

Seat No. : _____

AK-123

April-2022

B.Sc., Sem.-VI

CC-310 : Biochemistry

(Advance Enzymology)

Time : 2 Hours]

[Max. Marks : 50

Section – I

Attempt any **three** :

1. (a) Derive Michaelis Menton equation. **8**
(b) Describe Allosteric enzyme ATCase & its kinetics. **6**
2. (a) Discuss competitive inhibitors with appropriate examples & their Kinetics. **8**
(b) Discuss Lineweaver - Burk plot for determination of Km & Vmax. What are its advantages & Limitations ? **6**
3. (a) Describe various enzyme units. **10**
(b) Discuss Chemical method for following enzyme reaction rate in detail. **4**
4. (a) Discuss Spectrophotometric method for following enzyme reaction rate in detail. **12**
(b) What is enzyme assay ? **2**
5. Discuss in detail Chromatographic methods used in purification of enzymes. **14**
6. (a) Write a note on Purification table. **7**
(b) Discuss fractional precipitation by salts. **7**
7. (a) Discuss any four examples of enzyme application in biotechnology. **8**
(b) Write the advantages of immobilized enzymes. **6**
8. (a) Describe use of enzymes as reagents in estimation of Glucose, Urea, Cholesterol, Cholesterol Ester & Triglyceride. **10**
(b) Discuss the use of Protease & Lactase in various food industries. **4**

Section – II

9. Attempt any 8 :

8

- (1) Give one importance of K_m .
 - (2) What is noncompetitive inhibition ?
 - (3) What is the other name of MWC model for Allosteric enzymes ?
 - (4) What does KNF model for Allosteric enzymes say ?
 - (5) When can we use Spectrofluorometric method for following enzyme reaction rate ?
 - (6) Which methods can be used for following enzyme reaction rate of Dehydrogenase ?
 - (7) Name the types of Manometric methods used for following enzyme reaction rate.
 - (8) When using organic solvent for enzyme purification, what precautions need to be taken ?
 - (9) What is a test method in enzyme purification ?
 - (10) What is the importance of specific activity in enzyme purification ?
 - (11) What points need to be kept in mind for selection of a source of enzyme for enzyme purification ?
 - (12) What does enzyme homogeneity mean ?
 - (13) Draw a labelled schematic diagram of a Biosensor.
 - (14) List different methods of immobilization of enzymes.
 - (15) Name any two enzymes that are of use in diagnosis of cardiac infarction ?
 - (16) Give an example of an enzyme that can be used as a therapeutic agent & name the disease where it can be used.
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