

FACULTY OF SCIENCE
M. Sc. II – Semester Examination, May / June 2018

Subject : Biochemistry
Paper – I : Enzymology

Time : 3 Hours

Max. Marks: 80

Note : Answer all questions from Part-A and Part-B. Each question carries 4 marks in Part-A and 12 marks in Part – B.

PART – A (8 x 4 = 32 Marks)
(Short Answer Type)

- 1 Methods of enzyme purification.
- 2 Requirement of co-enzyme in enzyme catalysed reaction.
- 3 Suicide inhibitor.
- 4 Cooperativity behavior during oxygen binding to haemoglobin.
- 5 Covalent intermediate in catalytic reaction.
- 6 Catalytic mechanism to Trypsin.
- 7 Catalytic RNA.
- 8 Enzyme reaction during complement activation.

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)

- 9 (a) What is the basis of enzyme classification? Based on those factors describe EC, SCOP and GATH.

OR

- (b) What are the chemical methods to identify various amino acids as active site residue? Explain.

- 10 (a) Describe how the nature of different types of enzyme inhibitors can be monitored by analyzing Lineweaver-Burk plot.

OR

- (b) Describe the application of various types of inhibitors as anti-HIV drug describing their modes of inhibition.

- 11 (a) Describe with proper diagram(s), how the enzyme Aspartate Transcarbamylase is allosterically regulated.

OR

- (b) Describe the catalysis mechanism of RNase and Lysozyme.

u9 12 ala 35 asp 52

- 12 (a) Describe the enzyme cascade for blood clotting and its regulation by various clotting factors.

OR

- (b) Describe the application of various enzymes in bio-remediation and biofuel industry.
