

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2014

(U.G.—CCSS)

Complementary Course—Biochemistry

BC 2C 05—ELEMENTARY BIOCHEMISTRY—II

Time : Three Hours

Maximum : 30 Weightage

Section A*Answer all questions.**Each question carries a weightage of $\frac{1}{4}$.*

1. The part of DNA molecule that varies among DNA molecules is its
 - (a) Glycerol attachments
 - (b) Nitrogenous bases.
 - (c) Sugars.
 - (d) Phosphates.
2. _____ is the type glycosidic linkage present in sucrose.
 - (a) a (1,4).
 - (b) a, p (1, 2).
 - (c) β (1, 4).
 - (d) β (1, 2).
3. _____ are anomers.
4. _____ is an unsaturated fatty acid.
5. Aminoacids give _____ colour with ninhydrin reagent.
6. _____ is an unsaturated fatty acid.
7. If phosphoric acid present along with glycerol and fatty acids, the lipids are called as _____
8. Name the sugars present in nucleic acids.
9. Protein containing aminoacids are linked by _____ bonds.
10. Nucleic acid are unbranched long chain polymers of :
 - (a) Nucleoside.
 - (b) Orthophosphoric acid.
 - (c) Nucleotides.
 - (d) None of these.
11. Starch and glycogen are examples of :
 - (a) Storage polysaccharides.
 - (b) Oligosaccharides.
 - (c) Structural polysaccharides.
 - (d) Monosaccharides.

Turn over

12. The epimer of glucose is :

(a) Galactose.

(b) Fructose.

(c) Arabinose.

(d) Ribose.

(12 x $\frac{1}{4}$ = 3 weightage)

Section B

Answer **all** questions.

Each question carries a weightage of 1.

13. Draw the structure of Arachidonic acid.
14. What are purine bases ? Give examples.
15. How a peptide bond is formed ?
16. Draw the structure of cholesterol.
17. Draw the structures of any *two* sulphur containing amino acids.
18. What are triglycerides ?
19. List out the differences between DNA and RNA.
20. What are oligosaccharides ? Give *two* examples.
21. Define the secondary structure of proteins.

(9 x 1 = 9 weightage)

Section C

Answer any **five** questions,

Each question carries a weightage of 2

22. Explain anomerism and epimerism with suitable examples.
23. Explain the protein sequencing methods ?
24. Explain the structure of tRNA.
25. What are essential fatty acids ? Explain their significance.
26. Draw and explain the structure of cellulose.
27. Define saponification number and acid number and explain their significance.
28. **Explain the structure** and functions of cholesterol.

(5 x 2 = 10 weightage)

Section

*Answer any **two** questions*

Each question carries a weightage of 4

29. Explain the physiological functions of lipids and classification of fatty acids.
30. Explain the Watson — Crick model of DNA.
31. What are Carbohydrates ? Explain the classification of carbohydrates.

(2 x 4 = 8 weightage)