Code No. 1048

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FACULTY OF SCIENCE

B.Sc. I – Year Examination, March / April 2016

Subject : BIOCHEMISTRY

Paper – I : Biomolecules and Enzymology

Time : 3 hours **Max. Marks : 100**

Part – A (8 X 5 = 40 Marks)

(Short Answer Type)

Note : Answer any Eight from the following.

1 Write the structures of any two disaccharides and explain their biological importance.
2 Glycolipids and Glycoproteins
3 Lipoproteins
4 Write about any three non-protein amino acids.
5 Explain the quarternary structure of proteins with suitable examples.
6 Peptide bond formation and conformation.
7 Write the structure of nucleotide and discuss about ATP.
8 DNA structure and conformations
9 Tm value and significance
10 Factors effecting enzyme catalysis
11 Enzyme inhibition
12 Zymogen activation

Part – B (4 X 15 = 60 Marks)

(Essay Answer Type)

Note : Answer all the questions.

13 a) Explain mutarotation, anomers, epimers and D and L designation of carbohydrates. Add a note on glycosaminoglycans.

OR

b) Give an account of :
i) Membrane composition and organization
ii) General properties of phospholipids, sphingolipids and cholesterol

14 a) Explain chemical reactions of amino acids, discuss about titration curve and pK value.

OR

b) Write down the classification of proteins. Add a note on the denaturation and renaturation of proteins.

15 a) Give an account of the structure, properties and functions of chlorophylls and cytochrome.

OR

b) Write the structures of pyrimidines and differences between DNA and RNA. Add a note on cot curves and their significance.

16 a) Explain the allosteric mechanism in ATCase. Define holo-enzyme apo-enzyme and coenzyme.

OR

b) Write short notes on :
i) Energy of activation, Km and Vmax ii) Multienzyme complexes

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