WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 2nd Semester Examination, 2021

PHYACOR04T-PHYSIOLOGY (CC4)

CHEMISTRY OF BIOMOLECULES

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 *five* questions from the following   8×5 = 40

1. (a) Explain the term "mutarotation".   3

   (b) What do you mean by reducing sugars? Give two examples.   2+1

   (c) Explain why sucrose is a non-reducing sugar.   2

2. (a) What are sugar enediols? Show how glucose and fructose form the same enediols.   2+2

   (b) What do you mean by racemic mixture?   2

   (c) What is stereoisomerism?   2

3. (a) Write structure and chemical name of tryptophan.   2

   (b) Give an account on "zwitterion".   4

   (c) Explain why glycine do not exhibits stereoisomerism.   2

4. (a) What are lipoproteins? State functions of different types of lipoproteins.   2+4

   (b) What is the difference between steroids and sterols?   2

5. (a) Explain the term "phospholipids".   4

   (b) What is the difference between fat and wax?   2

   (c) What is iodine number? State its significance.   2

6. (a) State the salient features of alpha helix.   4

   (b) What do you mean by globular and fibrous proteins? Give examples for each type.   4

7. (a) State the characteristics of peptide bond. 2

   (b) What are Ramachandran angles? 2

   (c) What do you mean by primary structure of protein? Mention its characteristics. 1+3

8. (a) Discuss briefly the cloverleaf secondary structure of t-RNA. 4

   (b) Compare A-DNA, B-DNA and Z-DNA. 4

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.*

——×——

2