FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U CHE5 B06 - 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. Why is ClF_3 is more reactive than Cl_2 ?

2. Discuss the structure of $[ICl_4]^-$.

3. Name the radioactive noble gas and who isolated it.

4. Give one method of eliminating oxalate anion from a sample for cation analysis.

5. Give the structural formulae of two linear phosphonitrilium chlorides.

6. Depict the structure of disulphur dinitride.

7. Explain the reaction that occurs and the nature of products obtained when AgCl is treated with $Ba(NO_3)_2$ in liquid ammonia.

8. What are ores? Give two example.

9. Why aluminium is used to rduce the oxide of iron and chromium?

10. How is water polluted by industrial eflluents?

11. What are the toxic effects of cadmium?

12. What is meant by light trespass?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Discuss the classification of solid wastes based on origin.

14. Name the six methods adopted for the disposal of solid wastes. Discuss biogasification.

15. Describe how solubility product principle and common ion effect are applied in qualitative inorganic analysis.

16. What are zeolites? Mention one important application of the class.

17. Discuss the compostion, properties and application of austenitic stainless steels.

18. Write a short notes on alternative refrigerants.

19. Discuss the significance of Dissolved oxygen. Explain Winkler's method.

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. What are the main ores of copper? Discuss the extraction of copper from its chief ore.

21. Write a short note on the air pollution in Delhi, Agra and Kanpur.

(1 × 10 = 10 Marks)

****