

B.Sc. Sem.-6 Examination

CC-310

Biochemistry

April-2025

Time : 2-30 Hours]

[Max. Marks : 70

- Q1a) Derive Michaelis-Menton equation. (07)
 b) Define reversible Inhibitors. Discuss noncompetitive inhibitor with examples. (07)
- OR
- Q1 a) Describe ATCase enzyme and discuss its kinetic properties. (07)
 b) Discuss uncompetitive inhibitors with appropriate examples & their Kinetics. (07)
- Q2 a) Discuss Spectrophotometric method for following enzyme reaction rate in detail with various examples. (14)
- OR
- Q2 a) List and Describe various enzyme units. (10)
 b) Write a note on general handling of enzymes. (04)
- Q3 : Discuss the use of different types of column chromatography in enzyme purification. (14)
- OR
- Q3 a) Discuss Fractional precipitation of enzymes by salts & organic solvents (10)
 b) Write a note on source of enzyme with reference to its purification (04)
- Q4 Discuss Enzymes as reagents with their advantages & disadvantages. ^{Describe} any four examples of enzymes as reagents. (14)
- OR
- Q4 Write a note on Biotechnological applications of enzymes in detail with four examples. (14)
- Q5 **Attempt any 7:** (14)
- 1 Define V_{max} & K_m .
 - 2 What is the effect of uncompetitive inhibitor on K_m & V_{max} of an enzyme & what does it indicate?
 - 3 What happens to the rate of TCA cycle if you add Malonate? Justify your answer.
 - 4 Draw & label Lineweaver Burk Plot.
 - 5 Name the method used for following / estimating these enzymes: Glucose Oxidase , Malate Dehydrogenase, Pyruvate Carboxylase, Urease
 - 6 Define Enzyme assays.
 - 7 Name two enzymes that can be estimated using pH meter? Justify.
 - 8 Give two advantages of Spectrofluorometric method in estimation of enzyme activity.
 - 9 Define enzyme homogeneity. How will you use ultracentrifuge to check homogeneity?
 - 10 How do you extract enzymes from potato & wheat for enzyme purification?
 - 11 List different types of biosensors.
 - 12 Give two uses of immobilized enzymes.
 - 13 Give two examples of use of protease in food industry.
 - 14 Write one disadvantage of use of enzymes as medicine & how can we overcome it?