

Seat No. : _____

SL-112

September-2020

B.Sc., Sem.-VI

CC-310 : Biochemistry (Advanced Enzymology)

Time : 2 Hours]

[Max. Marks : 50

- Instructions :**
- (1) All Questions in **Section I** carry equal marks.
 - (2) Attempt any **THREE** questions in **Section I**.
 - (3) Question IX in **Section II** is **COMPULSORY**.

Section – I

Attempt any **3** out of **8** questions.

1. Discuss in detail Competitive & Non-competitive Inhibitors with proper examples. Discuss their kinetic properties. 14
2. (A) Define K_m & discuss its importance. 7
(B) Describe KNF model for allosteric enzymes. Write the full form of MWC model. 7
3. Discuss in detail the use of Spectrophotometric method in following enzyme reactions with examples. 14
4. (A) Write a note on general handling enzymes. 7
(B) Discuss any seven enzyme units. 7
5. What is enzyme homogeneity ? Discuss the criteria for enzyme homogeneity. 14
6. (A) Discuss fractional precipitation of enzymes by organic solvents with respect to its purification. 7
(B) List the various column chromatography methods for enzyme purification. Discuss any one of them. 7
7. List different methods of immobilization of enzymes. Discuss any two of these methods. 14
8. (A) Discuss the use of enzymes as reagent for estimation of Glucose, Urea and Uric acid from samples. 7
(B) Discuss the use of any three enzymes in biotechnology industry. 7

Section – II

9. Attempt any **8 (eight)** :

8

- (1) What is an Allosteric site ?
- (2) What is the effect of uncompetitive inhibitors on V_{max} & K_m ?
- (3) Write the Michaelis Menten equation.
- (4) What are K-type & M-type of allosteric enzymes ?
- (5) Draw & label Clark's electrode.
- (6) Give two advantages of Spectrofluorometric method for following enzyme reactions.
- (7) What is an enzyme assay ?
- (8) Write one precaution taken while handling enzymes.
- (9) State two methods for extraction of enzymes for Enzyme purification.
- (10) On what bases will you select a source of enzyme for Enzyme purification ?
- (11) Why do we need to estimate proteins during Enzyme purification ?
- (12) Generally which salt is used for precipitation of proteins during Enzyme purification ?
- (13) What are Biosensors ?
- (14) Name two enzymes important for clinical diagnosis for heart disease.
- (15) What is the use of protease in food industries ?
- (16) List one disadvantage of use of enzyme as medicine.