

TB165115E

Reg. No.:

Name :

B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, JANUARY 2019
(2016 Admission Supplementary)
SEMESTER V- CORE COURSE (CHEMISTRY)
CH5B05TB – CHEMISTRY OF INORGANIC COMPOUNDS

Time: Three Hours

Maximum Marks: 60

PART A

I. Answer all questions. Each question carries 1 mark.

1. Write the hybridization of boron atom in diborane.
2. Write a note on the ionization isomerism.
3. What are chelates? Give one example.
4. Define sandwich compound with example.
5. is an ionophore.

(5 × 1 = 5)

PART B

II. Answer any five questions. Each question carries 2 marks.

6. Give two methods of preparation of diborane.
7. Atomic radii of 2nd and 3rd series of transition metals are almost equal. Why?
8. What are transuranic elements?
9. $[\text{Co}(\text{NH}_3)_6]^{2+}$ is said to obey EAN rule, while $[\text{Ni}(\text{NH}_3)_6]^{2+}$ does not. Why?
10. Explain ionization isomerism and co-ordination isomerism with suitable examples.
11. What is the role of EDTA in heavy metal poisoning?
12. Write any two applications of organometallic compound.
13. Differentiate between apoenzyme and holoenzyme.

(5 × 2 = 10)

PART C

III. Answer any five questions. Each question carries 5 marks.

14. Discuss preparation and structure of boric acid and borazine.
15. Discuss the magnetic property of d block elements.
16. Write a note on interstitial compounds formed by transition elements.
17. Explain the optical isomerism of complexes.
18. Explain the purple colour of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ using CFT.
19. Discuss Monsanto acetic acid process.
20. Outline the preparation and properties of Ferrocene in detail.
21. Explain the mechanism of oxygen transport in biological systems

(5 × 5 = 25)

PART D

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

22. Compare the properties of d block and f block elements.

23. What is meant by Jahn Teller effect? What are the factors affecting Jahn teller effect?
What is the impact of Jahn Teller effect on complexes?
24. (a) Describe the structure and bonding of metal carbonyl with the help of an example.
(b) Write a note on organo copper compound along with its application.
25. a) Discuss preparation and structure of ICl_3 and IF_5
b) Explain the structure and functions of hemoglobin

(2 × 10= 20)