

**Q.P. Code :03834**

**[Time:  $2\frac{1}{2}$  Hours]**

**[ Marks:75]**

Please check whether you have got the right question paper.

- N.B:
1. Attempt **all** questions.
  2. **All questions** carry **equal** marks.
  3. Draw **neat labelled diagrams** wherever necessary.
  4. Use of **log tables** and **non-programmable calculator** is **allowed**.

**Q.1. Do as directed: (Any Fifteen)**

**15**

**Give one example of each of the following:**

1. An unsaturated fatty acid
2. Fibrous protein present in muscle
3. An aldose
4. An aromatic amino acid
5. An essential fatty acid
6. An epimer of glucose
7. Homopolysaccharide

**Draw structures of the following biomolecules:**

8. D-Ribulose
9. D- Glucose
10. Glycine
11. Palmitic acid
12. Cysteine
13. Phosphatidic acid

**Define the following:**

14. Nucleic acid
15. Peptide bond
16. Saponification number
17. Osazone
18. Renaturation of DNA
19. Central Dogma of molecular biology
20. Zwitterion

**TURN OVER**

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- Q.2.** a) Define and classify acyl glycerols. Give an example for each class. 08  
b) Explain the term storage and structural polysaccharide using one example each. 07  
OR  
c) Explain the types of bonding present in Maltose and Lactose. Add a note on their significance. 08  
d) Explain structure and function of Cholesterol. 07
- Q.3.** a) Discuss functional classification of proteins. 08  
b) Classify amino acids on the basis of their nutritional requirement of the body. 07  
OR  
c) Discuss the four levels of organization of proteins. Add a note on primary structure. 08  
d) Schematically represent the Edman's degradation of proteins. 07
- Q.4.** a) Give a detailed account of structure and function of nucleotides. 08  
b) Explain the structure of t-RNA using a suitable diagram. 07  
OR  
c) Compare and contrast between DNA and RNA. 08  
d) Explain structure of mRNA using a suitable diagram. Add a note on its functions. 07
- Q.5. Write a short note on: (Any three)** 15  
a) Structure and function of any two Glycerophospholipids  
b) Structure and significance of any two unsaturated fatty acid  
c) Titration curve of amino acids  
d) Complementary base pairing  
e) r-RNA
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