H-55029

Seat No._____

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.

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) C^3 metabolism

(c) Metabolism of vitamins.

———————