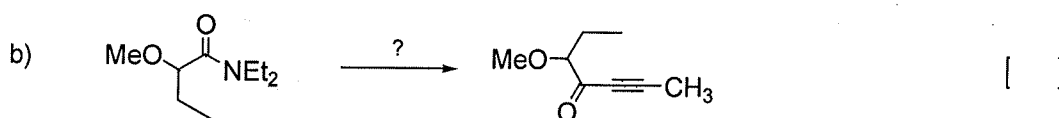
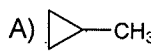
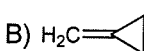
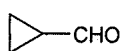
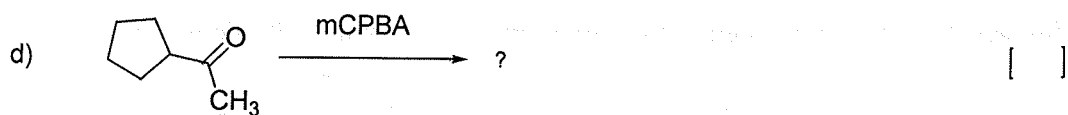
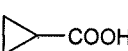


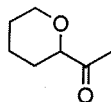
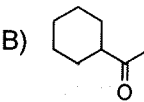
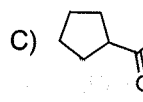
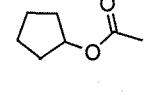
**M.Sc. CHEMISTRY**  
**SEMESTER-III EXAMINATION-2019**  
**Paper Code- MCHCCO-302**  
**ORGANIC SYNTHESIS-I**

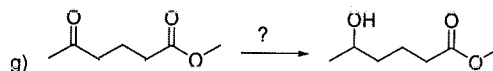
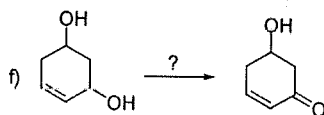
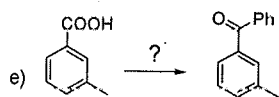
Time: Three Hours

Maximum marks: 75

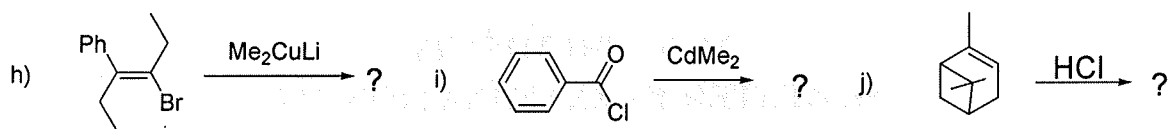
(Write your Roll No. at the top immediately on receipt of this question paper)

**Q1. Answer all the questions given below****(1.5x 10= 15)****A. Select the suitable reagents/products formed in the following conversions (a-e)**A)  $\text{CH}_3\text{MgBr}$  B)  $\text{CH}_3\text{Li}$  c)  $\text{Me}_2\text{Zn}$  D)  $\text{Me}_2\text{CuLi}$ A)  $\text{CH}_3\text{Li}$  B)  $\text{Li}-\text{C}\equiv\text{CH}_3$  C)  $\text{CH}_3\text{CH}_2\text{Li}$  D)  $\text{CH}_3\text{CH}_2\text{ZnX}$ A)  B)  C)  D) 

A)  B)  C)  D) 

**B. Select the suitable reagent for the following conversions (e-g)**

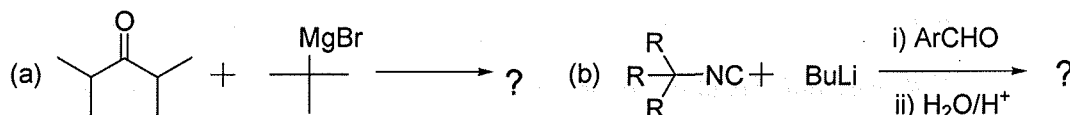
C. Give the products results in the following compounds (h-j)



Q2. Answer ANY TWO of the following:

(7.5x2=15)

A. Identify the products formed in the following reactions with suitable mechanism.



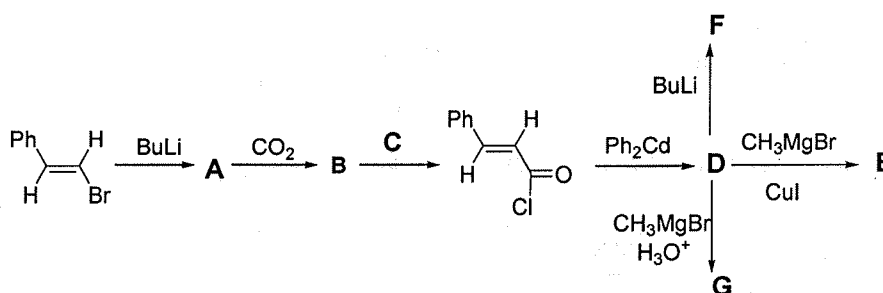
B. Write a short note on the following reactions.

(a) Simmons-Smith reaction (b) Reformatsky reaction

C. Write a short note on the following reactions?

(a) Suzuki coupling (b) Heck coupling

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

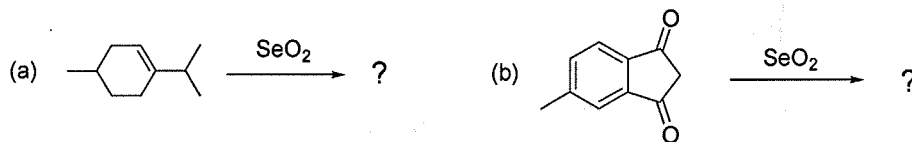


Q3. Answer ANY TWO of the following:

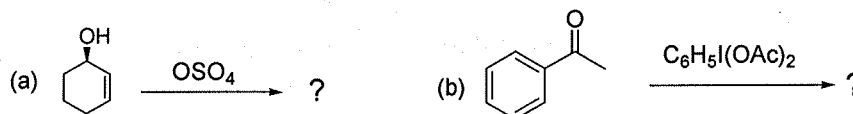
(7.5x2=15)

A. Write a short note on Woodward-Prevost oxidations?

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



C. Write the product formed in the following reaction with suitable mechanism?

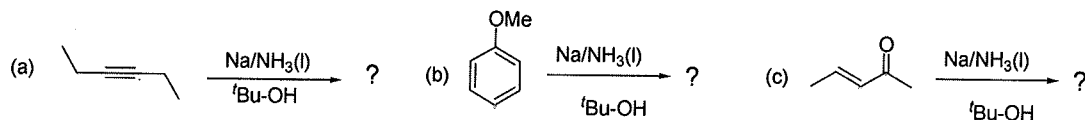


D. Outline the suitable mechanism for (a) Swern oxidation and (b) Oxidative cleavage of 1,2-diols with  $\text{Pb}(\text{OAc})_4$ .

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

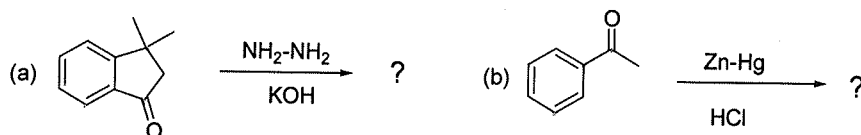
**(7.5x2=15)**

A. Write the product formed in the following reaction with suitable mechanism?



B. Write a short note on hydrogenolysis?

C. Suggest the products formed in the following reactions with suitable mechanism.



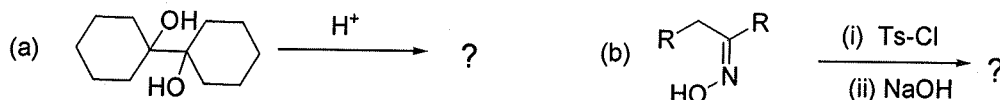
D. Write a short note on the following reactions:

- (a) Rosenmund reduction (b) Reduction of alkynes with Lindlar's catalyst  
(c) Reduction of olefins with Wilkinson's catalyst.

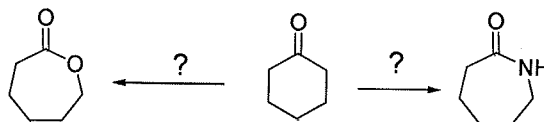
**Q5. Answer ANY TWO of the following:**

**(7.5x2=15)**

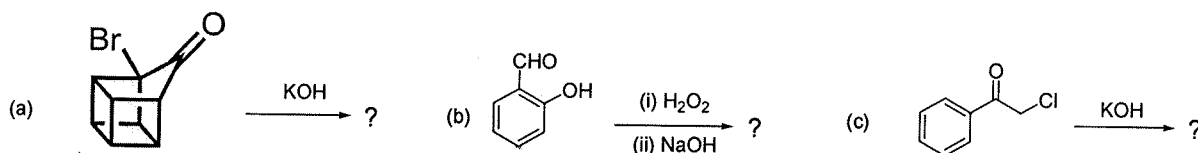
A. Write the product of the following reaction and suggest the suitable mechanism for the conversion?



B. Suggest the suitable reagents for the following conversions and explain the suitable mechanism for the conversion.



C. Suggest the suitable mechanism for the following reaction



D. Explain the following reactions with suitable mechanism:

- a. (a) Shapiro reaction (b) Lossen rearrangement

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