

B.SC. DEGREE END SEMESTER EXAMINATION - MARCH 2018**SEMESTER – 6: CHEMISTRY (CORE COURSE)****COURSE: 15U6CRCHE09: INORGANIC CHEMISTRY - II***(For Regular - 2015 Admission)*

Time: Three Hours

Max. Marks: 60

SECTION AAnswer **all** questions. Each question carries **1** mark

1. What is hydrometallurgy? Give an example for a metal recoverable by this process.
2. Write two examples for high nuclearity carbonyl clusters?
3. What are polyphosphazenes?
4. What are the characteristics of non-aqueous solvents?
5. What are super acids? Give an example.
6. What is limiting radius ratio. Give its value for a tetrahedral site.
7. How will you express the amount of coliform bacteria in a sample? Give its significance.
8. Give the structure of any two oxy acids of chlorine. (1 x 8 = 8)

SECTION BAnswer **any six** questions. Each question carries **2** marks

9. Distinguish between calcination and roasting.
10. Write a note on transition metal halide clusters.
11. What are inorganic polymers? How it is different from organic polymers?
12. What are non-aqueous solvents?
13. Comment on the electropositive nature of iodine.
14. What are n-type semiconductors?
15. What are crown ethers? Give its use.
16. How will you determine dissolved oxygen in a sample? (2 x 6 = 12)

SECTION CAnswer **any four** questions. Each question carries **5** marks

17. What is an Ellingham diagram? Discuss its important features.
18. Discuss the structure of $\text{Re}_2\text{Cl}_8^{2-}$.
19. Discuss the preparation, properties and uses chalcogenic glasses.
20. Discuss the important chemical reactions in liquid ammonia.
21. What are interhalogen compounds? Give the preparation of any four interhalogen compounds.
22. What are the non-stoichiometric defects? Discuss their consequences. (5 x 4 = 20)

SECTION D

Answer **any two** questions. Each question carries **10** marks

23. Explain the general methods employed for the extraction of metals from its ore.
24. Discuss the preparation, properties and bonding in diborane.
25. Write notes on (a) superconductivity (b) preparation of silicon based polymers
26. What are the WHO standards for drinking water?

(10 x 2 = 20)
