

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

Term-End Examination

02852 December, 2018

MFN-002 : NUTRITIONAL BIOCHEMISTRY

Time : $2\frac{1}{2}$ hours

Maximum Marks : 75

Note :

1. Answer *five* questions in all.
2. Question no. 1 is *compulsory*.
3. All questions carry equal marks.

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1. Answer the following questions briefly : 15
 - (a) Give example of Aldose and Ketose isomer in sugars.
 - (b) What are saturated and unsaturated fatty acids ? Give examples.
 - (c) Give example of two acidic amino acids.
 - (d) What is the active form of niacin ?
 - (e) Name two hydrogen transferring coenzymes.

- (f) Name the enzymes of pancreas involved in digestion of proteins and lipids.
- (g) Give the reaction carried out by the enzyme Aspartate Transaminase (AST).
- (h) What is the end product of purine metabolism ?
- (i) Give examples of two vitamins acting as anti-oxidants.
- (j) What are macrominerals ? Give examples.
- (k) What are the properties of Group-I hormones ?
- (l) Give the defective enzyme in galactosemia.
- (m) Name the enzyme required for conversion of pyruvate to acetyl CoA in TCA cycle.
- (n) How many ATPs are produced in complete oxidation of one molecule of palmitic acid ?
- (o) Define Cofactors.
2. (a) Define Mutarotation. 3
- (b) Differentiate between amylose and amylopectin. 2
- (c) Explain energy production in glycolysis. 5
- (d) Write a short note on Cori cycle. 5

3. (a) What are Glycerophospholipids ? Explain giving examples. 3
- (b) Define oxidation rancidity. 2
- (c) Write steps of β -oxidation of fatty acids. 5
- (d) How is cholesterol degraded ? 5
4. (a) Give a brief account of urea cycle. 5
- (b) How are purines degraded by salvage pathway ? 5
- (c) What are the four structural levels of protein organisation ? 2
- (d) How is DNA different from RNA ? 3
5. (a) Give the defective enzyme and beneficial therapy in the following diseases :
- (i) Alkaptonuria
- (ii) Lactose intolerance 6
- (b) Give the role of free radicals in human health. 5
- (c) Write short note on sickle cell anaemia. 4
6. (a) Differentiate between competitive and non-competitive enzymes inhibitors. 5
- (b) What are coenzymes ? How are they grouped ? 5
- (c) Discuss the role of vitamin K in the coagulation of blood. 5

7. (a) Give functions of phosphorus. 5
- (b) How is signal generated in Group-II hormones? 5
- (c) How are nucleic acids digested? 5
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