

Seat No. : _____

AE-127

April-2023

B.Sc., Sem.-VI

CC-310 : Biochemistry (Advance Enzymology)

Time : 2½ Hours]

[Max. Marks : 70

1. (a) Derive Michaelis Menton equation. 8
(b) Discuss Lineweaver - Burk plot for determination of Km & Vmax. What are its advantages & limitations ? 6

OR

- (a) Discuss competitive inhibitors with appropriate examples & their Kinetics. 7
(b) Describe Allosteric enzyme ATCase & its kinetics. 7
2. (a) Describe various enzyme units. 10
(b) Discuss Chemical method for following enzyme reaction with an example. 4

OR

- (a) Discuss Spectrophotometric method for following enzyme reaction rate in detail with examples. 10
(b) Write a note on enzyme assay ? 4
3. Discuss in detail Chromatographic methods used in purification of enzymes. 14

OR

- (a) Write a note on Purification table. 7
(b) Discuss fractional precipitation by salts in detail. 7
4. (a) Discuss any 4 examples of enzyme application in biotechnology. 10
(b) Write the advantages of immobilized enzymes. 4

OR

- (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

5. Attempt any 7 :

14

- (1) What is noncompetitive inhibition ? Give an example.
 - (2) What is the other name of MWC model for Allosteric enzymes ? Why ?
 - (3) What does KNF model for Allosteric enzymes say ?
 - (4) When can we use Spectrofluorometric method for following enzyme reaction rate ?
 - (5) Which methods can be used for following enzyme reaction rate of Dehydrogenase ?
 - (6) Name the types of Manometric methods used for following enzyme reaction rate. Give an example of an enzyme that can be followed using Manometric method.
 - (7) When using organic solvent for enzyme purification, which two precautions need to be taken ?
 - (8) What is a test method in enzyme purification ?
 - (9) What points need to be kept in mind for selection of a source of enzyme for enzyme purification ?
 - (10) What does enzyme homogeneity mean ?
 - (11) Draw a labelled schematic diagram of a Biosensor.
 - (12) 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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