M.Sc. DEGREE EXAMINATION,NOVEMBER 2019
I Year II Semester
Inorganic Chemistry - II

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. What are Ferrites?
2. What are Superconductors?
3. Define – Metalation.
4. What is Anation reaction? Give Example.
5. Write the advantages of Wilkinson catalyst.
6. Give the importance of Oxo process.
7. What are photoredox reactions? Give Example.
8. Give any four applications of coordination complex in solar energy conversion.
9. Mention the types of radioactive decay.
10. Define – Q value.
11. What are thermonuclear reactions?
12. Define – Schottky and Frenkel defects.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Explain the preparation of nanoparticles by Sol-gel method.
14. Write note on Perovskite and ZnS.
15. Explain the bonding properties of carbonyls.
16. Explain the mechanism of Wacker's process.
17. Write note on Dye sensitized solar cells (DSSC's)
18. Write note on Cyclotron.
19. Explain the preparation, principles and applications of radioactive tracers.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Describe the different types of magnetic behaviour of solids.
21. Explain the association and dissociation mechanism of substitution reaction in octahedral complexes.
22. Describe the mechanism of cyclo - oligomerisation of acetylene and Ziegler – Natta catalysis.
23. Discuss the Co(III) and Cr(III) coordination complexes in photosubstitution reactions.
24. Explain the determination of radioactivity by Geiger – Muller and Cherenkov counters.

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