S.Y.B.SC. SEM – III (CBCS - 2016 COURSE) : **WINTER - 2017**

SUBJECT: CHEMISTRY: ORGANIC & INORGANIC CHEMISTRY-III

Day : Tuesday
Date : 31/10/2017

W-2017-0572

Time: 11.00 A.M. TO 02.00 PM
Max. Marks: 60

N. B.:

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

SECTION-I

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

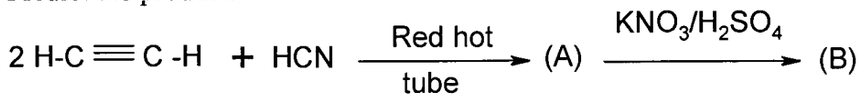
a) What is aldol condensation? Discuss the mechanism of Aldol condensation reaction with suitable example.
b) Draw the Newman projection for both conformers of cyclohexane. Explain chair form is more stable than boat form.
c) What are epoxides? Discuss the effects of basic and acidic reagents on the epoxide.

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

a) Give synthesis of isoquinoline.
b) What are rearrangement reactions? Explain it with suitable example.
c) What are the factors affecting the stability of conformations.
d) Write a note on: Williamson synthesis.

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

a) Predict the products:



b) What are different types of organic reagents? Give one example of each.

SECTION-II

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

a) Explain the trends in following properties of the d- block elements.
i)size of atoms and ions ii) density
b) Describe Baeyer's process and Hall's process for purification of Aluminum from bauxite.

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

a) Which factors determine the 'reactivity' of d-block metals? With the help of these factors, explain the trend of reactivity of d- block elements across the series.
b) Explain biological role of calcium and magnesium in different biochemical processes.
c) What do you mean by Roasting? Explain different types of Roasting in metallurgy.

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

a) What are different applications of aluminum?
b) Comment upon complex formation ability of d-block elements.
c) How cobalt is important in biological systems?
d) Explain magnetic separation in metallurgy.
e) Explain in brief catalytic activity of d- block elements.
f) Describe Van Arkel method for refining of metals.

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