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B.Sc. DEGREE (C.B.C.S.) EXAMINATION, JUNE 2018

Second Semester

Complementary Course—BC2CMT02—BIOCHEMISTRY—BIOMOLECULES

(Common for Model I and II Botany, Model I and II Zoology, Botany and Biotechnology Model III, Zoology and Industrial Microbiology M III, BT and SP, Biotechnology Model III and Microbiology Model III Programmes)

[2017 Admissions only]

Time : Three Hours

Maximum : 60 Marks

Part A

*Answer any ten questions.
Each question carries 1 mark.*

1. What are Polysaccharides ?
2. Define lipids.
3. What is a peptide bond ?
4. Differentiate between DNA and RNA.
5. Give the cyclic structure of Glucose.
6. Define acid number.
7. Name the secondary structure of protein.
8. What are nucleotides ?
9. Name the test to distinguish between Monosaccharide and disaccharide.
10. Name a plant sterol.
11. The letter 'Y' denotes which amino acid ?
12. Define hyperchromic effect.

(10 × 1 = 10 marks)

Part B

*Answer any six questions.
Each question carries 5 marks.*

13. Enumerate isomerism of Carbohydrates ?
14. Write the chemical structure and functions of cholesterol and esyosterol.
15. Explain the primary and quaternary structure of protein.

Turn over

16. Write a brief account of Watson-Crick model of DNA.
17. Explain the reducing action of sugars.
18. What are sphingolipide ? Give its functions.
19. Give a brief account of secondary structure of protein.
20. Discuss different types of DNA.
21. What is polysaccharides ? Explain hetero polysaccharides with any *two* examples.

(6 × 5 = 30 marks)

Part C

*Answer any two questions.
Each question carries 10 marks.*

22. Give the structure and properties of :
 - (a) Sucrose.
 - (b) Cellulose.
 - (c) Hyaluronic acid.
 - (d) Heparin.
23. What are fatty acids ?
 - (a) Describe classification of fatty acids.
 - (b) Differentiate between saturated and unsaturated fatty acids.
24. Describe classification and functions of proteins.
25. Discuss the denaturation of nucleic acids and explain structure and functions of *mRNA*, *tRNA* and *rRNA*.

(2 × 10 = 20 marks)