

M.Sc. CHEMISTRY (ORGANIC CHEMISTRY)
SEMESTER-III EXAMINATION 2020
Paper Title: ORGANIC SYNTHESIS-I
Paper Code: MCHCCO-302

Time: Three Hours

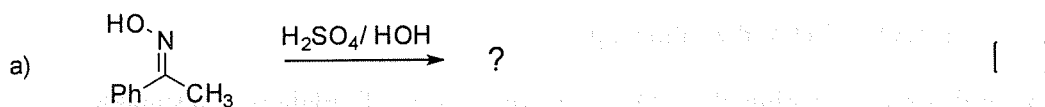
Maximum marks: 75

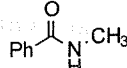
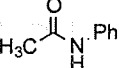
Attempt all questions. All parts of a question must be attempted in continuation. Start answer of a fresh question on a new page.

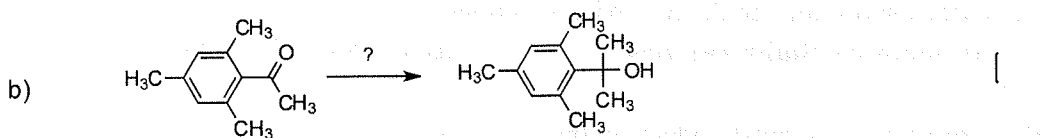
Q1. Answer all the questions given below (a-j):

(10x1.5= 15)

A. Choose the products formed in the following reactions (a-d)

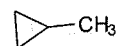
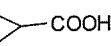
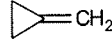


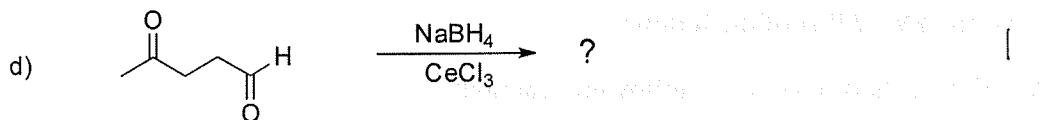
- A)  (B)  C) Both A & B D) 

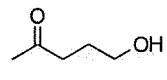
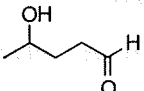
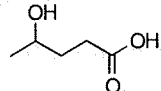
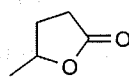


- A) CH_3MgBr B) CH_3Li c) Me_2Zn D) Me_2CuLi

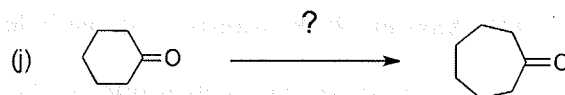
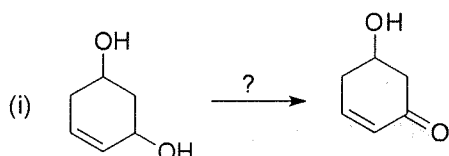
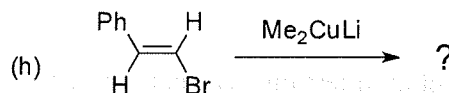
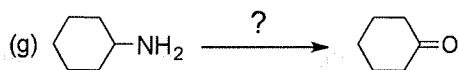
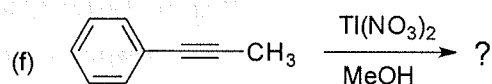
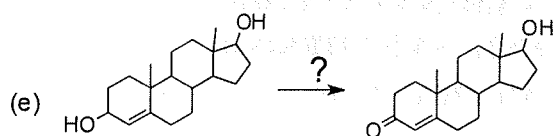


- A)  B)  C)  D) 



- A)  B)  C)  D) 

B. Identify the suitable reagent/products of the following reactions (e-j):

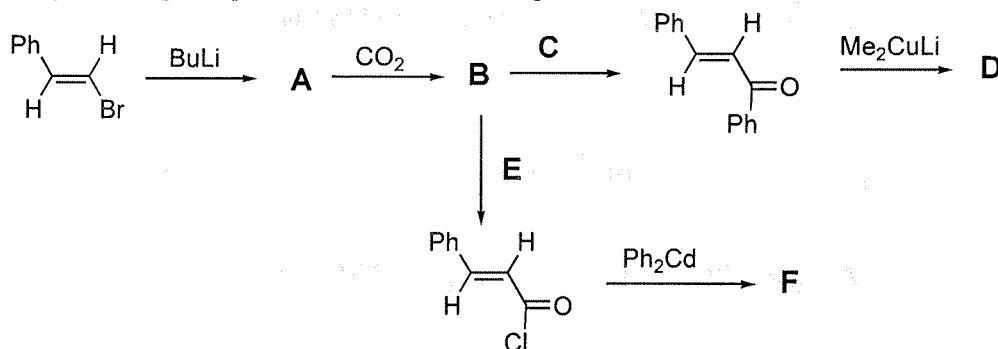


Q2. Answer **ANY TWO** of the following:

(2x7.5=15)

- Will steric crowding effect the Grignard reaction? Explain with a suitable mechanism?
- Discuss the 1,4 and 1,2-additions of organolithium, Grignard and Gilman reagents with α,β -unsaturated carbonyl compounds.
- Write a short note on the following reactions:
 - Simmons-Smith reaction
 - Reformatsky reaction

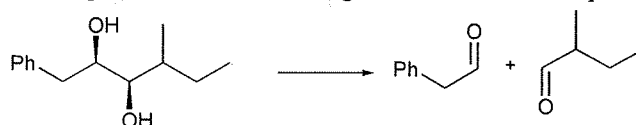
D. Identify the reagents/products in the following conversions.



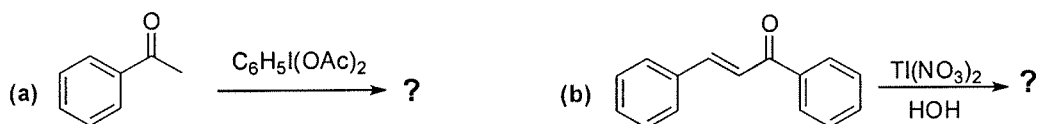
Q3. Answer **ANY TWO** of the following:

(2x7.5=15)

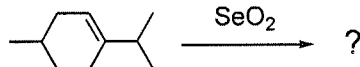
- Write a short note on the following reactions:
 - Prevost oxidation
 - Swern oxidation
- Suggest the suitable reagent for the following conversion and explain its mechanism.



C. Complete the following conversions with suitable mechanism:



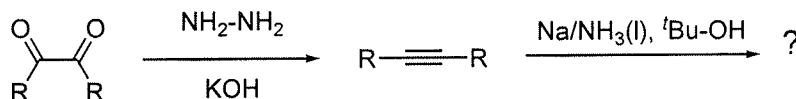
D. Suggest the product formed in the following reaction with suitable mechanism.



Q4. Answer **ANY TWO** of the following:

(2x7.5=15)

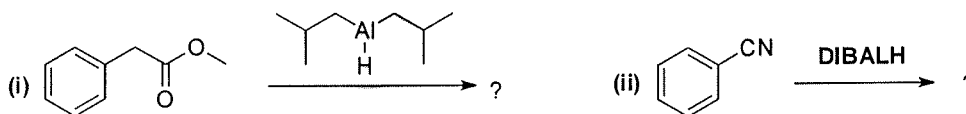
A. Explain the product formations of the following reactions with suitable mechanism.



B. Write a short note on the following reactions

(i) Clemmensen reduction (ii) Rosenmund reduction

C. Suggest the product formed in the following reaction with suitable mechanism.

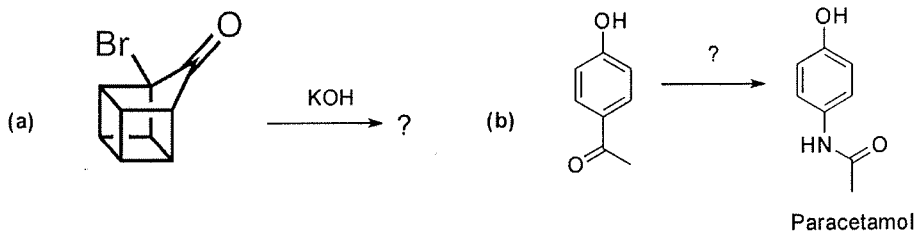


D. Write a short note on hydrogenolysis?

Q5. Answer any three of the following

(2x7.5=15)

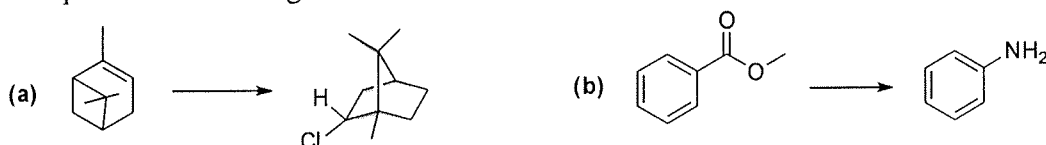
A. Suggest the suitable mechanism for the following reactions:



B. Propose a suitable Enumerate the mechanism of the following conversions:



C. Complete the following conversions with suitable mechanism:



D. Explain the following reactions with suitable mechanism:

(a) Shapiro reaction (b) Arndt-Eistert synthesis