



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.

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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