



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 (Final)

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 V: Analytical Chemistry

- a) What are symmetry elements and symmetry operations? Explain.
b) Discuss the principle and instrumentation of electronic spectroscopy.
- a) Explain the principle, theory and applications of NMR.
b) Explain the principle and applications of ESR.

Paper VI: Inorganic Chemistry

- Discuss the stability of coordination compounds. Explain the factors affecting stability of coordination compounds.
- a) Discuss the usefulness of metal ions in biological systems. Explain the Na/K⁺ pump in transport of ion across the membranes.
b) What are metalloenzymes? Write the structure and explain the importance of vitamin B12-Coenzyme.

Paper VII: Organic Chemistry

- Discuss the mechanism of Lossen, Curtius and Schmidt rearrangements.
- Discuss the theory and applications of IR and UV-Vis spectroscopy in identification of organic compounds.

Paper VIII: Physical Chemistry

- a) What is DSC? Explain the factors affecting DSC.
b) Explain the different methods for the grafting of polymers. Give example.
- a) Explain the basic principles of Raman spectroscopy.
b) Discuss rotation-vibration spectra.