B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
III Year VI Semester
Inorganic Chemistry - II

Time : **3 Hours** Max.marks :**60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. What are the types of ligands?
2. Define – Coordination Number.
3. What is EAN rule?
4. Mention coordination isomerism with example.
5. Give the hybridization of $[Co_2(CO)_8]$.
6. What is spectrochemical series?
7. Define – Stereoisomerism.
8. Write any two limitations of CFT.
9. Write any two applications of coordination complexes in agriculture.
10. Write the limitations of green chemistry.
11. What are the types of Water pollution.
12. Calculate the EAN of Fe(II) in $[Fe(CN)_6]^{4-}$ and Cr(III) in $[Cr(CN)_6]^{3-}$. Atomic number of Fe = 26 and Cr = 24.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Write the limitations of valence bond theory.
14. Write the IUPAC nomenclature rules of coordination compounds.
15. Discuss the different types of structural isomerism with example.
16. Explain the hybridization, bonding and structure of $[Fe(CO)_5]$.
17. Write the S_N1 reaction mechanism of octahedral complexes.
18. What is Trans effect? Explain π – bonding theory of the Trans effect.
19. Write the principles of green chemistry.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain the postulates and limitations of Werner's theory.

21. Describe the geometrical isomerism and optical isomerism in octahedral complexes.

22. Explain the interpretation of colour and magnetic properties of coordination compounds by using crystal field theory.

23. Write the uses of following coordination compounds:
    a. DMG b. Oxine c. Sodium nitroprusside d. EDTA.

24. Write note on COD and BOD.

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