QP CODE: 26022839

26022839

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)SPECIAL RE APPEARANCE EXAMINATIONS, MAY 2026 (EXCLUSIVELY FOR THE FAILED CANDIDATES OF 2023 ADMISSION)

Sixth Semester

CORE COURSE - CH6CRT09 - INORGANIC CHEMISTRY

Common for B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry & B.Sc Chemistry Model III Petrochemicals

2023 Admission Only

3439C1BD

Time: 3 Hours

Max. Marks : 60

core

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What are ligands? Give an example for hexadentate ligand.
2. What is chelation? Give an example.
3. Calculate the EAN of (a) $[Cr(CO)_6]$ and (b) $[Ni(CO)_4]$.
4. What happens to the metal d orbitals when placed in an octahedral field of ligands?
5. What is Spectrochemical series? Give two examples of strong field ligands.
6. What is antiferromagnetism?
7. Give the Irving William's order of stability.
8. What are trihapto ligands? Give an example.
9. What is Zeise's salt?
10. Write a method of synthesis for $Ni(CO)_4$.
11. What is cis platin?

12. How will you prepare ClF_3?

(10×1=10)

Part B

*Answer any **six** questions.*
Each question carries 5 marks.

13. Write a note on optical isomerism in coordination complexes.

14. Find out the hybridisation, geometry and predict the magnetic property of the complex $[NiCl_4]^{2-}$.

15. Explain the application of coordination complexes in quantitative analysis.

16. Write any two reactions of Ferrocene and explain its bonding using VBT.

17. Write a short note on the catalytic applications of organometallic compounds.

18. Write a short note on the toxicity of metals.

19. Write any two methods for the preparation of diborane. Also explain the properties of diborane.

20. Explain the electropositive character of iodine.

21. Write a short note on Xenon-Oxygen compounds by taking suitable examples.

(6×5=30)

Part C

*Answer any **two** questions.*
*Each question carries **10** marks.*

22. (I) Explain sigma bonding of octahedral complexes using Molecular orbital theory? (ii) Draw Molecular orbital diagram for $[Co(NH_3)_6]^{3+}$ and predict its magnetic property.

23. Explain trans effect? Discuss on the applications of trans effect.

24. Explain in detail, the structure and bonding in $[Re_2Cl_8]^{2-}$.

25. Write a short note on (a) cooperativity and Bohr effect in Hb (b) Vitamin B12.

(2×10=20)