



DJJ-003-010410

Seat No. _____

M. Sc. (Sem. IV) (CBCS) Examination

May / June – 2015

**Inorganic Chemistry : C(I) - 404
(Coordination Chemistry)**

Faculty Code : 003

Subject Code : 010410

Time : Hours]

[Total Marks : 70

Instructions: (1) All Questions are compulsory
(2) All Questions carry equal Marks

Q.1 Answer the following (Any Seven)

[14]

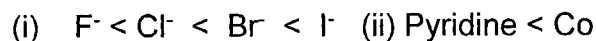
- a. Discuss theories of trans effect
- b. Give principle of jobs method
- c. Define Stability constant
- d. Discuss the application of mole ratio method and its limitations.
- e. Explain Formation curves
- f. What is Spectrochemical series?
- g. Discuss Racemization
- h. Give the difference between labile and inert complexes
- i. Explain the term $\bar{n}H$
- j. Name three methods to determine stability constant

Q.2 Answer the following (Any Two)

[14]

- a. Write short note on factors affecting substitution reactions
- b. Discuss acid hydrolysis for Cobalt in Octahedral complexes

c. Explain following order of trans effect of the ligands



Q.3 Answer the following (Any Two) [14]

- Explain the terms (i) ligand exponential (ii) Bjerrums formation function. How these are related with stepwise stability constant.
- Discuss Vosburgh and Copper correction to the Job's method.
- Explain Correction method.

Q.4 Answer the following [14]

- Explain slop ration method.
- Explain the reaction mechanism in Square Planer complexes

Q.5 Answer the following [14]

Discuss the Laboratory method for pH titration technique to find out the Stepwise stability constant.

OR

Q.5 Answer the following [14]

- Show the relation between stepwise & overall stability Constant.
- Discuss the various factor affecting the stability of complex in brief.