23U514 (Pages: 2) Name: .....

Reg.No: .....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19UCHE5B06 - INORGANIC CHEMISTRY - III

(Chemistry - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. What is the shape and hybridization of XeF_2?
2. What are the impacts of biomedical waste on living beings?
3. What is meant by syngas? What is its significance?
4. What is a microscale analysis?
5. How can the cyclic trimer of phosphonitrilic chloride be converted to the acyclic phosphonitrilic polymers ?
6. How is disulphur dinitride prepared?
7. Explain the dissolution of KI in liquid SO_2.
8. Why aluminium is used to rduce the oxide of iron and chromium?
9. How is titanium tetrachloride converted to titanium in the Kroll process?
10. How is water polluted by soaps and detergents?
11. What is the importance of biological oxygen demand?
12. What are the toxic effects of lead?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer ***all*** questions. Each question carries 5 marks.

13. Discuss the structure of ClF_3 molecule.
14. Discuss the structures of the following (a) $[ICl_2]^-$ (b) $[ICl_2]^+$.
15. Distinguish between coprecipitation and postprecipitation.

16. What are silicones? How are they prepared?

17. What are intramedullary rods? Discuss their applications.

18. Write a short notes on alternative refrigerants.

19. Write a short note on Save Narmada Movement.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

20. Explain (i) Electrometallurgy, (ii) Hydrometallurgy.

21. Explain the cause, consequences and control measures of thermal pollution.

(1 × 10 = 10 Marks)

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