

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)

CLASS: I MSc  
BRANCH: CHEMISTRY

SEMESTER: III  
SESSION : MO/2019

SUBJECT : CH203 ORGANIC CHEMISTRY II

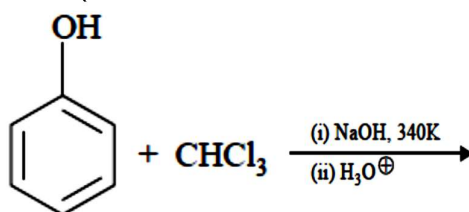
TIME: 2:00 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
2. Candidates may attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.

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- Q1 (a) Compare and contrast the hydrolysis rates of the following compounds. [2]  
 $\text{CH}_3\text{-Br}$     $\text{MeCH}_2\text{-Br}$     $\text{Me}_2\text{CH-Br}$     $\text{Me}_3\text{C-Br}$
- (b) Describe briefly about the E2 mechanism with example. How does E1 favor over  $\text{S}_{\text{N}}1$ ? [3]
- Q2 (a) What happen when toluene treated with [2]  
(i)  $\text{Cl}_2/\text{Fe}$  in dark and (ii)  $\text{Cl}_2$  in presence of intense light.
- (b) Describe the Benzyne mechanism with suitable example. Is it possible to get Grignard reagent and Gimman's reagent from 5-bromo-1-pentanol? [3]
- Q3 (a) What will be the reagent for the successful synthesis of ethyl phenyl ether by Williamson process? [2]
- (b) What is retropinacol rearrangement? Describe the limitations of Lucas test. [3]
- Q4 (a) Describe the mechanism of Fries rearrangement with evidence. [2]
- (b) Explain the order of acidity of compounds; Phenol, o-Nitro phenol, m-Nitro phenol, p-Nitro phenol and 2,2-dinitrophenol. Write down the mechanism of following process. [3]



- Q5 (a) Write short note on Oppenauer oxidation. [2]
- (b) Describe the mechanism of acid catalysed aldol condensation. What is benzoin condensation? [3]