

B. Sc. DEGREE END SEMESTER EXAMINATION OCTOBER/NOVEMBER 2018**SEMESTER –5: CHEMISTRY (CORE COURSE)****COURSE: 15U5CRCHE05: INORGANIC CHEMISTRY - I***(Common for Regular 2016 admission & Supplementary 2015 admission)*

Time: Three Hours

Max. Marks: 60

SECTION A*Answer **all** questions. Each question carries **1** mark*

1. What is meant by coordination isomerism? Give an example.
2. The IUPAC name of the complex $[\text{Co}(\text{NH}_3)_4(\text{H}_2\text{O})_2]\text{Cl}_3$
3. Calculate the EAN of $\text{K}_4[\text{Fe}(\text{CN})_6]$
4. What are sandwich compounds?
5. What happens when $\text{Fe}(\text{CO})_5$ is treated with SnCl_4 ?
6. What do you mean by hapticity of ligand?
7. The metal present in carbonic anhydrase is.....
8. State Usanovich concept of acids and bases (1 x 8 = 8)

SECTION B*Answer **any six** questions. Each question carries **2** marks*

9. Describe the following properties of transition metals
 - a) Metallic character
 - b) Ionic radii
10. What do you mean by lanthanide contraction?
11. What are cytochromes? Give its important functions
12. What are the different types of carbenes. Give examples
13. Discuss the solvent effect on acidity and basicity
14. How does the crystal field theory explain the color of the complex?
15. Define the terms
 - a) Co-ordination number
 - b) Primary valency
16. Define Bohr effect (2 x 6 = 12)

SECTION C*Answer **any four** questions. Each question carries **5** marks*

17. What is Jahn Teller distortion. Explain the consequences.
18. Write a note on trace elements. Mention about their roles in biological systems.
19. The basic strength of lanthanide oxides decreases with rise in atomic number. Give reason.
20. How the acidity and basicity varies with the oxidation state of central atom?

21. Distinguish between labile and inert complexes
22. Discuss trans effect with an example. (5 x 4 = 20)

SECTION D

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

23. Discuss the spectral and magnetic properties of lanthanides and actinides.
24. Explain the stability of complexes and the factors affecting the stability.
25. Write a note on a) Wilkinson's catalyst b) Ziegler Natta catalyst.
26. Discuss the mechanism of oxygen transport in blood. (10 x 2 = 20)
