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**School of Basic Sciences**  
Bachelor of Science Honours in Chemistry  
Mid Term Examination - Nov 2023

Duration : 90 Minutes  
Max Marks : 50

**Sem III - C1UB305B - Halogen and Oxygen Containing Functional Groups**

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) Summarize the role of solvent in rate of nucleophilic substitution reaction. K2 (2)
- 2) Why nucleophilic substitution reaction show inverted product? K1 (3)
- 3) Illustrate the kinetics of reaction of Alkyl halides react with nucleophile. K2 (4)
- 4) Explain the Markonikov's rule with example. K2 (6)
- 5) Utilize the Anti-Markonikov's rule with proper examples. K3 (6)
- 6) Apply the dehydration mechanism of alcohols in E1 and E2. K3 (9)
- 7) Compare between ethyl alcohol and allyl alcohol. K4 (8)
  
- 8) Predict the product of Carboxylation of phenol. K4 (12)

**OR**

Predict the chemical reaction with thionyl chloride, phosphorus pentoxide and lithium aluminium hydride. K4 (12)