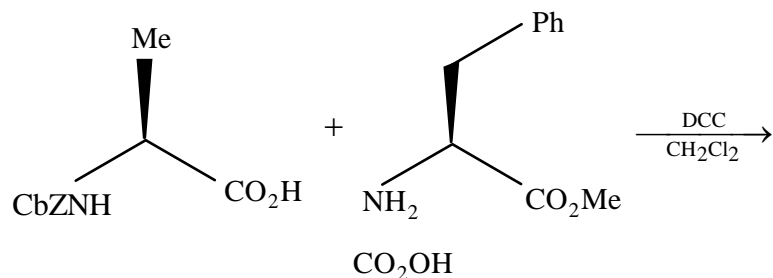


- b) Why the synthesis of 2, 2– dimethylcyclohexanone can not be achieved by Stork enamine synthesis ? 2
- c) Describe the synthesis of phenylalanine by Strecker synthesis. 2
- d) What is Nef carbonyl synthesis ? Describe the mechanism with a suitable example. 2
- e) What product would you obtain from the following reaction ? Explain with mechanism. 2

**INTER B. SC. EXAMINATION, 2017**

( 2nd Semester )

**CHEMISTRY (HONOURS)****PAPER - IX****ORGANIC CHEMISTRY**

Time : Two hours

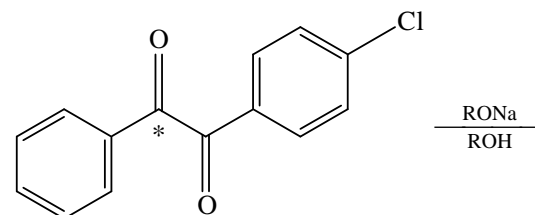
Full Marks : 50

( 25 marks for each group )

Use a separate answerscript for each group.

**GROUP - A**

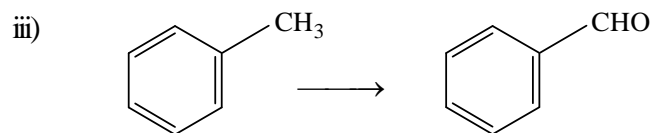
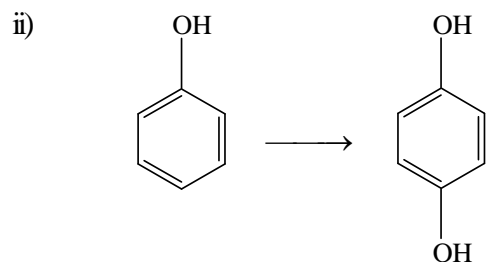
1. a) What happens when benzoic acid is treated separately with excess RLi and excess RMgBr ? Justify your answer.  $2\frac{1}{2}$
- b) Show the radical cycle operative in the reaction of phenyldiazonium chloride with ethyl acrylate in presence of CuCl<sub>2</sub>. 2
- c) What would be the major product in the following reaction ? Mechanistically rationalise your answer.  $2\frac{1}{2}$



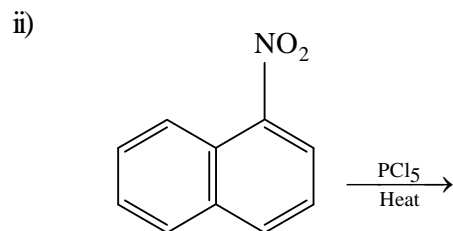
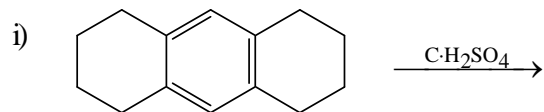
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[ 2 ]

d) Suggest reagent (s) for the following transformations :

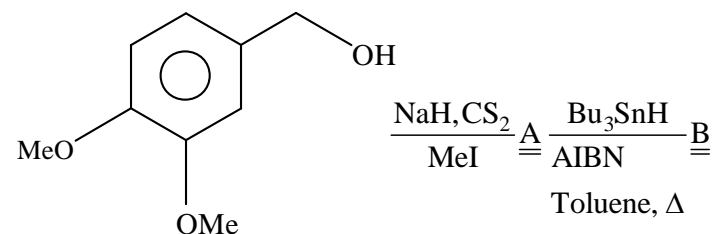


e) Mechanistically ascertain the structure of the product(s) in the following reactions (*any four*) 2½×4

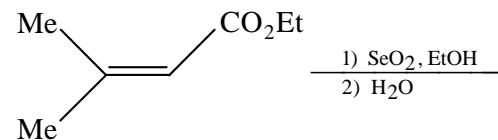


[ 5 ]

e) Identify the products A and B in the following reaction sequence. 2

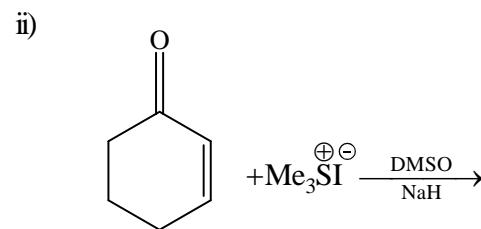
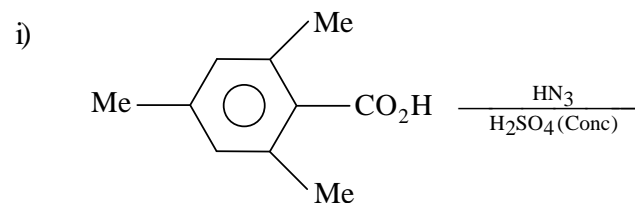


f) Predict the products of the following reaction and explain with mechanism. 2



3. Answer *all* the questions :

a) Identify the products and explain with plausible mechanism. 2+2



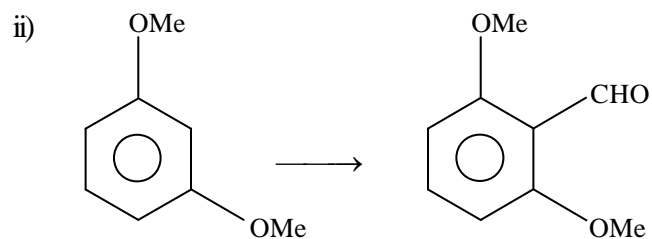
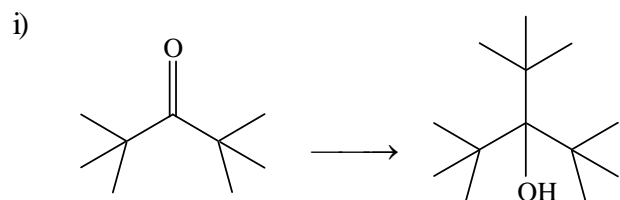
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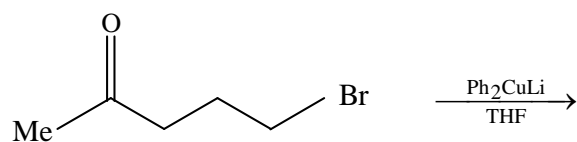
**GROUP - B**2. Answer *all* the questions :

a) What will happen when Grignand reagent is treated with triethyl orthoformate ? Explain with mechanism. 2

b) How can you carry out the following transformations ? (mention the reagents only)  $1\frac{1}{2}+1\frac{1}{2}$

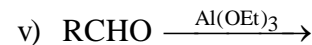
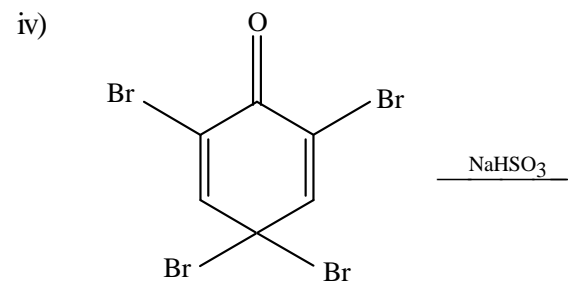
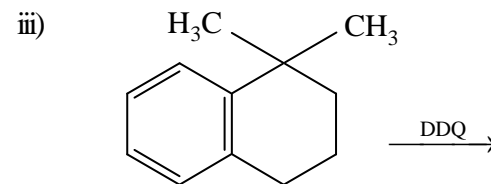


c) Predict the products and explain with mechanism. 2

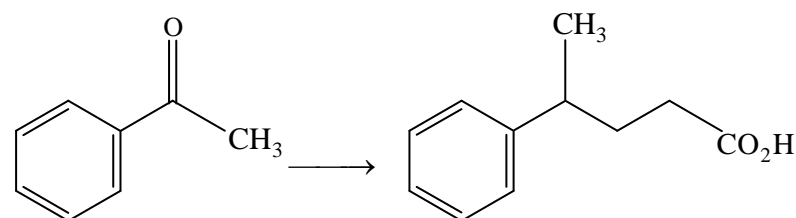


d) How can you prepare  $\text{Me}_3\text{SiI}$  ? Give an use of this reagent. 2

[ 3 ]



f) How would you convert  $2\frac{1}{2}$



g) What product would you expect when phenol is heated with phthalic anhydride in presence of conc.  $\text{H}_2\text{SO}_4$  ? What structural change does the product undergo at different pH ?  $2\frac{1}{2}$

[ Turn over