



KUVEMPU UNIVERSITY
OFFICE OF THE DIRECTOR
DIRECTORATE OF DISTANCE EDUCATION
Jnana Sahyadri, Shankaraghatta – 577 451, Karnataka



Phone: 08282-256426; Fax: 08282-256370; Website: www.kuvempuuniversitydde.org
E-mails: ssgc@kuvempuuniversity.org; info@kuvempuuniversitydde.org

TOPICS FOR INTERNAL ASSESSMENT ASSIGNMENTS: 2015-16

Course: M.Sc. CHEMISTRY (Previous)

Important Notes: (1) Students are advised to read the separate enclosed instructions before beginning the writing of assignments. (2) Out of 15 Internal Assignment marks per paper, 5 marks will be awarded for regularity (attendance) to Counseling/ Contact Programme classes pertaining to the paper. Therefore, the topics given below are only for 10 marks each paper.

Answer ANY ONE Question (1 or 2) from Each Paper. Each question carries TEN marks.

Paper I: Analytical Chemistry

1. a) Discuss the theoretical basis for various titrimetric analysis.
b) With a neat diagram describe the working principle of FID and TCD in gas chromatography.
2. a) Discuss the theory of Gel permeation chromatography.
b) What is error? How it is classified? Explain T and F tests.

Paper II: Inorganic Chemistry

1. Discuss the band theory of solids and explain how the materials are classified into insulators, conductors and semiconductors.
2. a) Describe the preparation, structure and bonding of diborane.
b) Discuss the d-orbital splitting in square-planar and octahedral complexes.

Paper III: Organic Chemistry

1. Discuss the mechanism of electrophilic and nucleophilic substitution reactions in aromatic compounds.
2. a) What are polysaccharides? Explain the structural determination of cellulose and starch.
b) Discuss the aromaticity of cyclopentadienyl anion and cyclopropenyl cation.

Paper IV: Physical Chemistry

1. Explain the Bohr theory of absorption and emission spectra.
2. a) What is electrode potential? Discuss the applications of standard electrode potentials.
b) Discuss all the four postulates of quantum mechanics.