GALGOTIAS UNIVERSITY

| ADMISSION NUMBER |
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# School of Basic Sciences

**Bachelor of Science Honours in Chemistry**
**Semester End Examination - Jun 2024**

**Duration : 180 Minutes**
**Max Marks : 100**

## Sem II - C1UB205B - 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*

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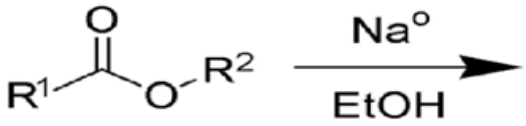
| **1)** | Why Protic solvent favor SN1 reaction while aprotic solvents SN2 reaction. | K1(3) |
| **2)** | Illustrate the acidity of aliphatic carboxylic acid. | K2(4) |
| **3)** | Explain active methylene compounds with suitable example. | K2(6) |
| **4)** | Utilize the following reaction and show its mechanism and possible product formation:   | K3(6) |
| **5)** | Utilize the Knoevenagel reaction and show its mechanism. | K3(6) |
| **6)** | Apply the metal hydride such as lithium aluminium hydride and sodium borohydride for the preparation alchol by reduction of carbonyl compounds. | K3(9) |
| **7)** | Apply a reaction and their mechanism accompanied by Wolff-Kishner reduction reaction. | K3(9) |
| **8)** | Compare between aldehyde and ketones with suitable examples and reactions. | K4(8) |
| **9)** | Analyze the various possible reactions accompanied via benzyne formation. | K4(12) |
| **10)** | Conclude the role of LiAlH4 and NaBH4 for the reduction of aldehyde and ketone in organic synthesis. | K5(10) |
| **11)** | Justify the method of synthesis of acid anhydrides and its chemical reactions. | K5(15) |

**OR**

Justify the preparation of acetoacetic ester and its synthetic applications in detials. K5(15)

12) Discuss amides and its preparation methods with suitable reactions. K6(12)

**OR**

Discuss the preparationa and chemical reactions of acid halides. K6(12)