APRIL/MAY 2019

BBC21 — BIOMOLECULES

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is a homopolysaccharide? Give two examples.
2. Give any two differences between starch and cellulose.
3. Give the zwitter ionic form of alanine and lysine.
4. Name the aminoacids with heterocyclic rings.
5. Give two examples for compound lipids and derived lipids.
6. Define Iodine Value.
7. State the common base pairing strategy in DNA.
8. Give the differences between nucleosides and nucleotides.
9. What is scurvy?
10. What is Xerophthalmia? What is the vitamin it is associated with?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Outline the structure and functions of cellulose.

Or

(b) Write a brief note on the reactions of sugars based on their functional groups.

12. (a) What are heterocyclic amino acids? Give the structures of any three heterocyclic amino acids.

Or

(b) Discuss about the primary structure of proteins.

13. (a) Chalk out the classification of phospholipids.

Or

(b) Write shortly about the biological significance of steroids.

14. (a) List down the functions of nucleic acids.

Or

(b) Discuss about the physical properties of nucleic acids.

15. (a) Outline the biological functions of Vitamin E and K.

Or

(b) Discuss about the deficiency manifestations of vitamin B_1 and B_6.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Write in detail the classification of carbohydrates with examples.

17. Elaborate about the secondary structures of proteins.

18. How are lipids classified? Add a note on the biological functions of phospholipids.

19. With explanatory diagrams, outline the structures of different classes of RNA.

20. Detail on the occurrence, structure and biological functions of Vitamin C.

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