

D 130133

(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—U.G.) DEGREE EXAMINATION  
NOVEMBER 2025**

Chemistry

CHE 5B 06—INORGANIC CHEMISTRY—III

(2019 Syllabus)

Time : Two Hours

Maximum : 60 Marks

**Section A (Short Answers)***Answer questions up to 20 marks.**Each question carries 2 marks.*

1.  $\text{H}_2\text{S}$  gas is passed in presence of  $\text{NH}_4\text{OH}$  in group IV precipitation. Explain why ?
2. Give the composition of bronze and alnico.
3. Which is the reducing agent in open hearth process ? How does it work ?
4. Which products are obtained when  $\text{XeF}_2$  and  $\text{XeF}_4$  reacted with water ?
5. Discuss the properties of silicones.
6. Give the important applications of  $(\text{SN})_x$ .
7. Give *four* examples of alternative refrigerants.
8. What is eutrophication ?
9. Discuss any *two* after effects of thermal pollution.
10. Write a short note on Silent Valley movement.
11. Give two examples each for non-degradable, degradable and biodegradable wastes.
12. Discuss the disadvantages of incineration of solid waste.

(Ceiling of marks : 20)

**Turn over**

**Section B (Paragraph)**

*Answer questions up to 30 marks.*

*Each question carries 5 marks.*

13. How to eliminate fluoride and oxalate ions from the mixture ? Explain with chemical equations.
14. Discuss the composition, properties and applications of austenitic, martensitic and ferritic stainless steels.
15. Discuss the structure and hybridisation of  $\text{ClF}_3$  and  $\text{IF}_7$ .
16. Discuss the structure of  $\text{XeF}_6$  and  $\text{XeO}_3$
17. Explain the autoionization and acid base concept of liquid ammonia, liquid HF.
18. Briefly discuss the sources, effects and consequences of radioactive pollution.
19. Explain the different methods of solid waste management.

(Ceiling of marks : 30)

**Section C (Essay)**

*Answer any **one** question.*

*The question carries 10 marks.*

20. (a) Explain the Ellingham diagram for metal oxides in metallurgy.  
(b) Compare the properties of halogens and pseudohalogens.
21. (a) Why alkali metals in liquid ammonia exhibit blue in colour ? And explain the characteristics of blue coloured solution.  
(b) Discuss the pollution due to light.

(1 × 10 = 10 marks)