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1810N693

Candidate's Seat No :_____

B.Sc Sem.-3 Examination

CC-201

Biochemistry

October-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Q1. (A) Define: 1. Ampholyte 2. Acid 3. pH 4. Base (4)

(B) Derive Handerson Hasselbalch equation. Give its importance (7)

(C) Give any three reasons why water is a universal solvent (3)

OR

Q1. (A) Define buffers&Buffer capacity. Give examples of different physiological buffers and their role. (7)

(B) Discuss the electrodes of a pH meter with a labelled diagram. (7)

Q2. (A) Define Osmosis&Osmotic Pressure.State Vant Hoff laws of Osmotic Pressure (6)

(B) Discuss the physiological importance of Viscosity. (8)

OR

Q2. (A) Define Surface tension. State the Gibb's Thompson principle. Explain the role of surface tension in digestion of fat. (7)

(B) Explain the Donan membrane equilibrium in detail (7)

Q3. (A) Define electrophoresis. What is the role of following in gel electrophoresis: 1. TEMED 2. Ammonium persulphate 3.SDS 4. Coomassie Brilliant blue (08)

(B) List the factors affecting electrophoresis (06)

OR

Q3. (A) Explain principle and working advantages and disadvantages of TLC (09)

(B) Write a brief note on Column chromatography. (05)

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) Discuss the principle, parts and applications of a Spectrofluorometer (08)

(B) State and explain Lambert Beer's law. (06)

Q5. **Attempt any Seven out of the following:** (14)

1. What is K_w ?
2. Calculate the pH of a solution whose pOH is 10
3. List any two factors which affect pH
4. Explain one important physiological role of osmotic pressure.
5. What the units of viscosity. Name the apparatus used to measure relative viscosity.
6. Define Adsorption. Give example.
7. Define: R_f
8. What is the stationary phase in paper chromatography & HPLC
9. Give two applications of SDS - PAGE
10. Give any two limitations of Lambert Beer laws.
11. Explain the role of complementary filter in Colorimeters.
12. What is the role of a detector?