19U512 (Pages: 2) Name: .....

Reg.No: .....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS - UG)

CC19U CHE5 B06 - INORGANIC CHEMISTRY - III

(Chemistry - Core Course)

(2019 Admission - Regular)

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 hybridisation and shape of iodine in ICl_3 and chlorine in ClF_3? Draw their structures.
2. Name the radioactive noble gas and who isolated it?
3. What are household solid wastes?
4. What is a microscale analysis?
5. Give one method of eliminating oxalate anion from a sample for cation analysis.
6. What are called island structures?
7. Describe the role of carbon monoxide in the refining of crude nickel.
8. Explain with equation for the one way of reducing U_3O_8 to uranium.
9. Write any four automotive application of stainless steel.
10. What are the toxic effects of cadmium?
11. What is meant by skyglow?
12. What are the reasons for the Platchimada movement?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Make a comparison of the properties of pseudohalogens and halogens.

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

15. What are the properties and applications of polyphosphazines? Give one method for the synthesis of polyphosphazines.

16. How is S_2N_2 prepared? Depicts its structure and mention its applications.

17. Discuss with an illustrative example the term leaching.

18. Discuss how agriculture runoffs pollute water bodies.

19. What is COD? Discuss about the determination of COD

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. (a) Explain with examples the following kinds of reactions taking place when liquid SO_2 is used as the solvent: (i) Acid-base reaction; (ii) Precipitation reaction; (iii) Redox reaction; (iv) Complex-formation reaction; (v) Solvolytic reaction.

    (b) Discuss the capability of liquid SO_2 as a solvent for ionic and covalent compounds. Justify your opinions.

21. Discuss about the formation and depletion of ozone layer.

(1 × 10 = 10 Marks)

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