F.Y.B.SC. SEM – I (2014 COURSE) : SUMMER - 2018

SUBJECT : CHEMISTRY : ORGANIC & INORGANIC CHEMISTRY (C-12)

Day : **Thursday** Time **12.00 NOON TO 02.00 PM**

Date : **12/04/2018** Max. Marks : 40

S-2018-0676

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) What is nitration? Discuss the mechanism of nitration of benzene.

b) What are carbocations? Discuss their generation and stability.

c) Write a note on : Inductive effect.

Q.2 Attempt any **TWO** of the following: **(10)**

a) What is alkylation? Discuss the Friedel craft alkylation of benzene. What are its limitations?

b) Explain the following:

i) Formic acid is a stronger acid than acetic acid.

ii) Benzoic acid is a stronger acid than cyclohexane carboxylic acid.

c) Write a note on : Cannizzaro's reaction.

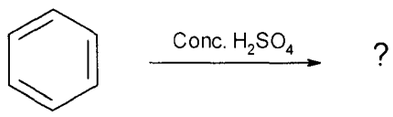
Q.3 A) Attempt any **ONE** of the following: **(05)**

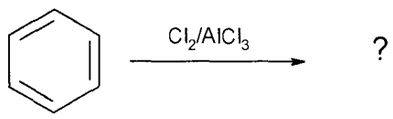
a) What are carbonyl compounds? How will you carry out following conversions?

i) Bennzaldehyde to Cinnamic acid.

ii) Phenyl cyanide to Acetophenone.

b) Predict the product/s and suggest the mechanism.

i) 

ii) 

SECTION – II
(INORGANIC CHEMISTRY)

Q.3 B) Attempt any **ONE** of the following: **(05)**

a) Explain the diagonal relationship between lithium and magnesium.

b) Write the names and outer electronic configuration of alkali metals. Comment upon the trends in atomic size and ionization potential for these elements.

Q.4 Attempt any **FIVE** of the following: **(10)**

a) Give examples of hydroxides and peroxides of alkali metals.

b) Write electronic configuration of :

i) Na (At. No. 11) **ii)** K^+ (At. No. 19)

c) What are crown ethers?

d) Mention applications of compounds of s-block elements.

e) Alkaline earth metals show common oxidation state +2. Why?

f) Comment upon the reactivity of alkali metals.

g) Mention the methods used for extraction of alkali metals.

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