

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019

(CUCBCSS)

B.Sc. Chemistry

CHE 6B 09—INORGANIC CHEMISTRY—IV

Time : Three Hours

Maximum : 80 Marks

Part A*Answer all in one word / sentence.*

1. Mention any *three* uses of Gunmetal.
2. What is Zeise's salt ?
3. What is 18 electron rule ?
4. Draw the structure of Cis-Platin.
5. Draw the structure of Haemoglobin.
6. What are the valuable numerals present in Neendakara beach sands.
7. What is the difference between calcination and roasting ?
8. Mention any *two* uses of $K_2Cr_2O_7$.
9. Give the composition of Bronze and Brass.
10. Define Legand.

(10 × 1 = 10 marks)

Part B*Questions 11—22. Answer any ten.**Each question carries 2 marks.*

11. What are the factors affecting stability of complexes ?
12. Discuss briefly uses of alloy steels.
13. What is Hydrometallurgy ?
14. Write short note on spectrochemical series.
15. Explain the anti-tumour drug activity of cis-platin.

16. Compare the oxygen binding capacities of haemoglobin and myoglobin.
17. Write short note on Ziegler-Natta catalyst.
18. Discuss bonding in Ferrocene.
19. Briefly outline the role of chlorophyll in photo synthesis.
20. Write short note on zone refining.
21. Write the IUPAC name of $K_2[Pt(IV)C_{16}]$.
22. Write the structure of the complex Dibromo-tetra amine platinum (IV) bromide.

(10 × 2 = 20 marks)

Part C

*Questions 23—30. Answer any five.
Each question carries 6 marks.*

23. Write short note on Ellingham diagram.
24. Discuss sodium-potassium pump.
25. What are the merits and demerits of crystal field theory ?
26. Discuss the applications of complexes in qualitative and quantitative analysis.
27. Write short note on EAN rule.
28. Write short note on Lanthanide contraction.
29. Discuss the preparation and properties of $KMnO_4$.
30. What are the limitations of VBT of co-ordination compounds ?

(5 × 6 = 30 marks)

Part D

*Questions 31—34. Answer any two.
Each question carries 10 marks.*

31. Discuss the Extraction of Titanium and Aluminium from their ores.
32. Briefly discuss the general characteristics of transition metals.
33. Discuss Stereo Isomerism in co-ordination compounds.
34. (a) Write short note on types of ligands.
(b) What are the factors which affecting crystal field splitting.

(2 × 10 = 20 marks)