QP Code : P24A014

Reg. No : .....

Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER M.Sc. (CBCSS-PG) DEGREE EXAMINATION, November 2024

M.Sc Chemistry

CHE1C02 : ELEMENTARY INORGANIC CHEMISTRY

2024 Admission Onwards

Time : 3 Hours **Maximum Weightage : 30**

Part A

*Short answer type questions: Answer **any four** questions. Weightage **2** for each question*

1. What are Zeolites? [BTL1]
2. What are styx numbers? [BTL1]
3. Explain super heavy elements with examples. [BTL2]
4. Define Nuclear fusion. [BTL1]
5. Discuss the role of HF as a non-aqueous solvent. [BTL3]
6. Explain co-precipitation with suitable example. [BTL2]
7. Explain Patton and Reeder's indicators. [BTL5]

(4x2 = 8 Weightage)

PART B

*Short essay-type questions: Answer **any four** questions. Weightage **3** for each question*

8. Explain different types of EDTA titrations? [BTL3]
9. Define HSAB concept with suitable examples. [BTL1]
10. Explain redox indicators with suitable examples? [BTL3]
11. What are the periodic anomalies of the nonmetals and post transition metals? [BTL1]
12. Explain radiation hazards. [BTL3]
13. What is inorganic benzene? Compare its structure with that of benzene. [BTL2]
14. Explain Latimer and Frost diagrams. Discuss their applications. [BTL4]

(4x3 = 12 Weightage)

Turn Over

PART C

*Essay-type questions: Answer **any two** questions. Weightage **5** for each question*

15. Illustrate different nuclear models in nuclear chemistry. [BTL4]

16. Explain Allotropes of C, S, P, As, Sb, Bi, O, Se. [BTL4]

17. (a) Give the preparation, properties and structure of S_4N_4. [BTL3]
    (b) S_4N_4 on fluorination gives $S_4N_4F_4$, where fluorine is bonded to sulphur, while on hydrogenations it gives $S_4N_4H_4$, where hydrogen is bonded to nitrogen. Explain.

18. Explain co-precipitation and postprecipitation in quantitative analysis. How these factors can be avoided? [BTL4]

(2x5 = 10 Weightage)

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