

M. SC. (Analytical Chemistry) / M. SC. (Organic Chemistry) / M. SC.
(Inorganic Chemistry) Sem-I (Choice Based Credit & Grade System) :
SUMMER - 2019

SUBJECT : ORGANIC CHEMISTRY – I

Day : Friday
Date : 12/04/2019

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

S-2019-1171

N.B.:

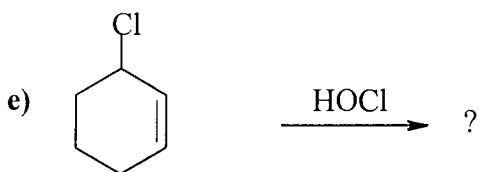
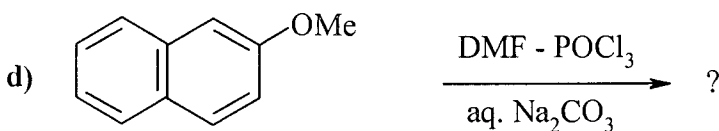
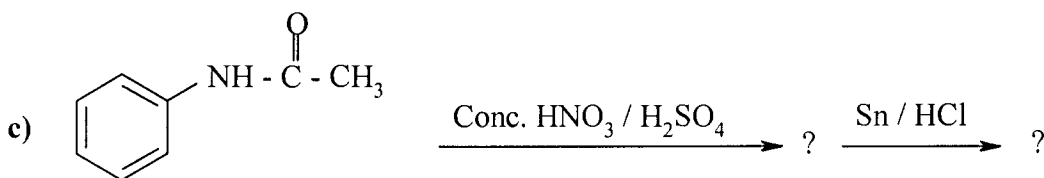
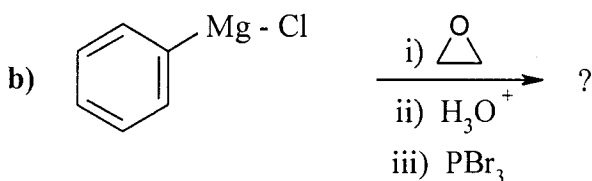
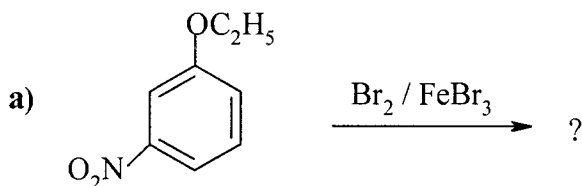
- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in the **SEPARATE** answer books.

SECTION – I

Q.1 Explain ANY THREE of the following: [15]

- a) Electrophilic substitution in 2-methyl Naphthalene takes place at 1st position rather than at 3rd position.
- b) o-Chloro anisole and m-Chloroanisole on treatment with KNH₂ / liquid ammonia give preferably m-anisidine.
- c) Reaction of n-propyl bromide with toluene in presence of AlBr₃ gives 4-methyl cumene.
- d) SET Mechanism in aliphatic nucleophilic substitution.
- e) Write note on “Non Classical Carbocation”.

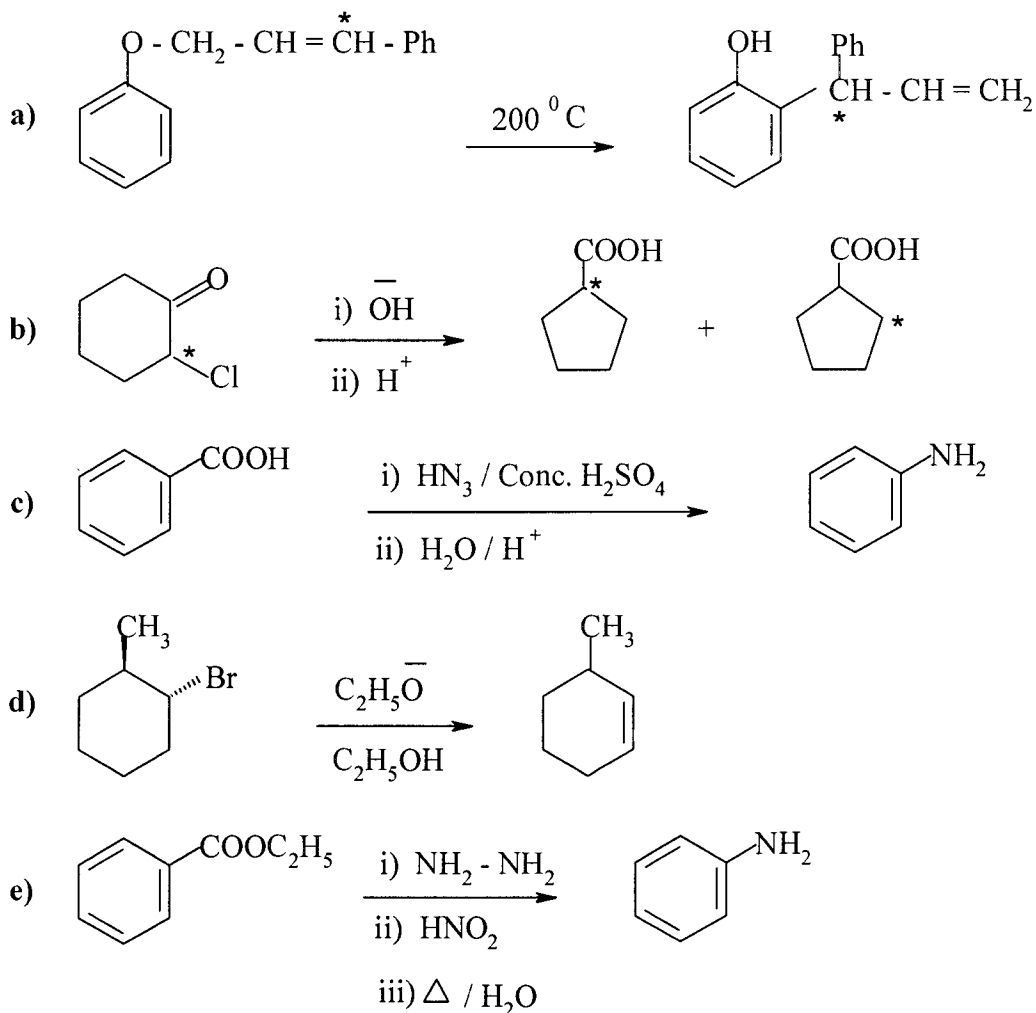
Q.2 Predict the product/s in ANY THREE of the following reactions with [15] mechanism. Justify your answer:



P.T.O.

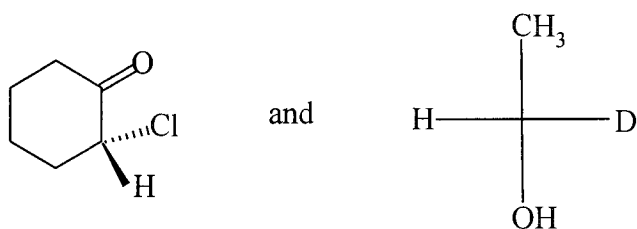
SECTION - II

Q.3 Suggest the mechanism for ANY THREE of the following. Justify your answer: [15]

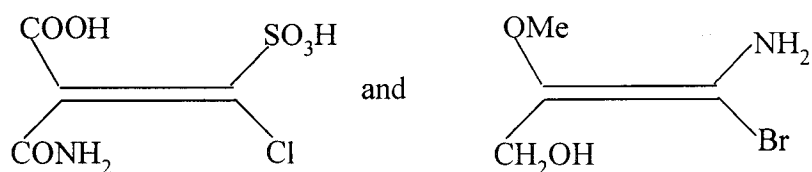


Q.4 Attempt ANY THREE of the following: [15]

- Draw the chair conformations of *cis* and *trans* 1, 4-dimethyl cyclohexane and comment on their stability and optical activity.
- Discuss the stereochemistry of E_1 reaction.
- What are non-benzenoid aromatics? Discuss it with suitable examples.
- i) Assign R/S configuration to the following compounds. Indicate the sequence of groups clearly.



- Assign E/Z configuration to the following compounds. Justify your answer.



- Write a note on : Annulenes.

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