

FACULTY OF SCIENCE

M. Sc. I – Semester (CBCS / Non-CBCS) Examination, December 2013

Subject : Biochemistry

Paper – I (101)

Chemistry and Metabolism of Proteins and Lipids & Porphyrins

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. Describe the structure of Haemoglobin.
2. What are lipoproteins? How they are classified?
3. Give a note on ceramide and sphingomyelin.
4. Explain the synthesis of glutathione. Mention the functions of glutathione.
5. Write briefly about formation, transport and excretion of bile pigments.
6. Discuss the various sphingolipidosis.
7. Describe the biosynthesis of polyamines. Write the functions of polyamines.
8. Compare globular and fibrous proteins.

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

- 9.(a) Describe the biosynthesis of cholesterol and its regulation.

OR

- (b) Elaborate the urea cycle and its regulation.

- 10.(a) Discuss the organization of protein structure.

OR

- (b) Explain any two inborn errors of amino acid metabolism.

- 11.(a) Describe the β -oxidation pathway of fatty acids.

OR

- (b) Write an account of the classification of amino acids with examples.

- 12.(a) Discuss the structure and function of phospholipids.

OR

- (b) Write short notes on the following:
(i) Molecular chaperones
(ii) Synthesis of porphyrins
