

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

Day : Saturday
Date : 13/04/2019

S-2019-0843

Time : 11.00 A.M. To 02.00 P.M.
Max. Marks : 60

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.

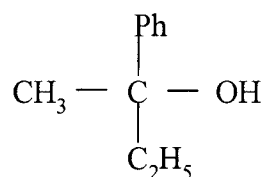
SECTION – I

Q.1 Attempt **ANY TWO** of the following: **[12]**

- a) Describe Killiani – Fischer synthesis of aldotriose.
- b) How will you obtain following compounds from aniline:
i) Benzoic acid ii) Phenol
- c) Write mechanism for nitration of toluene with mixed acid.

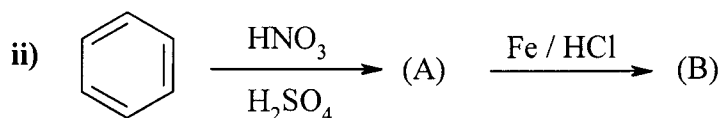
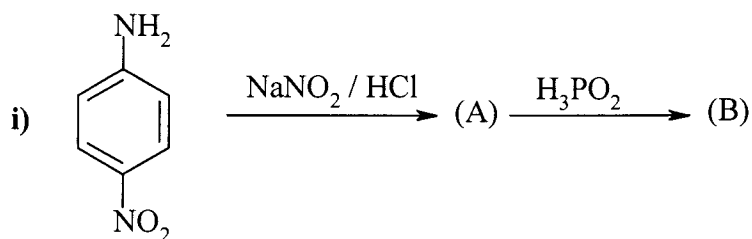
Q.2 Attempt **ANY THREE** of the following: **[12]**

- a) Write a note on green reagents.
- b) What are disaccharides? Draw structures of: i) Sucrose ii) Lactose.
- c) Give reactions of azo-coupling with:
i) Phenol and aniline ii) β -naphthol and aniline.
- d) Suggest synthetic routes for the following molecules:



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

- a) Predict the products A and B.



- b) Discuss the sonication technique used in green chemistry.

P.T.O.

SECTION – II

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

- a) Explain Lewis acid - base concept. Write its merits and demerits.
- b) What is hydrogen bonding? Explain the effect of hydrogen bonding on 'physical state' of the compound.

Q.4 Attempt **ANY TWO** of the following: [12]

- a) Define Homopolymer and heteropolymer. Explain 'Boron' containing polymers.
- b) Explain physiological role of 'Nitrogen' and 'Phosphorous'.
- c) Write a short note on 'Hydracids'.

Q.5 Attempt **ANY FOUR** of the following: [12]

- a) Discuss in brief 'Solvent system' of acid and bases.
- b) What do you mean by 'Inter' and 'Intra' molecular hydrogen bonding? Give one example each.
- c) Give difference between organic and inorganic polymers.
- d) Explain the effect of hydrogen bonding on 'density' of the compounds.
- e) Explain any two types of Van-der- Waal's forces.
- f) Define: i) Polymer backbone ii) Degree of polymerization

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