S.Y.B.SC. SEM – IV (CBCS - 2016 COURSE) : SUMMER - 2018

SUBJECT: CHEMISTRY: ORGANIC & INORGANIC CHEMISTRY - IV

Day **Tuesday** | **S-2018-0664** | Time: **11.00 A.M. TO 02.00 PM**

Date **17/04/2018** | Max. Marks: 60

N. B.:

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

SECTION - I

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

a) Define carbohydrates and discuss Ruff degradation method for aldohexose.

b) Discuss in detail formation and stability of Arenium ion.

c) What is green chemistry and write its twelve principles in detail.

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

a) How will you effect following conversions:

i) Benzene to benzoic acid ii) Phenol to toluene

b) Give balanced equations for the following reactions:

i) Nitrobenzene is reduced with tin and hydrochloric acid.

ii) Ethyl cyanide is reduced by H_2/Ni.

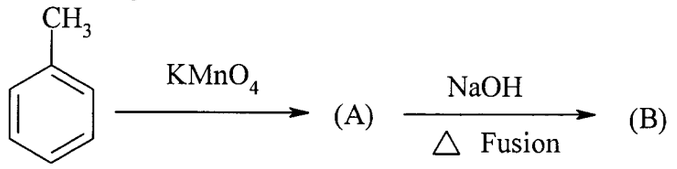
c) Discuss the importance of microwave technique in green reactions with example.

d) Explain reducing and oxidising properties of glucose with examples.

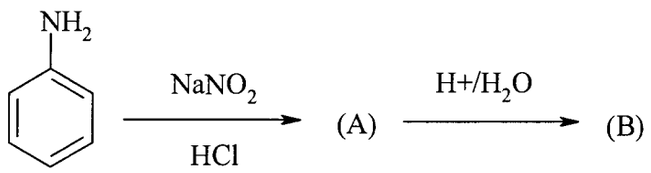
Q.3 A) Attempt **ANY ONE** of the following: **(06)**

a) Predict the products A and B:

i)



ii)



b) Define the following terms with suitable examples:

i) Optical activity **iii)** Relative configuration

ii) Mutarotation

SECTION -II

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

a) What are hydracids? Explain the trend in strength of hydracids.

b) Define hydrogen bonding? Explain the types of hydrogen bonding with suitable examples.

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

a) Explain the Arrhenius concept of acids and bases. Write its merits and demerits.

b) What are antacids? Explain organic and inorganic polymers.

c) Give comparison between Organic and Inorganic polymers.

Q.5 Attempt **ANY FOUR** of the following:

a) Explain the concept of Lewis acid-base theory.

b) Describe in short polymers containing Phosphorus.

c) What is Lux-Flood concept of acids and bases.

d) Define Van-der-Waal's forces and explain dipole-dipole interactions.

e) How hydrogen bonding affects 'viscosity' of the compound.

f) Write a short note on hard - soft acid-base concept.

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