H-55029

M. Sc. (Part - I) Examination
April / May - 2003
Biochemistry : Paper-II
(Enzyme Chemistry & Metabolism)

Time : 3 Hours] [Total Marks : 100

Instruction : All questions carry equal marks.

1 (a) Explain giving examples in detail the transferase class of enzymes.

(b) Give the various plots for the determination of km value.

(c) Explain the mechanism of enzyme reactions.

OR

1 (a) Give the allosteric enzymes regulation mechanism.

(b) Discuss the kinetic aspects of allosteric inhibition.

(c) Write the importance of enzyme kinetics and km value.

2 (a) Which of the following methods for immobilizing enzymes would you prefer :
(1) Adsorption
(2) Covalent bonding ? Discuss giving their strengths and weaknesses.

(b) What is the effect of immobilization on km of an enzyme. Explain in detail.

OR

2 (a) What are biosensors ? With the help of a diagram illustrate the working of an immobilized enzyme biosensor.

(b) Immobilized enzyme or immobilized cells ? Discus the pros and cons of each.

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3 Explain the following:
   (1) Alcohol metabolism
   (2) Glycogen synthesis and its regulation
   (3) Ketosis.

OR

3 (a) Write the structure and importance of the following:
   (1) Sialic acid
   (2) Raffinose
   (3) Trehalose.
   (b) Give an account of various sulfated polysaccharides and write proteoglycan Biosynthesis.

4 Explain cholesterol biosynthesis and its regulation. How drug can help in reducing cholesterol level?

OR

4 Describe catabolism of prostaglandins and write an biological actions of prostaglandins.

5 (a) Discuss the biosynthesis of pyrimidine nucleotides.
   (b) Explain the catabolism of pyrimidine nucleotides.

OR

5 Write notes on:
   (a) Photosynthesis
   (b) C³ metabolism
   (c) Metabolism of vitamins.