

M. SC. (ANALYTICAL CHEMISTRY) / M. SC. (ORGANIC CHEMISTRY) / M. SC. (INORGANIC CHEMISTRY) SEM-I
(CHOICE BASED CREDIT & GRADE SYSTEM) : WINTER - 2017
SUBJECT : ORGANIC CHEMISTRY – I

Day : Saturday
Date : 28/10/2017

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

W-2017-0769

N.B.:

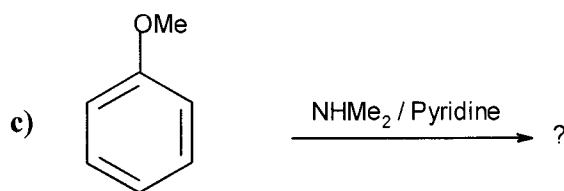
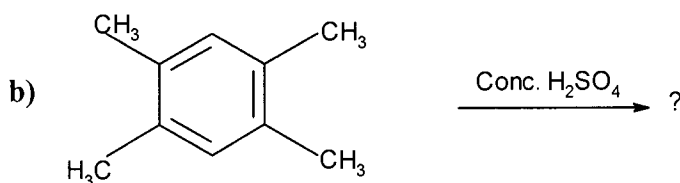
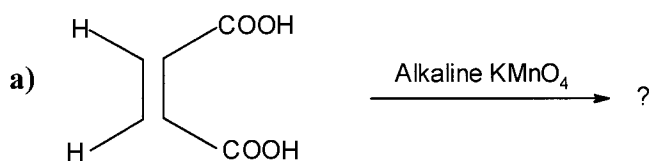
- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

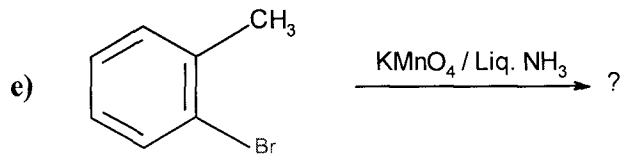
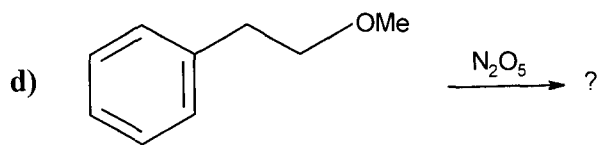
Q.1 Attempt ANY THREE of the following: [15]

- a) Discuss the mechanism of SN^2 reaction. Give factors affecting on it.
- b) Discuss Henkel reaction with suitable example.
- c) Addition reactions are stereospecific. Explain with suitable examples.
- d) Explain SET mechanism.
- e) Write a note on: Benzyne mechanism.

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

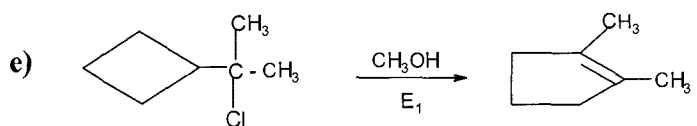
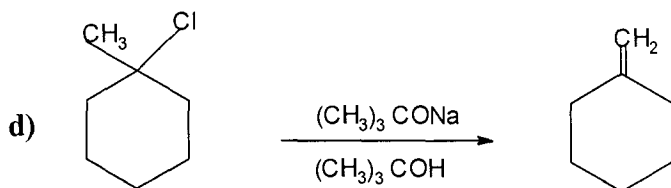
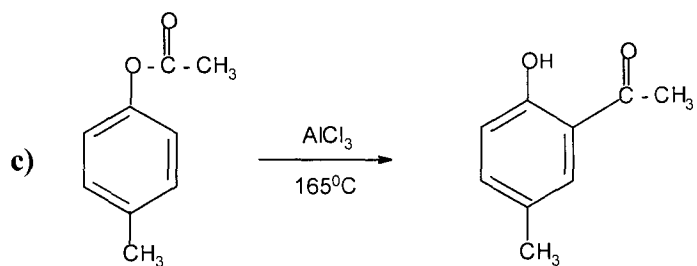
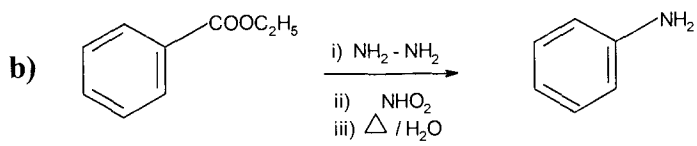
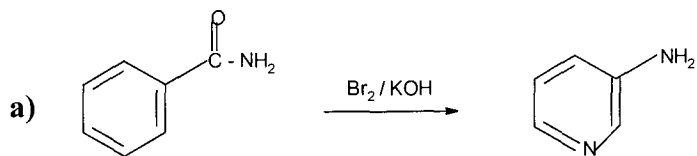


P.T.O.



SECTION - II

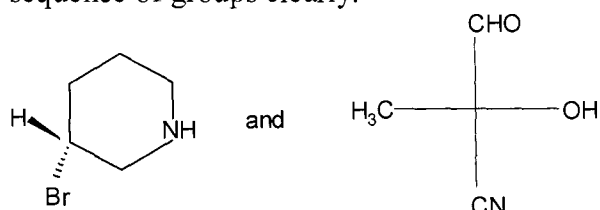
Q.3 Suggest the mechanism in **ANY THREE** of the following. Justify your answer: [15]



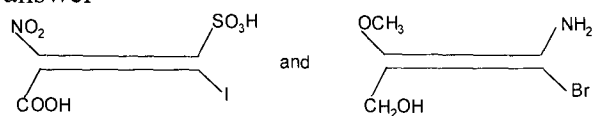
Q.4 Attempt ANY THREE of the following:

[15]

- a) Draw chair conformation of *cis* and *trans* 1, 2 dimethyl cyclohexane and comment on their stability and optical activity.
- b) What is E₂ reaction? Discuss its mechanism. Give factors affecting on it.
- c) Discuss the structure, properties and aromaticity of fullerene (C₆₀).
- 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 : annulenes.

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