

A (Printed Pages - )  
(20622) Roll No. ....  
B.Sc. (Bio.Tech.)-I Yr.

**NS-3455(N)**

**B.Sc. Bio-Technology Examination,**

**June - 2022**

**BIO-CHEMISTRY**

**(B-101)**

**(New)**

**(B.Sc. Biotech.)**

*Time : Three Hours / [Maximum Marks : 50*

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

1. Write a note on the classification and functions of carbohydrates.
2. Write notes on (any **two**): 5×2
  - (a) Starch
  - (b) Glycogen

- (c) Chitin
  - (d) Cellulose
3. Write notes on (any **two**) 3×2
    - (a) Zwitterions
    - (b) Essential Aminoacids
    - (c) Peptide bond
    - (d) Non protein amino acid
  4. Write notes on (any one) 1×10
    - (a) Ramachandran plot
    - (b) Secondary structure of protein
  5. Differentiate between (any **two**): 5×2
    - (a) Purines and pyrimidines
    - (b) Nucleotides and nucleosides
    - (c) Z DNA and B-DNA
  6. Write a note on fat soluble vitamins. Mention their importance and the diseases caused due to their deficiency. 1×10

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7. Differentiate between:  
(a) Glycolysis and Citric acid cycle  
(b) Aerobic respiration and Anaerobic respiration  
1×10
8. Write a note on the glyoxylate cycle. Mention the significance of glyoxylate cycle.  
5×10
9. Write notes on:  
(a) Ketosis  
(b)  $\beta$ -oxidation pathway  
5×2
10. Write notes on:  
(a) Cholesterol  
(b) Phenylketonuria  
5×2