BACHELOR OF SCIENCE (CBCS-2018 COURSE)
S. Y. B. Sc. Sem-III :SUMMER- 2022
SUBJECT : CHEMISTRY : ORGANIC & INORGANIC CHEMISTRY-III

Day : Tuesday
Date : 12/7/2022

S-18351-2022

Time : 03:00 PM-06:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Solve both sections in **SAME** answer book.

SECTION – I

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

a) What is S_N1 reaction? Discuss the mechanism of S_N1 reaction with suitable example.

b) Draw all possible conformation of cyclohexane with Newman Projection formula. Explain why chair form is more suitable than boat form.

c) Discuss any two methods for the preparation of ether.

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

a) What are reagents? Discuss types of reagents in detail.

b) Explain the following terms with suitable examples:

i) Locking of conformation

ii) Angle strain

c) What is the action of following reagents on Pyridine :

i) KNO_3/H_2SO_4 **ii)** Conc. H_2SO_4

d) What are epoxides? Explain any one preparation method for epoxides.

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

i) What are heterocyclic compounds? Discuss the Skraup synthesis of quinoline.

ii) Write a note on : Aldol condensation.

SECTION – II

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

i) Explain trends in the following properties of transition elements:

1) Catalytic activity **2)** Complex formation ability

ii) Explain 'Baeyer's Process for purification of aluminium.

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

a) Discuss the electrolysis process to get aluminium from alumina with suitable diagram.

b) Explain biological role of Iron.

c) Explain the terms: mineral, ore, roasting, smelting, calcination and gangue with suitable example.

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

a) Explain the Froth Flotation process in concentration of ore.

b) Draw structure of Vitamin B 12 and explain its applications.

c) Write a short note on 'Non stoichiometric compounds' of d-block elements.

d) How aluminium is refined by Hoope's process?

e) Explain trends in properties of d-block elements with respect to atomic size and stability of various oxidation states.

f) Write different application of aluminium metal.

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