2412N1090

Candidate's Seat No:___

**B.Sc. Sem.-3 Examination**
**CC 201**
**Bio-Chemistry**
**December-2025**

**Time : 2.30 Hours]** **[Max.Marks : 70**

**Instructions:1) All Questions in Section I and Section II are compulsory and carry equal marks**
**2) Illustrate your answers with neat diagrams wherever necessary**

**Time: 2. 30 hrs.**
**Total Marks:70**

## Section - I

**Q1. (A)** Define: 1. Buffer 2. Acid 3. Buffer capacity 4. pH (6)
**(B)** Give the importance of Handerson Hasselbalch equation (8)

**OR**

**Q1. (A)** Why water is considered a universal solvent (7)
**(B)** Discuss the pH meter with a labelled diagram. (7)

**Q2. (A)** Define Viscosity. How do you measure relative and absolute viscosity of a liquid. (8)
**(B)** List the factors affecting Viscosity (6)

**OR**

**Q2. (A)** Define Osmosis and Osmotic Pressure. Discuss the physiological importance of Osmotic pressure (9)
**(B)** Explain the Donan membrane equilibrium. (5)

**Q3. (A)** Explain in detail paper chromatography of separation of sugars or amino acids. (09)
**(B)** List the factors affecting electrophoresis (05)

**OR**

**Q3. (A)** Explain principle and working of TLC (07)
**(B)** Write a brief note on PAGE. (07)

**Q4. (A)** Draw, label and discuss the parts and working of a Colorimeter. (08)
**(B)** Discuss the differences between Colorimeters and Spectrophotometers. (06)

**OR**

**Q4. (A)** Define Fluorescence. Discuss the principle, parts and applications of a Spectrofluorometer (10)
**(B)** State Lambert Beer's law. (04)

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## Section - II

(14)

**Q5. Attempt any Seven out of the following:**

1. Define a weak base with example
2. List any two examples of physiological buffers.
3. Draw and label any one electrode of pH meter.
4. Define surface tension
5. List two factors which affect surface tension.
6. What are the two units of viscosity
7. What is the difference between Adsorption & Absorption
8. Define: Partition coefficient
9. What is the stationary phase and mobile phase in HPLC
10. Give two applications of SDS - PAGE
11. Give two precautions while using a colorimeter
12. Explain the role of complementary filter in Colorimeters.

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