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K23U 2333

Reg. No. : .....

Name : .....

V Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2023
(2019-2021 Admissions)
CORE COURSE IN CHEMISTRY/POLYMER CHEMISTRY
5B07CHE/PCH : Analytical and Inorganic Chemistry – II

Time : 3 Hours

Max. Marks : 40

***Instruction** : Answer the questions in **English** only.*

SECTION – A

Answer **all** questions. **Each** carries **1** mark.

1. What is the general structure of polyphosphazines ?
2. Give the name of a carbonate ore of copper.
3. What is meant by elution in chromatography ?
4. What is the hybridization of I in IF_7 molecule ? **(4×1=4)**

SECTION – B

Answer **any 7** questions out of 10. **Each** carries **2** marks.

5. What is carborundum ? Give any two uses of it.
6. Why hot solutions are preferred for precipitation in gravimetric analysis ?
7. What are the factors affecting differential thermal analysis ?
8. What are clathrate compounds of noble gases ?
9. Explain zone refining.
10. Briefly explain stress corrosion.

P.T.O.

11. Discuss any two methods to minimize co-precipitation.
12. What is the basic principle of neutron activation method ?
13. What is Mond's process ?
14. Give the anodic and cathodic reactions taking place during corrosion of Fe. **(7×2=14)**

SECTION – C

Answer **any 4** questions out of 6. **Each** carries **3** marks.

15. List out any six uses of noble gases.
16. Arrange HClO, $HClO_2$, $HClO_3$, and $HClO_4$ in the increasing order of acidic strength and justify your answer.
17. Give the composition and applications of any three alloy steels.
18. Briefly give the instrumentation involved in thermo gravimetric analysis.
19. Give the hybridization and geometry of XeF_6 and $XeOF_4$.
20. How nickel is estimated gravimetrically ? **(4×3=12)**

SECTION – D

Answer **any 2** questions out of 4. **Each** carries **5** marks.

21. Explain different corrosion control methods.
22. What are refractories ? How are they classified ? Explain.
23. a) Write a brief note on gel chromatography. **2½**
    b) Write a short note on thermometric titrations. **2½**
24. a) Explain the application of hydrometallurgy in the extraction of silver from its native ore. **2½**
    b) Write a note on the fluorides of Krypton. **2½**

(2×5=10)
