(3 Hours) | Total Marks : 80

N.B. : (1) Q.No 1 is compulsory.
(2) Answer **any three** of the remaining **five** questions.
(3) Assume suitable data where ever necessary.

1. (a) What are different optical properties of enzymes? 10
   (b) How the enzymes can be incorporated in Biosensors and Biochips for curing any dis orders and diseases? 10

2. How the enzymes are used as diagnostic agents? Explain their role in the following. 20
   1. Glucose Analysis
   2. Urea Estimation
   3. Uric Acid estimation
   4. Cholesterol estimation

3. (a) Differentiate between primay and secondary structure of protein 10
   (b) Derive the Brigg'sHeldane modification of Michaelis Menten equation. 10

4. (a) Derive an equation for initial velocity using non competive inhibition 10
   (b) Explain how the protocol varies for the isolation of intracellular and extracellular enzymes from plant, animal and microbial sources. 10

5. (a) Explain how the radio immuno assay can be used to detect the catalytic activity of the enzymes. 10
   (b) Give the steps involved in the prelimnary purification of protein. 10

6. (a) Explain the process of SDS PAGE. How it can be used to analyse the purity of enzymes after prification? 10
   (b) Explain the working of fluidised bed reactor. 10

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