

Seat No. : \_\_\_\_\_

# LG-107

April-2014

B.Sc. (Sem.VI)

## CC-310 : Biochemistry (Advanced Enzymology)

Time : 3 Hours]

[Max. Marks : 70

1. Discuss competitive, non-competitive & uncompetitive inhibitors with appropriate examples & their kinetics. **14**

**OR**

- (a) Derive Michaelis-Menton equation for the enzyme catalyzed reaction. **8**  
(b) Discuss any two methods for determination of  $K_m$  and  $V_{max}$ . **6**

2. (a) Discuss with elaborate illustrations Spectrophotometric method for following enzyme reactions. **10**  
(b) Write a note on handling of enzyme. **4**

**OR**

- (a) Describe Manometric method for following enzyme reactions with appropriate examples. **8**  
(b) Discuss various units for enzymes. **6**

3. Discuss in detail the use of chromatographic techniques in enzyme purification. **14**

**OR**

- (a) What is enzyme homogeneity ? Discuss the various methods to check it with respect to purification of enzymes. **10**  
(b) Discuss the sources of enzymes with respect to purification of enzymes. **4**

4. Discuss enzymes as medicines in detail with examples, advantages and disadvantages of their use. **14**

**OR**

- (a) Discuss Biosensors in detail with respect to their components, types & use. **12**  
(b) How will you estimate Uric Acid by using enzyme ? Explain with proper diagram. **2**

5. Answer the following questions :

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| (1) Define Immobilized enzymes.  | 2 |
| (2) Define irreversible inhibitor with one example.  | 2 |
| (3) What is concerted model for allosteric enzymes ?                                       | 2 |
| (4) Name the allosteric modulators of ATCase.  | 1 |
| (5) What type of enzyme reactions can be following by Thunberg method ?                    | 1 |
| (6) What is salting-in ?   | 1 |
| (7) An enzyme produces acid, by which all methods can we estimate it. Justify your answer. | 2 |
| (8) Name two enzymes that are important from clinical application point of view.           | 2 |
| (9) Discuss any one application of enzymes in food industry.                               | 1 |
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