

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

School of Basic Sciences
Bachelor of Science Honours in Chemistry
Mid Term Examination - May 2024

Duration : 90 Minutes
Max Marks : 50

Sem IV - C1UB403B - Electrochemistry and Magnetism

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Explain Conductivity. K2 (2)
 - 2) Define an electrolyte and a non-electrolyte according to Arrhenius. K1 (3)
 - 3) Explain how Arrhenius theory explain the conductivity of electrolyte solutions. K2 (4)
 - 4) Explain the significance of the Debye-Hückel-Onsager equation. K2 (6)
 - 5) Illustrate transference numbers and their relation to ionic mobilities. K3 (6)
 - 6) Illustrate the principle of titration in volumetric analysis. What is titration, and how does it help determine the concentration of a substance in a solution? Provide an example of a common titration technique and its application in analytical chemistry. K3 (9)
 - 7) Analyze transference numbers and explain their significance in electrolyte solutions. Discuss how transference numbers are related to the movement of ions in solution. K4 (8)
 - 8) Analyze three applications of conductance measurement. K4 (12)
- OR**
- Analyze the Hittorf method for the determination of transference numbers. K4 (12)