

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025
(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. Fluorine exhibits only -1 oxidation state whereas other halogens exhibit +1, +3, +5 and +7 oxidation states also. Explain.
2. Why is liquid ammonia less associated than water?
3. Give any four similarities between pseudohalides and halides.
4. What happens when XeF_4 reacts with water?
5. Define inorganic polymers? Give examples.
6. Mention an ion-exchange application of a zeolite.
7. What are interfering anions? Give two examples.
8. What is an intramedullary rod?
9. What is Ellingham diagram? What is its significance?
10. Give the important use of S_4N_4 .
11. What do you understand by conjugate acid-base pair? Explain with an example.
12. Write any two adverse effects caused by the pollution of water by fertilizers.

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

13. Distinguish between brass and bronze.
14. What are the harmful consequences of enhanced greenhouse effect?
15. Briefly discuss the discovery of different noble gases.
16. Explain the following terms with examples: (i) pseudohalogens and (ii) polyhalide ion.
17. How are cyclic and acyclic phosphonitrilic chlorides prepared?
18. Discuss the Lux-Flood concept of acids and bases. Give examples. What are the merits and demerits of the concept?
19. Explain composting and its limitations.

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

20. Explain the different steps involved in gravimetric analysis.
21. What are the processes involved in the extraction of iron from haematite?

(1 x 10 = 10 Marks)