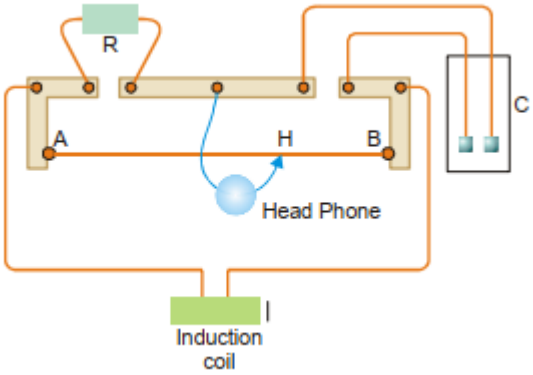
International Islamic University Chittagong
Department of Electrical and Electronic Engineering

Final Assignment Test Autumn 2020	Program: B.Sc. Engg. (EEE)
Course Code: CHEM-2301	Course Title: Chemistry
Time: 5 hours (Writing 4 hours 30 minutes + 30 minutes submission time)	Full Marks: 50 (Written 30 + Viva/Viva-Quiz-20)
Section: 3B	Set: D

[Answer each of the questions (1-5) from the followings; Figures in the right margin indicate full marks.]

1(a).	Deduce that Equivalent conductance = specific conductance×1000/*C*	CO1	An	03
1(b).	 Figure: 01 A conductance cell containing a decinormal solution of a salt occupying a volume between two platinum electrodes 2.5 cm apart and 6.2 cm^2 area is connected with Wheatstone bridge. A resistance (R= summation of last two digit of your metric id) is unplugged when sliding contact is moved across a 10 m wire until the headphone is minimum at 7 m. Calculate equivalent conductance of the cell.	CO2	E	03
2(a).	Discuss a method for determining the molar mass of a non-volatile solute by the relative lowering in vapour pressure of the solvent.	CO1	U	03
2(b).	Calculate the normality of a solution containing 52.0 g of $Fe(OH)_2$ dissolved in sufficient water to make 250 ml of solution ?	CO2	E	03
3(a).	Explain by a suitable example, how equilibrium changes with temperature for exothermic and endothermic reaction.	CO1	C	03
3(b).	Calculate the equilibrium constant of the reaction A + B $\longleftrightarrow$ 2C; from the data given below: The reaction was started with (0.X+1) moles $litre^{-1}$ of A and (0.X+1) moles $litre^{-1}$ of B and the equilibrium concentration of C was found to be 0.42 mole litre–1; [Given, X= summation of last two digit of your metric id]	CO2	E	03
4(a).	Deduce the rate expression for second order reaction where both the concentration terms are same and also show its graphical diagram.	CO1	An	03
4(b).	3X% of a first order reaction is complete in 23 minutes. Calculate the time required to complete 9X% of the reaction. [Given, X= summation	CO2	E	03

of last two digit of your metric id].

5(a).	Distinguish between physical adsorption and chemical adsorption.	CO1	An	03
5(b).	Show diagrammatically the different types of adsorption isotherms obtained for adsorption of gases on solids.	CO2	Ap	03
6.	Viva: The time of viva will be declared in Google classroom.			20