SEMESTER	II	QP CODE	2912	REG NO.							

P.R. GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA
PG SECOND SEMESTER END EXAMINATIONS-DECEMBER -2022
M. Sc., : ANALYTICAL & ORGANIC CHEMISTRY: PAPER 2
INORGANIC CHEMISTRY

DATE	05.12.2022	SESSION	FN	MAX. MARKS	75	TIME	3 HRS

SECTION:A

Answer all questions **4X15=60M**

1. (a) Explain the favorable conditions for the formation of metal clusters? Discuss the structure and bonding in $Re_2Cl_8^{2-}$

(OR)

(b) Explain the structure and bonding of (i) $Cr_2Cl_9^{3-}$ (ii) Re_3Cl_9 (iii) $Nb_6X_{12}^{2-}$

2. (a) Explain the synthesis, structure and bonding in ferrocene

(OR)

(b) What is 18 electron rule? Discuss the preparation, structure and bonding in Metal nitric oxide complexes

3. (a)Explain Inert and labile complexes. Discuss the factors affecting stability of complexes.

(OR)

(b) What are oxygen transport enzymes? Discuss the mechanism of oxygen transport by Haemoglobin

4. (a) Discusss the mechanism of Acid and Base hydrolysis of Co(III) complex

(OR)

(b) What is Trans effect? Discuss the polarization and pi bonding theories of trans effect.

SECTION –B

Answer any Five questions **5x3=15 M**

1. Write a note on Chevrel phases
2. Discuss the structure of $Cu_2(RCOO)_4(H_2O)_2$
3. Explain the 18 electron rule with suitable examples
4. Write a note on Homogeneous catalysis
5. What is Nitrogen fixation?

6. Explain the lability on the basis of CFT.
7. Explain Id and Ia mechanism.
8. What are complementary and non complementary reactions?