

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

Term-End Examination

December, 2017

MFN-002 : NUTRITIONAL BIOCHEMISTRY

Time : 2½ hours

Maximum Marks : 75

- Note :**
- (i) *Answer four questions in all.*
 - (ii) *Question No. 1 is compulsory.*

- 1x15=15**
1. (a) Give one example each of Aldose, ketose, isomer.
- (b) What are essential fatty acids ? Give one example.
- (c) What are amphoteric amino acids ?
- (d) How nucleotide differ from a nucleoside ?
- (e) What do you understand by term Holoenzyme ?
- (f) What is the active form of vitamin B₅ ?
- (g) What are endonucleases ?
- (h) Define oxidative phosphorylation.
- (i) How lipoproteins and apolipoproteins differ from each other ?
- (j) What is hyperuricemia ?
- (k) List one hormone of adenohipophysis.
- (l) What are antioxidants ?
- (m) Give one example of conjugated proteins.
- (n) Give name of the enzyme defective in Tay Sach's disease.
- (o) What type of linkage is present in Lactose sugar ?

2. (a) What is peptide bond ? Explain its formation. 4
- (b) How competitive inhibition of enzyme differs from non competitive inhibition ? 5
- (c) Name the enzymes determined during clinical diagnosis of heart attacks, liver diseases and acute pancreatitis. 4
- (d) What are the two active forms of vitamin A ? 4
- (e) Give relationship between substrate concentration and reaction velocity of enzyme 3
3. (a) Give enzymes of intestinal juices. 4
- (b) How pyruvate is converted to acetyl CoA ? 4
- (c) Write down steps of cori cycles. 4
- (d) Give brief account of electron transport chain inhibitors. 4
- (e) Give reaction of oxidative phase of pentose phosphate pathway. 4
4. (a) Give role of carnitine in transfer of fatty acid. 3
- (b) Differentiate between fatty acid synthesis and fatty acid breakdown. 5
- (c) Give origin and fate of LDL cholesterol. 5
- (d) How palmitate is converted to oleic acid ? 3
- (e) How ketosis differ from ketoacidosis ? 4

5. (a) What is the fate of amino acid after removal of α -amino acids ? 4
- (b) Write steps of Urea cycle occurring in mitochondria only. 4
- (c) How Purines are synthesised by salvage pathway ? 4
- (d) What is folate trap ? 4
- (e) Write short note on enzymatic antioxidant defence mechanism. 4
6. (a) Give simple classification of hormone based on mechanism of action. 5
- (b) List any three aromatic amino acids. Give their metabolic disorders and defective enzymes. 5
- (c) How minerals are classified explain with example ? 5
- (d) Enumerate different second messengers used in mechanism of hormone action. 5
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