लक्ष्मं विद्यमानम्

WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 2nd Semester Examination, 2023

FNTACOR03T-FOOD AND NUTRITION (CC3)

Time Allotted: 2 Hours | Full Marks: 40

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

Answer any *four* questions from the following

1. (a) What is mutarotation? 2
   (b) Distinguish between – (any ***four***) 2×4 = 8
   (i) D- and L- sugar.
   (ii) Reducing and non reducing sugar.
   (iii) Amylose and amylopectin.
   (iv) Cis and trans fatty acids.
   (v) Cellulose and hemicellulose.

2. (a) What do you mean by micelles? 2
   (b) Discuss the biological importance of amphipathic lipids. 4
   (c) Define iodine number. 2
   (d) What do you mean by hydrolytic rancidity? 2

3. (a) How do you assess protein quality? 4
   (b) Write a short note on Zwitterion. 2
   (c) What are meant by N-terminal end and C-terminal end amino acid? 2
   (d) Give examples of a globular proteins and fibrous proteins (one from each) 2

4. (a) What is meant by rate limiting enzymes? 2
   (b) What happened when glucose reacts with phenylhydrazine? 3
   (c) How glucose is converted to fructose? 3
   (d) Write the Haworth's representation of glucose. 2

5. Write the names and structure of amino acids with the following groups – 2×5 = 10
   (a) Hydroxyl amino acids.
   (b) Sulfur containing amino acid.
   (c) Amino acids with positively charged side chain.

(d) Amino acids with non-polar aromatic side chain.

(e) Imino acid.

6. (a) What do you mean by PER? 2

(b) Write a short note on BV. 3

(c) Define liposomes. 2

(d) Write a short note on hydrogenation. 3

7. (a) What do you mean by water activity? 2

(b) How does water activity influence the quality and stability of foods? 3

(c) What do you mean by entropy? 2

(d) Write a short note on colloids. 3

8. (a) What do you mean by Km? 2

(b) Define coenzyme. 2

(c) Write a short note on competitive and mixed inhibitions. 2+2

(d) Mention the importance of viscosity in nutrition. 2

9. Define the following term – $2 \times 5 = 10$

(a) Ribozymes

(b) Saponification number

(c) NPU

(d) Dietary fibres

(e) PUFA.

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