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Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(Chemistry) (2015 to 2017) (Sem.-1)

INORGANIC CHEMISTRY-I

Subject Code : MSCH-101

Paper ID : [A2705]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. Section-A is compulsory.
2. Attempt one question from each section.
3. Attempt FIVE questions in all.
4. All Questions carry equal marks.

SECTION-A**Q1. Answer briefly :**

- a) What is molecular orbital?
- b) Define reduction potential.
- c) Define Pearson's concept of Hard Base.
- d) Define unit cell.
- e) Define coordination number.
- f) What is perovskite structure?
- g) Define electron affinity.
- h) What is zero point energy?
- i) What are non-stoichiometric defects?
- j) What is octet rule?

SECTION-B

- Q2. Describe the molecular orbital theory of heteronuclear diatomic molecules in detail.
- Q3. Describe with suitable examples the concept of Lewis structures.

SECTION-C

- Q4. Describe the chemistry of crowns and crypts of s-Block metals (Including structures).
- Q5. Describe the coordination theory with detailed account on complexes of alkaline earth metals.

SECTION-D

- Q6. Describe the chemistry of Boranes, Carboranes & Metallocarboranes (Including structures).
- Q7. Describe the chemistry of Aluminum compounds (Including structures).

SECTION-E

- Q8. Describe various types of defects in solid with their effects on properties of solids.
- Q9. Describe in detail the reduction potential, its representation and utility in chemistry.