D 10583 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Chemistry

CHE 5B 06—INORGANIC CHEMISTRY—III

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Name the second group cations. How are they precipitated ?
2. Explain the term co-precipitation and post precipitation.
3. How are XeF_2 and XeF_4 prepared ? Give their structures.
4. What are pseudohalogens ? Give examples.
5. What is the structure and hybridisation of IF_5.
6. Alkali metal in liquid ammonia are coloured. Why ?
7. Define ionizing solvent.
8. Discuss structure of $(SN)_X$.
9. What are phosphazenes ?
10. Mention two measures to control air pollution.
11. Triple R is important term in managing waste. Justify
12. What are different types of e-wastes ?

(8 × 3 = 24 marks)

Turn over

Section B

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Explain the term microanalysis with suitable examples and mention the advantages.
14. Discuss the use of Ellingham diagram in extraction of elements. Using the Ellingham diagram of oxides, determine whether aluminium can be used to reduce MgO.
15. Explain the structure and hybridization of ClF_3 and ICl_3.
16. How are noble gases isolated and separated ?
17. How silicones are prepared ? Discuss their structure and uses.
18. How can we prevent thermal and radioactive pollution ?
19. Discuss the challenges in managing solid wastes.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
The question carries 11 *marks.*

20. How is nickel extracted from its ore ?
21. How is quality of drinking water assessed ? Define three water quality parameters.

(1 × 11 = 11 marks)

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D 30493 **(Pages : 2)** **Name.....**

Reg. No.....

FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2022

Chemistry

CHE 5B 06—INORGANIC CHEMISTRY—III

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer questions up to 20 *marks.*
Each question carries 2 *marks.*

1. How solubility product principle is effected in the separation of II group and IV group cations ?
2. Mention two advantages of microanalysis.
3. Discuss the structure of XeF6 molecule.
4. What are interhalogen compounds ?
5. Cyanogen is considered as pseudohalogen. Why ?
6. Explain autoionisation of liquid SO_2 and HF with equations.
7. What are silicates ?
8. What are protic and aprotic solvents ?
9. What are phosphazenes ?
10. Explain the relation between acid rain and pollution.
11. Triple R is important in managing waste. Justify.
12. What is greenhouse effect ?

(Ceiling of marks : 20)

Section B (Paragraph)

Answer questions up to 30 *marks.*
Each question carries 5 *marks.*

13. What are the optimum conditions for the formation of precipitation process ?
14. Write note on structure of xenon fluorides and their reaction with water.

Turn over

15. Explain the structure and hybridization of ClF_3 and ICl_3.

16. Give an account of preparation properties and structure of S_4N_4.

17. Discuss on hydrometallurgy.

18. What are the different sources of noise and radioactive pollution ?

19. Write a note on energy production from waste.

(Ceiling of marks : 30)

Section C (Essay)

Answer any **one** *questions.*

Each question carries 10 *marks.*

20. Give the name and composition of two ores of Ti. How is titanium extracted from its ore ?

21. Explain the causes and control measures of air pollution.

(1 × 10 = 10 marks)

D 50571 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION NOVEMBER 2023

Chemistry

CHE 5B 06—INORGANIC CHEMISTRY—III

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer questions up to 20 *marks.*

Each question carries 2 *marks.*

1. How does phosphate interfere in the analysis of group 3 radicals ?
2. Explain the term microanalysis.
3. Discuss the structure of XeF_4 molecule.
4. Which is the most stable interhalogen compound among IF, IBr and BrCl ?
5. Why noble gases are chemically inert ?
6. What are posphonitrilic chlorides ?
7. Why are salts less soluble in liquid SO_2 than in water ?
8. Represent autoionisation of ammonia.
9. Discuss the structure and property of S_2N_2.
10. What is acid rain ?
11. Triple R is important term in managing waste. Justify.
12. What are the four major types of medical wastes ?

(Ceiling of marks : 20)

Turn over

Section B (Paragraph)

Answer questions up to 30 *marks.*

Each question carries 5 *marks.*

13. What are the different methods of precipitate formation ?

14. Describe zone refining.

15. Give an account of pseudohalogens ? Discuss the structure of ClF_3.

16. Give the structure of oxides and fluorides of Xenon.

17. What are silicones ? Describe its structure and application.

18. Define greenhouse effect.

19. Discuss the challenges in managing *e*-waste.

(Ceiling of marks : 30)

Section C (Essay)

Answer any **one** *questions.*

The question carries 10 *marks.*

20. Name two ores of Uranium. How is uranium metal obtained from its ore ?

21. Explain the sources of water pollution. What are the control measures for water pollution ?

(1 × 10 = 10 marks)