



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 2nd Semester Examination, 2020

**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.*

**GROUP-A**

1. Answer any **ten** questions from the following: 1×10 = 10
- (a) What is a steroid?
  - (b) What is optical isomerism?
  - (c) What is isoelectric pH?
  - (d) What is viscosity?
  - (e) Name an essential amino acid and draw its structure.
  - (f) What are phospholipids?
  - (g) What is surfactant?
  - (h) What is Mutarotation?
  - (i) Name any two disaccharides.
  - (j) What is a Zwitterion?
  - (k) What is Epimerism?
  - (l) Define Enthalpy.

**GROUP-B**

2. Answer any **four** questions from the following: 5×4 = 20
- (a) What is food stabilization? Describe the methods used for it. 2+3
  - (b) What is fiber? Give examples. Explain its importance in daily diet. 2+1+2
  - (c) Explain your understanding about Michaelis Menten constant. 5
  - (d) Describe alpha-helix and beta-pleated sheath structures of proteins. 5
  - (e) Explain your understanding about rate limit enzymes. 5
  - (f) Define the terms (any **five**): 5

Liposome, water activity, stereoisomerism, colloids, sugar, entropy

- (g) Explain the chemistry and significance of omega three fatty acids. 5
- (h) Explain your understanding about the concept of Gibbs free energy. 5

**GROUP-C**

3. Answer any **one** question from the following: 10×1 = 10
- (a) Define enzyme. Explain the effect of temperature and pH on enzyme activity. 2+4+4
- (b) Differentiate between (any **five**) 2×5 =10
- (i) Aldohexose and ketohexose
- (ii) Reducing and non reducing sugars
- (iii) PUFA and MUFA
- (iv) Diffusion and osmosis
- (v) Absorption and adsorption
- (vi) Cis and trans fat.

**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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