

S.Y.B.SC. SEM – III (CBCS - 2016 Course) : SUMMER - 2019
SUBJECT: CHEMISTRY: ORGANIC & INORGANIC CHEMISTRY - III

Day : Tuesday
Date : 16/04/2019

S-2019-0829

Time: 03.00 P.M. To 06.00 P.M.
Max. Marks: 60

N. B.:

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

SECTION - I

Q.1 Attempt **ANY TWO** of the following: **(12)**

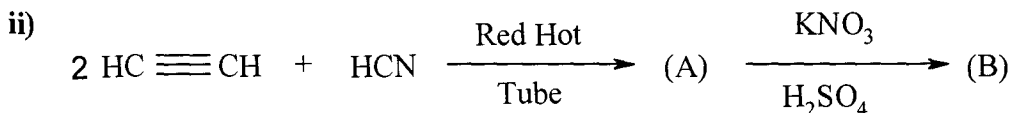
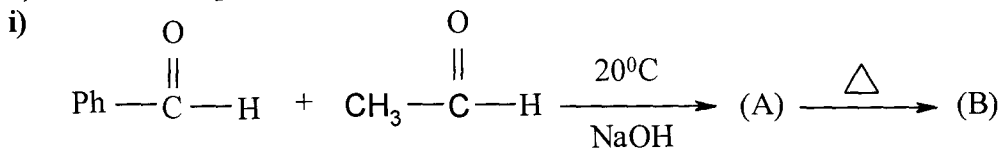
- a) Propylene reacts with HBr in presence of peroxide (H_2O_2) and forms 1-bromopropane as a major product. Explain.
- b) Draw conformations for methyl cyclohexane. Explain their stability.
- c) Give synthesis of Quinoline. What is the action of following reagents on quinoline?
 - i) H_2SO_4
 - ii) Br_2

Q.2 Attempt **ANY THREE** of the following: **(12)**

- a) Distinguish between electrophiles and nucleophiles.
- b) What are epoxides? Discuss the effects of basic and acidic reagents on the epoxide.
- c) What is the action of following on pyridine
 - i) KNO_3/H_2SO_4
 - ii) Conc. $H_2SO_4/350^\circ C$
- d) Discuss any one method of preparation for diethyl ether and write the action of following reagents on diethyl ether.
 - i) Hot HI
 - ii) Cold HI

Q.3 A) Attempt **ANY ONE** of the following: **(06)**

a) Predict the products:



b) Explain the terms with example

- | | |
|---------------|------------------|
| i) Homolysis | iii) Heterolysis |
| ii) Carbonium | iv) Carbanion |

SECTION - II

Q.3 B) Attempt **ANY ONE** of the following: **(06)**

- a) Why d-block elements show coloured compounds?
- b) Explain Hoopé's process for refining of Aluminium.

Q.4 Attempt **ANY TWO** of the following: **(12)**

- a) What do you mean by calcination? Explain the process of calcinations with suitable diagram.
- b) Describe the process of 'Photosynthesis'.
- c) Explain 'Baeyer's Process' for purification of aluminum.

Q.5 Attempt **ANY FOUR** of the following: **(12)**

- a) Write important characteristics and properties of d-block elements.
- b) Comment on catalytic activity of d-block elements and their compounds.
- c) What are functions of Haemoglobin and Myoglobin?
- d) Explain Magnetic separation method in metallurgy.
- e) What is zone refining method in metallurgy?
- f) Write a short note on 'Non-stoichiometric compounds' of d-block elements.