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M.SC. IN NUTRITION & FOOD SCIENCE
EXAMINATION : NOVEMBER/DECEMBER - 2025
FIRST SEMESTER
Sub. : Nutritional Biochemistry (MSC24N -114TH)

Date: 28/11/2025

Total marks: 30

Time: 10.00 am to 11.30 am

Instructions:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.

Q. 1 Select the correct alternative. (5)

- 1) Pentose phosphate pathway is primarily important for _____.
 - a) ATP generation
 - b) NADPH production
 - c) Lactate production
 - d) Pyruvate generation
- 2) Maple syrup urine disease is due to deficiency of _____.
 - a) Tyrosine hydroxylase
 - b) Phenylalanine hydroxylase
 - c) Branched-chain α -keto acid dehydrogenase
 - d) Homogentisate oxidase
- 3) The antioxidant vitamin that protects PUFA in membranes is _____.
 - a) Vitamin A
 - b) Vitamin E
 - c) Vitamin C
 - d) Vitamin D
- 4) Primary source of energy for the brain is _____.
 - a) Fatty acids
 - b) Glucose
 - c) Amino acids
 - d) Ketone bodies
- 5) The genetic defect in phenylketonuria leads to accumulation of _____.
 - a) Tyrosine
 - b) Phenylalanine
 - c) Methionine
 - d) Homocysteine

Q. 2 Answer the following questions. (Any Two) (10)

- 1) Structure & function of Hemoglobin.
- 2) Glycogenesis
- 3) PKU

Q. 3 Answer the following questions. (Any One) (15)

- 1) Explain glycolysis. Also elaborate on link reaction.
 - 2) Explain antioxidant defense mechanisms in the human body. Also elaborate on dietary antioxidants.
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