

B.Sc. Semester - 1 (NEP-2020) Examination**OCT/NOV-2025****BIT: Biomolecules (Minor)****Time: 2:00 Hours****Marks:50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Describe the classification and structure of carbohydrates. Explain the structure and biological role of monosaccharides and polysaccharides with examples. (10)

OR

Que.1 Explain the reactions of monosaccharides and discuss the structure and importance of glycoconjugates such as glycoproteins and glycolipids.

Que.2 Describe the structure and properties of amino acids. Explain the different levels of protein structure in detail. (10)

OR

Que.2 Write an account on classification of proteins. Explain the concept of protein folding and protein-protein interactions.

Que.3 Discuss the classification and biological functions of lipids. Explain the structure and role of phospholipids and steroids. (10)

OR

Que.3 What are vitamins? Classify vitamins and describe their major sources and functions in living organisms.

Que.4 Explain the structure of DNA according to Watson and Crick's model. Describe the concept of denaturation and renaturation of DNA. (10)

OR

Que.4 Differentiate between DNA and RNA. Discuss the types and functions of different RNA molecules.

Que.5 Write short notes on following: (10)

- (A) Functions and importance of carbohydrates in living organisms
- (B) Essential and non-essential amino acids

OR

- (A) Functions of fatty acids and triacylglycerols
- (B) Chargaff's rule and its significance
