

03770

**MASTER OF SCIENCE DIETETICS AND
FOOD SERVICE MANAGEMENT
(M Sc DFSM)**

Term-End Examination

June, 2018

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) | What is glycosidic Linkage and what kind of Linkage exist in sucrose and maltose ? | 2 |
| | (b) | What do you understand by the term saponification ? | 1 |
| | (c) | Give four structural level of proteins. | 2 |
| | (d) | What bonds are responsible for double helix of DNA ? | 1 |
| | (e) | What are co-enzyme ? Give one example. | 2 |
| | (f) | Which Lipoprotein is rich in Triglycerides ? | 1 |
| | (g) | Where does the electron transport chain occur in cell ? | 1 |
| | (h) | Which vitamin regenerates oxidised tocopherol ? | 1 |
| | (i) | List the two hormones secreted by neurohypophysis. | 2 |
| | (j) | How tyrosinemia is different from PKU ? | 2 |

2. (a) Show using Lineweaver Burk plot the difference between competitive and non-competitive inhibition. 5
- (b) Give Role of Vit-A in vision. 5
- (c) How peptide bond is formed ? Give classification of proteins. 5
- (d) What are Isoenzymes ? Name the enzyme used for diagnosis of heart diseases. 5

3. (a) How carbohydrates are absorbed in our body ? 5
- (b) What are anaplerotic reactions ? 3
- (c) Explain energy production in glycolysis. 5
- (d) Give reaction of non-oxidative phase of pentose phosphate pathway. 4
- (e) How gluconeogenesis differ from glycogenesis ? 3

4. (a) Give origin and fate of HDL cholesterol. 5
- (b) How fatty acids are transferred from cytosol to mitochondrial matrix ? 4
- (c) What are ketone bodies ? Give its utility. 5
- (d) How mono unsaturated fatty acids are broken down to acetyl CoA ? Give the reactions. 6

5. (a) How NMP is converted to NDP and NTP ? 3
- (b) What is hyperuricemia and when it occurs ? 3
- (c) Give different methods of removal of ammonia from amino acids. 5
- (d) Write short note on non-enzymatic antioxidant defence mechanism. 5
- (e) How ketogenic amino acids differ from glucogenic amino acid ? 4

6. (a) Give active form of thyroid hormone and their metabolic effect. 5
- (b) Give the role of magnesium (Mg^{2+}) in metabolic function and its use in hormone action. 5
- (c) Write short note of C-AMP. 5
- (d) Give components of electron transport chain. 5
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