

21180



I SEMESTER B.Sc. EXAMINATION – MARCH/APRIL 2022

SCHEME: CBCS (NEP)

026

BIOCHEMISTRY

CHEMICAL FOUNDATIONS OF BIOCHEMISTRY - 1

Time: 2 ½ Hours

Max Marks: 60

Instructions to Candidates: Answer any FIVE questions from PART-A and any FIVE questions from PART-B.

PART- A

1. 2x5=10
- a) Mention any one difference between prokaryotes and eukaryotes.
 - b) What is oxidation number? Give its significance.
 - c) State octet rule. Write any one limitation.
 - d) What is isoelectric pH ? Give its formula.
 - e) State Raoult's law.
 - f) Write the biological active forms of calcium and nickel.
 - g) Define Enthalpy and Entropy.

PART- B

2. 5x10=50
- a) Explain the scope and significance of Biochemistry. 5
 - b) What is orbit? Explain the structure of an atom. 5
3. 5
- a) Explain the compartmentalization of cellular functions? 5
 - b) Write a note on hydrophobic interactions. 5
4. 6
- a) Write a note on subcellular organelles with one function for each. 6
 - b) What is electronic configuration? Write the rules for filling up of electrons in various orbitals. 4
5. 5
- a) Write a note on formation and properties of coordinate bond. 5
 - b) Explain the oxidation and reduction reaction of iron in haemoglobin. 5
6. 5
- a) Explain Bronsted-lowry concept of acids and bases with their limitations. 5
 - b) Explain the laws of thermodynamics with examples. 5
7. 6
- a) Discuss on special properties of water. 6
 - b) Write a note on reverse osmosis. 4
8. 5
- a) What are electrochemical cells? Explain the construction of calomel electrode. 5
 - b) Write a note on buffers in animal system. 5

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