

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2008-09 & thereafter)

SUBJECT CODE: CH/MC/IC24

B.Sc. DEGREE EXAMINATION, APRIL 2010
BRANCH IV - CHEMISTRY
SECOND SEMESTER

COURSE : MAJOR – CORE
PAPER : INORGANIC CHEMISTRY -I
TIME : 2 ½ hours MAX. MARKS : 70

SECTION – B

I. Answer any five questions: (5x6=30)

1. Explain the classification of hydrides with an example for each type.
2. Write notes on crown ethers and mention their applications.
3. Discuss the structure and bonding of diborane.
4. Describe the preparation, properties and structure of Caro's acid.
5. Give the names and structures of various oxyacids of nitrogen.
6. a) Explain the basic nature of iodine. (3)
b) What are pseudohalogens? Give two examples? (3)
7. What are clathrate compounds? Comment on their stability and write their uses.

SECTION - C

II. Answer any two questions: (2x20=40)

8. a) How does heavy water react with the following?
(i) CaC_2 (ii) Mg_3N_2 (iii) AlCl_3 (3x2=6)
b) How will you extract Lithium from Spodumene? (8)
c) Write any four points of similarity between alkali metals and alkaline earth metals. (6)
9. a) Write the method of preparation of boron nitride. Explain its structure. (4)
b) Compare the carbon group elements with respect to the formation of hydrides and oxides. (6)
c) How are silicates classified? Give the composition and structure of each type of silicate. (10)
10. a) Give an account of the preparation, properties and structure of Hydroxylamine (8)
b) Compare the elements **O**, **S**, **Se** and **Te** with respect to their hydrides, halides and oxides. (6)
c) What are interhalogen compounds/ Write down their different types with an example for each type. (6)
11. a) Explain the extraction of Beryllium from its ore. (10)
b) Explain the preparation and uses of silicones. (5)
c) How will you prepare XeF_6 . Discuss the structure and bonding of XeF_6 . (5)



