

MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination

June, 2016

MFN-002 : NUTRITIONAL BIOCHEMISTRY

Time : 2½ hours

Maximum Marks : 75

Note : (i) Answer four questions in all.

(ii) Question No. 1 is compulsory.

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| 1. | (a) | Define muta rotation. | 1 |
| | (b) | Give any one difference between DNA and RNA. | 1 |
| | (c) | Give an example of acidic amino acid. | 1 |
| | (d) | What is oxidative rancidity ? | 1 |
| | (e) | Give an example of coenzyme form of Riboflavin. | 1 |
| | (f) | Define coenzyme. | 1 |
| | (g) | List any two enzymes present in intestinal juices. | 2 |
| | (h) | Define Gluconeogenesis. | 1 |
| | (i) | Give meaning of beta-oxidation of fatty acid. | 1 |
| | (j) | Give an example of lipoprotein having highest concentration of cholesterol. | 1 |
| | (k) | Define transamination. | 1 |
| | (l) | Name any one vitamin which functions as antioxidant. | 1 |
| | (m) | What are group-I hormones ? Give one suitable example. | 2 |

2. (a) What is competitive inhibition of enzymes ? Explain with suitable examples. 5
 (b) What are the components of Electron Transport Chain ? 5
 (c) Give functions of TCA cycle. 5
 (d) Give three irreversible reaction of glycolysis, with enzymes involved. 5
3. (a) How digestion of carbohydrate takes place in our body ? 5
 (b) How fatty acids are broken down to acetyl CoA in our body ? 7
 (c) Briefly explain the glycogen breakdown and synthesis in human body. 8
4. (a) Describe the urea cycle giving the reactions involved. 8
 (b) What is the end product of purine degradation and what diseases are caused because of this ? 7
 (c) Give role of free radicals in lipid peroxidation. 5
5. (a) Why minerals are considered essential for us ? Discuss the role of calcium in our body. Highlight the role of calcium in signal transduction. 10
 (b) What is Alkaptonuria ? 5
 (c) Give a brief account of C-AMP as second messenger. 5
6. Write short notes on **any four** of the following :
 (a) n-3 and n-6 fatty acids 5+5+5+5
 (b) Steps involved in formation of vitamin D3
 (c) Enzymes in clinical diagnosis
 (d) Metabolic significance of HMP pathway
 (e) Biological role of selenium