QP Code: P25DRIS012

Reg. No : .....
Name : .....

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

I SEMESTER (CBCSS - PG) DEGREE EXAMINATIONS, NOVEMBER 2025
(Regular/Improvement/Supplementary)
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**. Weightage **2** for each.*
(4x2 = 8 Weightage)

1. What are styx number?
2. Compare masking and demasking.
3. Interpret the major products of radiolysis of water? Explain the formation of molecular products during radiolysis of water.
4. Explain super heavy elements with examples.
5. Discuss the role of HF as a non-aqueous solvent.
6. What is Zeolite?
7. Explain Patton and Reeder's indicators.

PART B

*Short essay-type questions. Answer **any four**. Weightage **3** for each.*
(4x3 = 12 Weightage)

8. What are the advantages of organic precipitant over inorganic precipitant in gravimetric analysis?
9. What is inorganic benzene? Compare its structure with that of benzene.
10. Explain redox indicators with suitable example?
11. What are the periodic anomalies of the nonmetals and post transition metals?
12. What makes ^{208}Pb the most stable isotope of lead?
13. Define HSAB concept with suitable example.
14. Explain Latimer and Frost diagrams. Discuss their applications.

Turn Over

PART C

*Essay-type questions. Answer **any two**. Weightage **5** for each.*
(2x5 = 10 Weightage)

15. Illustrate different nuclear models in nuclear chemistry.
16. Explain Allotropes of C,S,P,As,Sb,Bi,O,Se.
17. Give an account of the synthesis, structure, bonding and uses of phosphorus- nitrogen and phosphorus sulphur compounds.
18. Explain
    (a) Give the preparation, properties and structure of S_4N_4.
    (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.

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