F.Y.B.SC. SEM – II (2014 Course) : WINTER - 2018
SUBJECT : CHEMISTRY : ORGANIC & INORGANIC CHEMISTRY (C – 22)

Day : Wednesday
Date : 10/10/2018

Time : 03.00 PM TO 05.00 PM
Max. Marks : 40

W-2018-0784

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 **SAME** answer book.

SECTION – I
[Organic Chemistry]

Q.1 Attempt **ANY TWO** of the following: **[10]**

a) Discuss the molecular orbital structure of furan.

b) What are enantiomers and diastereomers? Explain with suitable examples.

c) Write a note on : Haworth synthesis of Anthracene.

Q.2 Attempt **ANY TWO** of the following: **[10]**

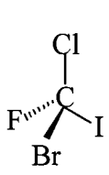
a) What is conformational isomerism? Draw all possible conformations of ethane and explain their stability with energy profile diagram.

b) How do you bring about following conversions?
i) Anthracene to perhydro anthracene.
ii) Naphthalene to Decalin

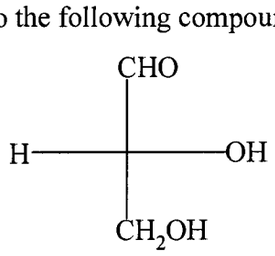
c) Write a note on : Preparation of cycloalkenes.

Q.3 A) Attempt **ANY ONE** of the following: **[05]**

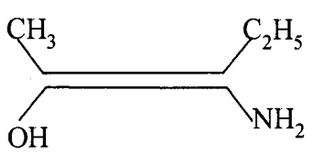
a) i) Assign R/S configuration to the following compounds:



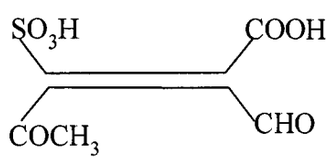
and



ii) Assign E/Z configuration to the following compounds:

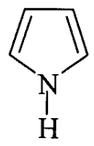


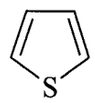
and

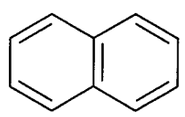


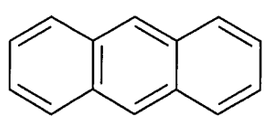
P.T.O.

b) Predict the product/s:

i)  $\xrightarrow{HNO_3 / Ac_2O}$?

ii)  $\xrightarrow{CH_3COCl / SnCl_4}$?

iii)  $\xrightarrow[\triangle]{H_2, Na / C_2H_5OH}$?

iv)  $\xrightarrow{Cl_2 / CS_2}$?

SECTION – II
[Inorganic Chemistry]

Q.3 B) Attempt **ANY ONE** of the following: **[05]**

a) Show the position of nitrogen family elements in a rough sketch of periodic table. Write the names and outer electronic configuration of these elements. Discuss the trends in atomic size and ionization potential of these elements.

b) What is anomalous behavior? Explain it with a suitable example for an element from p-block.

Q.4 Attempt **ANY FIVE** of the following: **[10]**

a) Define : **i)** Ionization Potential **ii)** Electronegativity.

b) Draw the structures of Al_2Br_6 and BrF_5.

c) What are allotropes? Mention anotropes of carbon.

d) Write the names and outer electronic configuration of halogen family elements.

e) What are oxyacids? Mention oxyacids of sulphur.

f) What are interhalogen compounds? Give two examples of interhalogen compounds.

g) What are silicates? Give two examples of silicates.

* * * *