

F.Y.B.Sc. SEM – I (CBCS 2018 COURSE) : WINTER - 2018
SUBJECT: CHEMISTRY: ORGANIC & INORGANIC CHEMISTRY – I

Day: Wednesday
Date: 10/10/2018

Time: 11.00 A.M TO 02.00 PM
Max. Marks: 60

W-2018-0665

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.

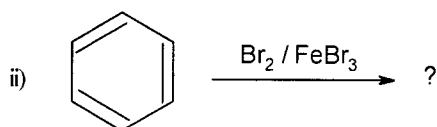
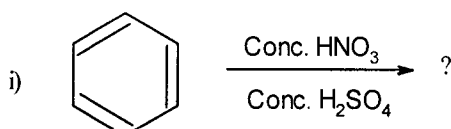
SECTION-I (Organic Chemistry)

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

- a) What is alkylation? Discuss the mechanism of Friedel Craft alkylation of benzene. What are its limitations?
- b) What are aldehydes and ketones? How will you carry out following conversions?
 - i) Benzaldehyde to cinnamic acid
 - ii) Acetone to tertiary butyl alcohol
- c) Write a note on: Resonance effect.

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

- a) Explain the following:
 - i) Salicylic acid is a stronger acid than benzoic acid.
 - ii) Aniline is a much more weaker base than cyclohexyl amine.
- b) Predict the product/s and suggest the mechanism.



- c) Write a note on: Reduction of aldehydes and ketones by metal hydrides.

P. T. O.

- Q.3** Attempt any **THREE** of the following: (12)
- What are aromatic compounds? Discuss the Huckel's rule with suitable examples?
 - What are carbocations? Discuss their generation and stability.
 - What is Wittig reaction? Discuss it with suitable examples.
 - Write a note on: Aldol condensation.

SECTION-II (Inorganic Chemistry)

- Q.4** Attempt any **TWO** of the following: (12)
- Explain the trends in following properties of alkaline earth metals in their group.
 - Ionization potential
 - Oxidation state
 - Atomic size
 - Describe the diagonal relationship between Lithium and Magnesium.
 - Write important applications of alkali metals and their compounds in biological, industrial and agricultural fields.

- Q.5** Attempt any **FOUR** of the following: (12)
- Explain reactivity of Alkali metals in brief.
 - Write a short note on Crown ethers.
 - Beryllium shows anomalous behaviour in the family of alkaline earth metals. Explain.
 - Explain Hund's rule and Pauli's exclusion principle in brief.
 - Write electronic configuration of:
 - Ca (At. No. 20)
 - Mg⁺⁺ (At. No. 12)
 - Li⁺ (At. No. 3)
 - The common oxidation state shown by alkali metals is +1. Explain.

* * * *