

B.Sc. Semester - 2 (NEP-2020) Examination**MARCH/APRIL-2026****BOT: Biomolecules (Major-3)****Time: 2:00 Hours****Marks: 50****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que. 1 Answer according to instructions.

- 1) Explain in detail physical, and chemical properties of water. (05)
- 2) Distinguish between endergonic and exergonic reactions. (05)

OR

Que. 1 Answer according to instructions.

- 1) Discuss types of primary bonds with examples. (05)
- 2) What is pH? Explain significance of pH and buffer in biological systems. (05)

Que. 2 Answer according to instructions.

- 1) Write functions of Monosaccharides and Polysaccharides in living organisms. (05)
- 2) Discuss protein denaturation and its significance. (05)

OR

Que. 2 Answer according to instructions.

- 1) Explain structure of amino acids and peptide bond formation. (05)
- 2) Write significance of lipid in biological systems. (05)

Que. 3 Answer according to instructions.

- 1) Explain structure and function of fatty acids. (05)
- 2) Write short notes on phospholipid as structural lipid. (05)

OR

Que. 3 Answer according to instructions.

- 1) Describe Watson and Crick model of DNA. (05)
- 2) Explain the general structure of Purine and the specific structure of Adenine and Guanine. (05)

Que. 4 Answer according to instructions.

- 1) Explain the induced fit hypothesis for mechanism of enzyme action. (05)
- 2) Explain lyases and their biological significance. (05)

OR

Que. 4 Answer according to instructions.

- 1) Define Holoenzyme and apoenzymes Differentiated between them with suitable examples. (05)
- 2) What are cofactors? Explain role of it in enzyme activity. (05)

Que. 5 Answer according to instructions.

- 1) Structure and explain second laws of thermodynamics with examples. (05)
- 2) Write note on: Isoelectric point. (05)

OR

Que. 5 Answer according to instructions.

- 1) Explain the cloverleaf model of t-RNA. (05)
- 2) Describe the structural features of the active site of an enzyme. (05)
