

2 ½ Hours

Total Marks: 75

1. Attempt all questions.
2. All questions carry equal marks.
3. Draw neat labeled diagrams wherever necessary.
4. Use of log tables and non-programmable calculator is allowed.
5. For Q.2, Q.3 and Q.4 attempt A and B OR C and D.

Q.1 Do as directed (Any fifteen)

15

State whether true or false

1. Cholesterol is a phospholipid.
2. Palmitic acid is an unsaturated fatty acid.
3. FDNB is also known as sanger's reagent.
4. The base pair A-T is more stable and stronger than G-C.

Give one example of the following

5. A disaccharide sugar.
6. An aromatic amino acid.
7. An enzyme.
8. Nitrogenous base present in DNA but absent in RNA.

Draw structures of the following compounds

9. Glyceraldehyde
10. Butyric acid
11. Ribose
12. Aspartic acid
13. Uracil

Define the following terms

14. Titration curve
15. Carbohydrates
16. Antioxidant
17. Nucleosides
18. hnRNA

Fill in the blanks

19. The acceptor arm of tRNA contains _____ as a capped nucleotide sequence.
20. The A-form of DNA has _____ base pairs per turn of helix.

Q. 2 A Explain the terms: Simple and mixed Triacylglycerol using suitable examples. Add a note on functions of Triacylglycerols. 08

Q. 2 B Give a brief account of occurrence, structure and function of starch. 07

OR

Q. 2 C Discuss saturated fatty acids using suitable examples. 08

Q. 2 D Explain the terms monosaccharide, disaccharide and polysaccharide using one example each. 07

Q. 3 A Discuss functional classification of proteins. 08

Q. 3 B Draw structures of any three amino acids with aliphatic side chain. 07

OR

Q. 3 C Discuss physical properties of amino acids. 08

Q. 3 D Explain the term protein denaturation and describe characteristics of denatured proteins. 07

Q. 4 A Differentiate between DNA and RNA. 08

Q. 4 B Explain denaturation and renaturation of DNA in detail. 07

OR

Q. 4 C Give an account of nitrogenous bases of nucleic acids using structures. 08

Q. 4 D Discuss structure and functions of mRNA. 07

Q. 5 Write Short notes on any three of the following 15

a. Lactose

b. Phosphatidic acid

c. Peptide bond

d. Chargaff's rule

e. Functions of nucleotides