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TB246822F

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, MARCH 2024

2021 ADMISSIONS REGULAR

SEMESTER VI - CORE COURSE (CHEMISTRY)

CH6B09B18 - Inorganic Chemistry

Time : 3 Hours **Maximum Marks : 60**

Part A

I. Answer any Ten questions. Each question carries 1 mark **(10x1=10)**

1. Explain why tetrahedral complexes generally do not show cis - trans isomerism.
2. Explain spectrochemical series.
3. Explain the spin only formula of magnetic moment.
4. Discuss the IUPAC nomenclature of neutral ligands with two examples.
5. State EAN of metals in metal carbonyls.
6. Sketch Ferrocene.
7. Sketch $Mn_2(CO)_{10}$.
8. Visualise the structure of carboplatin.
9. List the biological functions of Fe and Cu.
10. Visualise the structure of cisplatin.
11. Give examples for pseudohalides.
12. Write any one method for the preparation of IF_5

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Differentiate between step wise stability constant and overall stability constant.
14. Compare the splitting of d orbitals in a) Octahedral and b) Tetrahedral ligand field.
15. Explain trans effect and its application.
16. Explain Werner's co-ordination theory.
17. Explain the stability of organometallic compounds using 18- electron rule.
18. Write a note on Metal-alkene complex.
19. Describe the structure and functions of myoglobin.
20. Speculate the structure of haemoglobin.
21. Define pseudohalogens. Describe the important characteristics of pseudohalogens.

Part C

III. Answer any Two questions. Each question carries 10 marks **(2x10=20)**

22. Disuss the following a) VBT - its merits and demerits b) CFT - its merits and demerits.
23. Explain the following with examples a) High spin and low spin complexes b) inner and outer orbital complexes c) inert and labile complexes d) chelated and non- chelated complexes.
24. Speculate the catalytic properties of organometallic compounds.
25. a) Discuss in details the preparations and structure of Diborane. b) Discuss the structure of Boric acid.