

M.SC (DFSN)

Term-End Examination

June, 2014

MFN-002 : NUTRITION BIOCHEMISTRY

Time : 2½ hours

Maximum Marks : 75

Note : Attempt any five questions in all. All questions carry equal marks.

1. a) Describe briefly the structure and function of neutral fats and phospholipids. 10
- b) What is ninhydrin reaction? What is its significance? 5

2. a) What is K_m ? What is its significance in an enzyme substrate reaction? How it is determined? 7
- b) Describe the role of enzyme in digestion of food in the body. 8

3. a) Write down the intermediates, enzymes, coenzymes and metal ions for the conversion of Glucose 6 phosphate to phosphoenol pyruvate in glycolysis. 10
- b) What is the net production of ATP when one molecule of glucose is converted to pyruvic acid. Show the balance sheet mentioning the steps in which either ATP is produced or utilized. 5
4. (a) Write down the steps for cholesterol biosynthesis. How it is regulated. 10
- (b) What is the composition and function of chylomicron? 5
5. a) What are free radicals? What is their significance in the body? What is the role of antioxidants for scavenging these, describe citing specific examples. 10
- b) Describe briefly the role of parathyroid gland in hormone synthesis. 5

6. (a) Explain the significance of vitamin A in human vision. 7
- (b) Explain the de novo synthesis of purine nucleotides. 8
7. Write short notes on *any three* of the following: 5x3=15
- a) Physiological function of zinc.
 - b) Biochemical role of vitamin B₁₂.
 - c) Signal transduction.
 - d) Reactions Deamination.

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