

M. SC. (ANALYTICAL CHEMISTRY) / M. SC. (ORGANIC CHEMISTRY) / M. SC. (INORGANIC CHEMISTRY) SEM-I
(CHOICE BASED CREDIT & GRADE SYSTEM) : SUMMER - 2018

SUBJECT : ORGANIC CHEMISTRY – I

Day : Monday
Date : 16/04/2018

S-2018-0869

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

N.B.:

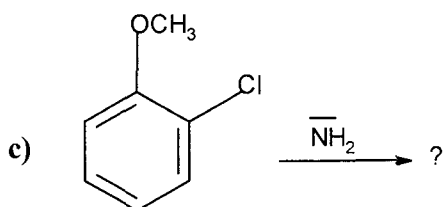
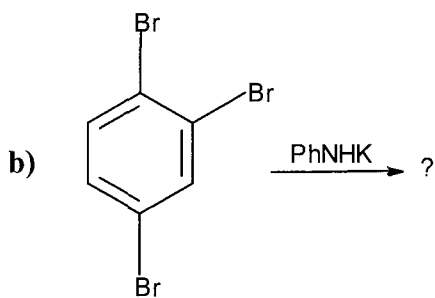
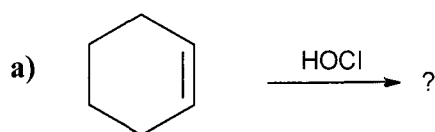
- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

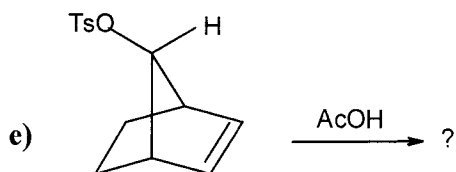
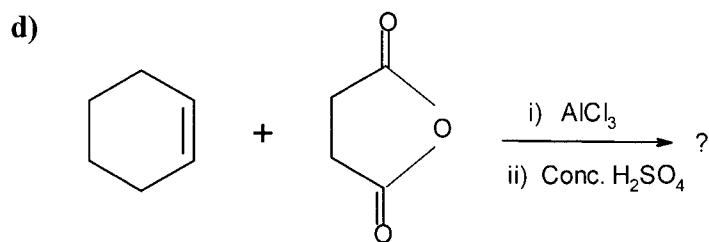
Q.1 Attempt **ANY THREE** of the following: [15]

- a) Discuss free radical addition reactions of halogens.
- b) Explain S_NAr mechanism with suitable example.
- c) Discuss the mechanism of S_N¹ reaction. Give factors affecting on it.
- d) Explain in brief o/p ratio.
- e) Write a note on : IPSO substitution.

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

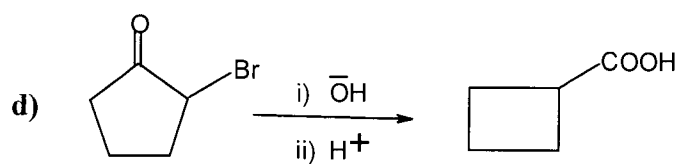
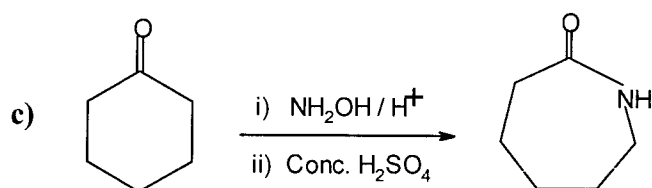
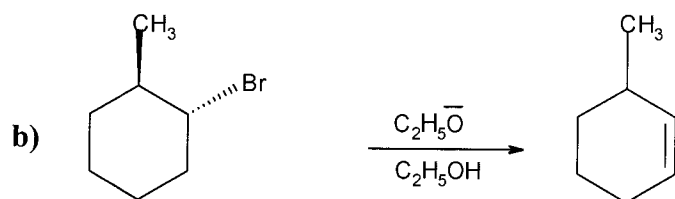
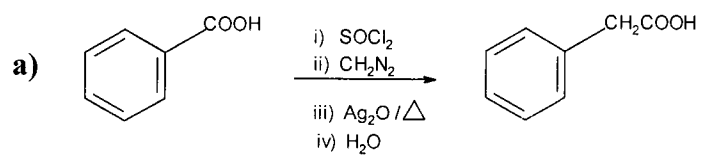


P.T.O.

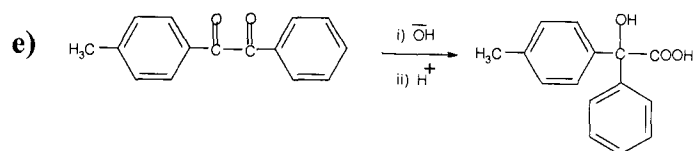


SECTION - II

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

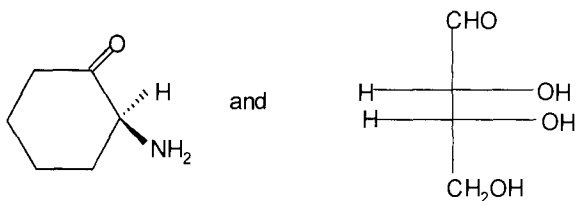


...3...

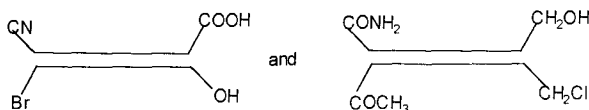


Q.4 Attempt **ANY THREE** of the following: [15]

- a) Draw chair conformations of *cis* and *trans* 1, 4 – dimethyl cyclohexane and comment on their stability and optical activity.
- b) What is E₁cB reaction? Discuss its mechanism. Give factors affecting on it.
- c) What are annulenes? Discuss aromaticity of [18] annulene and [30] annulene.
- d) i) Assign R/S configuration to the following compounds. Indicate the sequence of groups clearly.



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



- e) Write a note on : Non benzenoid aromatics.

* * * *