

2023

Time - 3 hours

Full Marks - 60

*Answer all groups as per instructions.
Figures in the right hand margin indicate marks.
Draw labelled diagrams wherever necessary.*

GROUP – A

1. Fill in the blanks. (all) [1 × 8
- (a) Proteins are formed by condensation of _____.
 - (b) The enzyme which is added to baby foods to partially predigest them is _____.
 - (c) A carbohydrate is a _____ derivative of Aldehyde or Ketone.
 - (d) Vitamin D is a _____ in terms of lipid.
 - (e) The IUPAC name of cytosine is _____.
 - (f) Benedict's reagent test is conducted to confirm the presence of _____.
 - (g) The chemical linkage between glycerol and fatty acid is called _____.
 - (h) Nucleic acids are polymer of _____.

[2]

GROUP – B

2. Answer any eight of the following questions within two to three sentences each. [1½ × 8]

- (a) Biological significance of carbohydrates
- (b) What is glycogenolysis ?
- (c) What is carotenoids ?
- (d) What do you mean by prosthetic group ?
- (e) What do you mean by a conjugate protein ?
- (f) Name the essential fatty acids and their importance.
- (g) How phospholipids are important ?
- (h) What are the differences between purines and pyrimidine ?
- (i) What do you mean by the term amphoteric ?
- (j) How the fat can be protected from rancidity ?

GROUP – C

3. Answer any eight of the following questions within 75 words each. [2 × 8]

- (a) Give functions of Oligosaccharides.
- (b) Explain lock and key theory.

[3]

- (c) How temperature affects enzyme action ?
- (d) Physical properties of protein.
- (e) Describe glycosidic bond.
- (f) Give an account of nucleotides.
- (g) Give differences between DNA and RNA.
- (h) Secondary structure of protein
- (i) Hydrolysis of fat
- (j) Enzyme action

GROUP – D

Answer **all** questions within 500 words each.

4. Give a brief account of different types of monosaccharides. [6]

OR

What are fatty acids ? Describe different types of fatty acids with their biological significance.

5. Describe the physical and chemical properties of amino acids. [6]

OR

Give an account of simple and conjugate proteins.

[4]

6. Describe the different types of RNA.

[6]

OR

Write notes on within 250 words each.

[3 × 2]

(i) Complementarity of DNA

(ii) Cot curves

7. Define enzymes ? Give their chemical nature and nomenclature of enzymes.

[6]

OR

Give an account of enzyme action.