H-003-001529 Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

May / June – 2017

Biochemistry : 501

(Enzymology)

Faculty Code : 003
Subject Code : 001529

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

SECTION - I

1 Answer the following questions : **20**

(1) Which enzyme inhibitor is used in the treatment of gout?

(2) Define specific activity of an enzyme.

(3) Define biocatalyst.

(4) Why enzyme experiments should be carried out in cold conditions?

(5) What will be first digit number of enzyme alcohol dehydrogenase, Why?

(6) Define prosthetic group.

(7) Name any one metalloenzyme.

(8) Define Nucleophile.

(9) Write at least two examples of zymogens.

(10) In which two methods of enzyme purification mixture of ampholytes is used?

(11) Name any two methods of enzyme purification based on polarity of enzyme.

(12) Which chemical is frequently used to carry out cross linking in enzyme immobilization?

(13) What do you understand by membrane bound enzyme?

(14) Give example of enzyme obeying ordered single displacement reaction.

(15) State any one assumption made to derive Michaelis and Mentens equation.

(16) Define Km.

(17) Define Allosteric enzyme.

(18) In acute pancreatitis which enzyme is raised in first five days?

(19) Give two reasons why one should isolate and purify enzyme.

(20) Which two enzymes are used in the preparation of sugar syrup?

SECTION - II

2 (a) Give answers to any 3 questions : **2×3=6**

(1) Write the role of IUB.

(2) Write the difference between co-enzymes and prosthetic group.

(3) Define Salting In and Salting out.

(4) Draw double reciprocal graph of enzyme Vs Substrate and label V_{max} and Km.

(5) Discuss the clinical importance of any one enzyme used in diagnosis of enzyme deficiency.

(6) What is the role of alkaline phosphatase and SGPT in diagnosis of various diseases?

(b) Give answers to any 3 questions : **3×3=9**

(1) Write the significance of Michaelis Menten equation.

(2) Discuss the effect of temperature on enzyme activity.

(3) Write in brief about various methods of tissue homogenization.

(4) State precautions when handling enzymes for practical.

(5) Explain any two enzyme inhibitors used in drug designing.

(6) State two important properties of allosteric enzyme.

(c) Give answers to any 2 questions : **5×2=10**

(1) Write a short note on any two properties of enzymes.

(2) Explain Covalent and Proximity-orientation catalytic mechanism.

(3) Explain the process of enzyme purification based on biological affinity.

(4) Explain covalent modification of enzyme.

(5) Write about various enzymes used in diagnosis of cardiac disorders.

3 (a) Give answers to any 3 questions : **2×3=6**

(1) Define Active site of enzyme.

(2) Give role of metal ions in enzyme catalysis.

(3) Briefly explain capillary electrophoresis.

(4) Draw a graph of velocity Vs Substrate for M.M. and Allosteric enzyme.

(5) Define biosensor.

(6) What do you understand by Activation Energy?

(b) Give answers to any 3 questions : **3×3=9**

(1) Write a note on lock and key model.

(2) Discuss R and T state of enzyme Glycogen Phosphorylase.

(3) Explain dye ligand chromatography for enzyme purification.

(4) Giving example explain Ping Pong mechanism.

(5) Write about process of cheese making.

(6) Enlist different techniques of enzyme immobilization and explain any one in detail.

(c) Give answers to any 2 questions : **5×2=10**

(1) Write a short note on Enzyme Nomenclature.

(2) Write a short note on cofactors.

(3) Describe in detail about the process of gel filtration chromatography for enzyme purification.

(4) Write a short note on types of Enzyme inhibition.

(5) Describe in detail about the process of brewing.
