

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2022

(Regular/Improvement/Supplementary)

CHEMISTRY

GCHE5B06T: INORGANIC CHEMISTRY – III

Time: 2 Hours

Maximum Marks: 60

**SECTION A: Answer the following questions. Each carries *two* marks
(Ceiling 20 Marks)**

1. How is phosphate eliminated?
2. Give two uses of Ne and Ar.
3. Explain the structure of XeO_3 and XeF_4 .
4. Illustrate a precipitation reaction in liquid HF.
5. Explain the toxic effects of Cd and Hg.
6. Why is it necessary to add NH_4Cl prior to the addition of NH_4OH in third group?
7. What is meant by eutrophication?
8. Give the composition and uses of alnico and brass.
9. Explain Usanovich concept of acids and bases. Mention its limitations.
10. Explain Van Arkel process.
11. What are the major types of medical waste?
12. How does electropositive character vary among the halogens?

**SECTION B: Answer the following questions. Each carries *five* marks
(Ceiling 30 Marks)**

13. Discuss the use of Ellingham diagram in metallurgy. What are its limitations?
14. What are the challenges in solid waste management?
15. Explain any five types of reactions that can be carried out in liquid NH_3 .
16. Give the hybridization and structure of the following. a) ClF_3 b) ICl_3 c) IF_7 .
17. Discuss the classification of silicates.
18. What are the advantages of microanalysis?
19. Write short notes on a) Chernobyl disaster
 b) Plachimada movement.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. Discuss the metallurgy of aluminium.
21. a) What is meant by radioactive pollution? Explain its consequences.
 b) Discuss the preparation, properties and structure of $(\text{NPOCl}_2)_3$.

(1 × 10 = 10 Marks)