



11222

B.Sc. II Semester Degree Examination, May/June 2017
Paper – II : CHEMISTRY

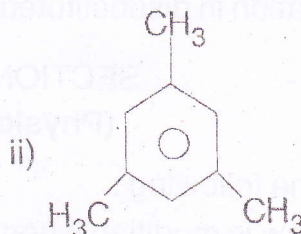
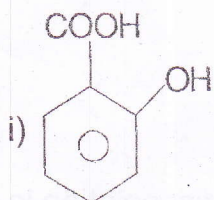
Time : 3 Hours

Max Marks : 80

- Instructions :** 1) Question paper has **four** Sections. **All** Sections are **compulsory**.
2) Answers for **all** Sections should be written in the **same** answerbook.

SECTION – A
(Inorganic, Organic and Physical)

1. Answer **any ten** of the following : (10×2=20)
- Define electronegativity.
 - Write the flame colouration of alkali metals.
 - Define hydration of ions.
 - Write the electronic configuration of Al and Ga.
 - Write the structure of Borazole.
 - Explain Huckel's rule by taking naphthalene as example.
 - Write the Freund's method for the preparation of cycloalkanes.
 - What is activating substituent ? Give example.
 - How is nitrobenzene prepared from arylamines ?
 - Write the IUPAC names of



- What is solvent extraction ?
- What is conjugate solutions ?
- What is reduced phase rule ?
- State Raoult's law of vapour pressure.
- What is one component system ?

P.T.O.



SECTION – B
(Inorganic)

2. Answer **any two** of the following : (2×4=8)
- Describe the formation of amalgams.
 - Explain the ionisation energy of alkaline earth metals.
 - Explain the structure of iodic acid and iodine pentoxide.
3. Answer **any two** of the following : (2×6=12)
- Explain the comparative properties of alkali metals with respect to oxides, hydroxides and halides.
 - Discuss the comparative study of carbonates, bicarbonates and sulphates of alkaline earth metals.
 - Write an account of pseudohalogens and interhalogens.

SECTION – C
(Organic)

4. Answer **any two** of the following : (2×4=8)
- Explain Sacht-Mohr theory.
 - Discuss the mechanism of nitration of benzene.
 - Explain the nucleophilic substitution reactions of nitrobenzene.
5. Answer **any two** of the following : (2×6=12)
- Describe the relative stability of cycloalkanes on the basis of Bayer's strain theory.
 - Explain the molecular orbital picture of benzene.
 - Explain the orientation in disubstituted benzene.

SECTION – D
(Physical)

6. Answer **any two** of the following : (2×4=8)
- How distribution law is modified when solute undergoes dissociation in one of the solvents ?
 - Define phase rule and explain the terms involved.
 - Explain Nicotine-water system.
7. Answer **any two** of the following : (2×6=12)
- State and derive Nernst's distribution law.
 - Describe the phenol-water system.
 - Discuss the lead-silver system.