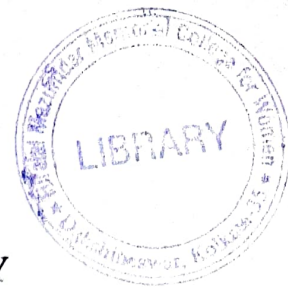# WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 2nd Semester Examination, 2021

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   10×4 = 40

All parts of a question should preferably be answered together

1. Describe the Michealis-Menton equation. Explain Koshland's model of enzyme-substrate interaction. Explain the role of rate limiting enzymes with suitable examples.   4+3+3=10

2. How are peptide bonds formed? Differentiate between primary and secondary structures of proteins.   4+(3+3) = 10

3. Explain the structural uniqueness of the following: 2×5 = 10
   (i) Hemicellulose
   (ii) Trans fatty acids
   (iii) Phospholipids
   (iv) Steroids
   (v) PUFA.

4. Differentiate between the following: 2×5 = 10
   (i) Epimers and Anomers
   (ii) Alpha helix and beta-pleated sheath
   (iii) Proenzyme and Isozyme
   (iv) V_0 and V_{max}
   (v) Amino acid and Imino acid.

5. What is   2×5 = 10
   (i) Essential fatty acid
   (ii) Carbohydrate
   (iii) Sugar
   (iv) Dietary fiber
   (v) Stereoisomerism.

2016

Turn Over

6. Define BV and NPU. Describe the tertiary structure of protein detailing the different types of bond present.   4+6 = 10

7. How is osazone formed? Why is sucrose also known as invert sugar? Explain why lipids are insoluble in water but soluble in organic solvents.   4+3+3=10

8. (a) Distinguish between: 2+2
      (i) steroid and sterol
      (ii) glycolipid and phospholipid.
   (b) Explain the terms: Mutarotation, Km   2+2
   (c) Draw the structure of Phenylalanine, lysine.   2

9. (a) What is rancidity? How can it be managed?   2+2
   (b) What is liposome?   2
   (c) What is PER?   2
   (d) Explain the significance of lignin.   2

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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