सत्यं विश्वसनीयम्

WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 2nd Semester Examination, 2019

FNTACOR03T-FOOD AND NUTRITION (CC3)

Kiranal Mazumdar Memorial College for Women
LIBRARY
Dakshineswar, Kolkata-35

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.

1. Answer any *ten* questions from the following: 1×10 = 10

(a) What is entropy?

(b) Define carbohydrate.

(c) Name two aromatic amino acids.

(d) Which structural level does enable the proteins to become functional enzyme?

(e) Name two essential fatty acids.

(f) What are eicosanoids?

(g) Mention the significance of Iodine number.

(h) Define biological value of protein.

(i) Define saponification number.

(j) Differentiate between D and L form of sugars.

(k) What is protein denaturation?

(l) Define the term PER.

(m) What is enantiomer?

2. Answer any *four* questions from the following: 5×4 = 20

(a) Why sucrase is called invertase? Write a note on the significance of H-bond and ionic bond on protein structure stabilization. 2+3

(b) What are the major components of dietary fibre? Write a note on health benefits of the following: [2+ $(1\frac{1}{2}\times2)$]

(i) Cellulose (ii) Pectin

(c) Explain the composition of triglycerides. Differentiate between phospholipid and triglycerides. What is NPU? 2+2+1

(d) Write short notes on the following: $2\frac{1}{2}+2\frac{1}{2}$

(i) Hydrogenation of fat

(ii) Zwitterion.

(e) What is Raoult's law? What do you understand by the term 'Water activity & Water content of food'? Discuss any one method for stabilization of food system by control of water activity. 1+2+2

(f) Write a note on oxidation-reduction potentials of Bioactive Compound–flavonoid and phenolic acid, and their application in food system. $(1\frac{1}{2}\times2)+2$

3. Answer any *one* question from the following: $10\times1 = 10$

(a) (i) Write down the different levels of structural organizations of protein. 4+(1+1+4)

(ii) What is allosteric enzyme? Give example of any one allosteric inhibition. Explain the phenomenon of competitive inhibition of enzyme with suitable example.

(b) (i) Define the terms Q_{10} and K_m. What will be the outcome of a single substrate enzyme catalysed reaction at a saturating substrate concentration? (1+1+4)+(1+1)+2

(ii) Define ribozyme and abzyme.

(iii) What do you mean by rate limiting enzymes?

——×——