Name: _____	**Subject:** Chemistry	**Class:** 12th	**Time:** 60 minutes	Total Marks:	**30**
Chapter No.6	**MJDexpert.com**			Obtained marks	

Note: Please attempt any 7 short questions from Question 2. Also, attempt both parts (a and b) of Question 3. Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1 Encircle the correct answer by filling the appropriate circle. (8x1=8)

1. **The transition metal complex $[Cu(NH_3)_4]^{+2}$ has geometry**
   (A) Tetrahedral (B) Octahedral (C) Square planer (D) Trigonal pyramidal
2. **Which of the following is a typical transition element?**
   (A) Sc (B) Y (C) Re (D) Co
3. **Which of the following has greatest number of unpaired electrons?**
   (A) Fe (B) Fe^{+2} (C) Mn^{+2} (D) Cr^{+3}
4. **Co-ordination number of Pt in $[Pt\ Cl(NO_2)(NH_3)_4]^{+2}$ is**
   (A) 2 (B) 4 (C) 1 (D) 6
5. **Which one is non-typical transition element?**
   (A) Cr (B) Mn (C) Zn (D) Fe
6. **Which element form an ion with charge +3:**
   (A) Chromium (B) Copper (C) Lead (D) Zinc
7. **The central metal atom or ion along with ligands is called a**
   (a) Chelates (b) Coordination sphere (c) Coordination number (d) None of these
8. **Group VIB of transition elements contains:**
   (A) Zn, Cd, Hg (B) Fe, Ru, Os (C) Cr, Mo, W (D) Mn, Te, Re

Subjective-Section

Q.2 Write short answers of any SEVEN of the following questions: (7x2=14)

1. What are typical and non-typical transition elements? Why are they called so?
2. Define interstitial compounds. Write one example
3. Give any four properties of transition elements.
4. Write IUPAC names of the following complexes (i) $[Fe(CO)_5]$ (ii) $K_2[Pt(Cl)_6]$
5. How are entrapped bubbles of eases removed during the preparation of steel?
6. Under what conditions does aluminum corrode?
7. How chromate ions are converted into dichromate ions?
8. What is the difference between wrought iron and steel?

Q.No.3 Long Question: (4+4=8)

a. Briefly explain the following general characteristics properties of transition elements
   (i) Para magnetism (ii) Binding Energies
b. Explain the open-Hearth process for the manufacture of steel.