

Q.P. Code - 22635

Sixth Semester B.Sc. Degree Examination, September 2020

(Non-CBCS - Semester Scheme)

Chemistry

Paper VII - INORGANIC CHEMISTRY

[Max. Marks : 60]

Time : 3 Hours]

Instructions to Candidates :

- 1) *The question paper has two Parts A and B. Answer both the parts.*
- 2) *Give equation and diagrams wherever necessary.*

PART - A

Answer any **SIX** questions. Each question carries **2** marks :

(6 × 2 = 12)

1. State Eighteen electron rule. What is its advantage?
2. Write the IUPAC name of the following complexes :
 - (a) $K_3[CoF_6]$
 - (b) $[Cr(H_2O)Cl_2]Cl$
3. What is Lithopene? Mention one of its use.
4. How is dynamite prepared?
5. Differentiate the terms accuracy and precision.
6. Saw dust and sodium chloride are used in the manufacture of carborundum. Give reason.
7. Write the structure of cis-platin and give its biological application.
8. Explain ionisation isomerism with an example.
9. Give the composition and an application of Borosilicate glass.
10. What are inner orbital and outer orbital complexes?

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PART - B

Answer any **EIGHT** questions. Each question carries 6 marks : (8 × 6 = 48)

11. (a) Explain the formation and Geometry of $[\text{CoF}_6]^{3-}$ on the basis of VBT.
(b) Calculate the crystal field stabilization energy of iron in $[\text{Fe}(\text{CN})_6]^{3-}$. (4 + 2)
12. (a) Discuss the splitting of d-orbitals in an octahedral field.
(b) Mention any two postulates of Werner's theory. (4 + 2)
13. (a) How are the following compounds prepared?
(i) $\text{Ni}(\text{CO})_4$
(ii) $\text{Mn}_2(\text{CO})_{10}$
(b) Write the structure of EDTA and indicate the donor atoms. (4 + 2)
14. (a) Discuss the structure of haemoglobin and give its biological function.
(b) What are trace elements? Give example. (4 + 2)
15. (a) Discuss the use of EDTA in treating mercury poisoning.
(b) How methanol is converted into acetic acid by Monsanto process? (4 + 2)
16. (a) What are refractories? How are they classified and give one example for each.
(b) How do paints differ from varnishes? (4 + 2)
17. (a) Describe the manufacture of ceramic wares.
(b) What are propellants? Mention its two characteristics. (4 + 2)
18. (a) How is alundum manufactured?
(b) Mention the advantages of gaseous fuels. (4 + 2)
19. (a) Explain the flame photometric determination of potassium.
(b) Write the structure of Magnesium-oxinate complex. (4 + 2)

20. (a) How is titanium white prepared? Give its relative merits over white lead.
(b) What are the characteristics of a good paint? (4 + 2)
21. (a) How is Nickel estimated gravimetrically using D.M.G.?
(b) What are the important requirements of an explosive? (4 + 2)
22. (a) How calorific value of a fuel is determined using bomb calorimeter.
(b) Write a note on setting of cement. (4 + 2)

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