

AU-1146

M.Sc. Home Science (Food Science and Nutrition) Semester—II Examination

NUTRITIONAL BIOCHEMISTRY

Paper—122NB51

Time : Two Hours]

[Maximum Marks : 45

Note :— All questions are compulsory.1. Answer any **ONE** :

1.1 Define Basal Metabolic Rate. Draw a diagram and write in detail about direct calorimetric method to measure Basal Metabolism. 9

1.2 Explain the factors affecting energy expenditure and requirement. 9

2. Do as directed :

2.1 Fill in the blanks :

2.1.1 Glucagon is produced by _____ cells of islets of Langerhan's.

(a) α cells (b) β cells (c) γ cells 1

2.1.2 The conversion of glucose to glycogen by the liver is _____.

(a) Gluconeogenesis (b) Glucogenolysis (c) Glycogenesis 1

2.1.3 Molecular formula of glucose is _____.

(a) $C_{12}H_{22}O_{11}$ (b) $C_6H_{12}O_6$ (c) $C_5H_{12}O_6$ 1

2.1.4 Normal blood glucose level is between _____ mg/100 ml.

(a) 80–120 mg (b) 70–140 mg (c) 100–160 mg 1

2.1.5 _____ enhances the absorption of iron.

(a) Vitamin D (b) Vitamin K (c) Vitamin C 1

2.2 Write true or false :

2.2.1 During muscular contraction, glycogen is broken down to lactic acid through glycolysis. 1

2.2.2 Blood glucose level above the normal level is known as hypoglycemia. 1

2.2.3 Pyruvic acid is released after aerobic glycolysis. 1

2.2.4 Energy is released when one molecule of pyruvate goes through the complete cycle of the chemical changes known as Kreb's cycle. 1

3. Do as directed :

3.1 Choose appropriate answer :

3.1.1 Removal of amino group from amino acid is called :

- (a) Transamination (b) Deamination
(c) Transmethylation (d) Decarboxylation

1

3.1.2 Aromatic Amino Acid is :

- (a) Glycine (b) Leucine
(c) Lysine (d) Tyrosine

1

3.1.3 A transfer of α amino group from one amino acid to keto acids and new amino acid formed is known as :

- (a) Deamination (b) Transamination
(c) Oxidation (d) Hydrogenation

1

3.1.4 Biosynthesis of urea occurs in :

- (a) Liver (b) Kidney
(c) Intestine (d) Amylase Gall bladder

1

3.1.5 About 70% NH_3 produced in the body is excreted finally in the form of :

- (a) Urea (b) Ammonia
(c) Oxygen (d) Nitrogen

1

3.2 Name the following :

3.2.1 Name one basic amino acid

1

3.2.2 Name one simple protein

1

3.2.3 Name one acidic amino acid

1

3.2.4 Name one conjugated protein.

1

4. Answer any **one** of the following :4.1 Explain β oxidation process of fatty acids with example.

9

4.2 Explain cholesterol biosynthesis and its regulation.

9

5. Do as directed :

5.1 Match the following :

5.1.1 Antioxidant	(a) TSH	1
5.1.2 Anaemia	(b) Vitamin K	1
5.1.3 Visual cycle	(c) Iron	1
5.1.4 Thyroid gland	(d) Vitamin A	1
5.1.5 Blood coagulation	(e) Vitamin E	1

5.2 Name the following :

5.2.1 Mineral present in haemoglobin.	1
5.2.2 Source of nutrient antioxidants.	1
5.2.3 Mineral responsible for calcification of bones.	1
5.2.4 Names of B Complex vitamin.	1

