SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Sc.(Chemistry) END SEMESTER EXAMINATIONS APRIL-2023
SEMESTER - VI
20UCHCT6013 - Inorganic Chemistry-II

Total Duration : 2 Hrs 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Analyze why $[CoF_6]^{3-}$ is paramagnetic while $[Co(NH_3)6]^{3+}$ is diamgagnetic.
2. Explain the postulates of Werner's theory and mention their limitations.
3. How is EAN rule helpful to predict the stability of metallic carbonyls? Illustrate with suitable examples (any two).
4. Analyze the factors (any three) affecting crystal field stabilization energy.
5. How will you calculate the CFSE for an octahedral d^7 and d^9 system in the light of CFSE?
6. Illustrate SN1 reaction of octahedral complexes with suitable example.
7. Analyze the role and importance of resins in ion-exchange chromatography.
8. Discuss the applications of electrophoresis.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Discuss geometrical isomerism of coordination compounds with coordination number 4 and 6.
10. Analyze the nature of M-CO bonding in metal carbonyls with suitable examples.
11. Describe crystal field theory and mention its important postulates.
12. On the basis of η -bonding theory, analyse the trans effect of lignands.
13. Discuss the applications of thin layer chromatography and column chromatography.

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