2/46 **0512E884** Candidate's Seat No :_____

B.Sc Sem.-3 (NEP) Examination

DSC-C-231

Biochemistry

Time : 2-00 Hours] **December-2024** **[Max. Marks : 50**

Q1a)	Define: Acids, pH, pKw, Ampholyte, Buffer	(05)
b)	Discuss the factors affecting pH measurement.	(05)
	OR	
Q1 a)	Discuss Water as a universal solvent.	(05)
b)	Discuss the role of hemoglobin as a buffer.	(05)
Q2a)	Define surface tension. Discuss physiological importance of surface tension.	(07)
b)	List the factors affecting adsorption.	(03)
	OR	
Q2 a)	Define viscosity. What is the unit of viscosity? Discuss its physiological importance.	(08)
b)	State Vant Hoff laws of osmotic pressure.	(02)
Q3a)	Write a note on SDS –PAGE electrophoresis.	(08)
b)	List any two factors that affect electrophoresis.	(02)
	OR	
Q3 a)	State the principle & applications of TLC.	(08)
b)	List detectors used in gas Chromatography.	(02)
Q4 a)	Discuss the differences between spectrophotometer & colorimeter.	(05)
b)	State & derive Lambert-Beer's law.	(05)
	OR	
Q4 a)	Describe parts, working & three applications of spectrofluorometer.	(10)

(P.T.O)

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Q5 ATTEMPT ANY 10 OUT OF 12: (10)

1 Write Handerson Hasselbalch equation.
2 Name the electrodes in pH meter.
3 Calculate the pH of a buffer solution containing 10ml 0.1M acetic acid & 10ml 0.1 M sodium acetate. pKa of acetic acid is 4.76.
4 Define osmosis. Name the apparatus to measure osmotic pressure.
5 What is membrane hydrolysis?
6 What is Gibbs Donan equation?
7 What is the stationary & mobile phase in paper chromatography?
8 Name the tracking dye used in gel electrophoresis.
9 Define Rf value in chromatography.
10 What is fluorescence?
11 What is the relationship between OD & % T?
12 State any one criterion for selection of a correct filter.