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Printed Pages : 2

(20623)

Roll No. ...

B.Sc.(Bio.Tech.)-I Year

**NS-3455**

B.Sc. Bio-Technology Examination, June-2023

**BIO-CHEMISTRY**

(B-101)

(B.Sc. Biotech.)

Time : 3 Hours]

[Maximum Marks : 50

Note : Attempt any five questions. Each question carries 10 marks.

- 1X Write a note on the chemical structure and properties of mono-di- and polysaccharides. 10
- 2X Differentiate between (any two) : 2x5
- (a) Reducing Sugar and non reducing sugar
  - (b) Saturated fatty acid and unsaturated fatty acid
  - (c) Glycolysis and gluconeogenesis
  - (d) Neutral lipids and complex lipids
- 3X Write notes on (any two) : 2x5
- (a) Aromatic amino acid
  - (b) Non essential amino acid
  - (c) Primary structure of peptides
  - (d) Bonds involved in protein structure

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- 4 Write notes on (any one) : 1x10
- (a)  $\alpha$  Helix and  $\beta$  pleated sheet
  - (b) Tertiary structure of protein
- 5 Write a note on the structure of dsDNA. How does it differ from RNA. 1x10
- or
- What are the different forms of DNA ? What is their biological significance ?
6. Write a note on water soluble vitamins. Mention their importance and the diseases caused due to their deficiency. 1x10
- 7X Give a schematic representation of citric acid cycle. Mention a note on the regulation of citric acid cycle. 1x10
8. Write a note on pentose phosphate pathway. Mention the significance of pentose phosphate pathway. 1x10
9. Write notes on : 2x5
- (a) Fatty acid oxidation in peroxisomes
  - (b) Ketogenesis
10. Write a note on the specialized biomolecules derived from amino-acids. 1x10

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