

BS/2051
INORGANIC CHEMISTRY-I
(Semester-IV)

Time : Three Hours]

[Maximum Marks : 26

Note : Attempt *two* questions (4 marks each) selecting each from Section A and B. Section C is compulsory (2 marks each question).

SECTION-A

- I. Discuss main postulates and limitations of Valence Bond theory.
- II. (a) Write IUPAC names of the compounds $K_4[Ni(CN)_4]$ and $Na[Au(Cl)_2]$.
(b) Discuss isomerism in coordination compounds.
- III. (a) Write a note on analysis of redox cycle.
(b) Discuss various factors and principle involved in extraction of the elements.
- IV. Write note on the following :
 - (a) Disproportionation.
 - (b) Pourbaix diagram.

SECTION-B

- V. Discuss in detail Lewis concept of acids and bases. What are various drawbacks of this concept?
- VI. Differentiate between Arrhenius and Bronsted-Lowry concept of acid and bases.
- VII. Discuss in detail the chemistry of liquid sulphur dioxide as a solvent.
- VIII. Discuss acid-base reactions in liquid ammonia. What are the advantages and disadvantages of liquid ammonia?

SECTION-C

- IX. (a) What are chelates?
- (b) What is frost diagram?
- (c) What is solvolysis?
- (d) Define Lux-Flood acids.
- (e) What are protic and non-protic solvents? Give example.
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