of Km determination. **4**
- (c) What is a suicide inhibitor ? **2**

OR

- (a) Describe allosteric enzymes and their kinetics. **12**
- (b) Define Km and write on its significance. **2**

4. (a) Describe Clark electrode method for monitoring enzyme reaction. **6**
(b) Explain enzyme purification with organic solvents and salt fractionation. **6**
(c) What is specific activity of enzyme ? **2**

OR

- (a) Write on precautions taken while working with enzymes. Why ? **6**
(b) Describe an enzyme purification table and discuss the methods to check purity of enzyme preparation. **6**
(c) Define enzyme unit. **2**
5. (a) Explain enzyme immobilization. **6**
(b) Explain the application of enzymes in clinical Biochemistry. **6**
(c) What is a biosensor ? **2**

OR

- (a) Describe the industrial applications of enzymes. **12**
(b) List the applications of enzymes in Food industry. **2**
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