6th Sem (H) Internal Examination- 2023

SET A

1. Distinguish between *cis*- and *trans*-effect. Discuss the synthesis of *cis*-platin and *trans*-platin following the *trans*-effect.

2. Draw different bonding motifs of CO in metal carbonyl complexes. Briefly describe with suitable examples the effect of the coligand on ν_{CO} values.

6th Sem (H) Internal Examination- 2023

SET B

1. Give a brief introduction of photosynthesis with PS-I and PS-II systems.

2. (a) Distinguish between kinetic and thermodynamic stability of metal complexes. (b) Write a short note on 'Linear Free Energy Relationship (LFER)'.

6th Sem (H) Internal Examination- 2023

SET C

1. Define Bohr Effect in connection to oxygenation of hemoglobin and myoglobin with proper plot.

2. Why the complex $M(PEt_3)_3(CO)_3$ exhibits ν_{CO} at 2090 and 2055 cm^{-1} where $M(PF_3)_3(CO)_3$ exhibits ν_{CO} at 1937 and 1847 cm^{-1}? Out of these two phosphines, which one is more π bonding ligand ?

6th Sem (H) Internal Examination- 2023

SET D

1. What are hemocyanin and hemerythrin? Mention their role in biological system very briefly.

2. Point out the structures and bonding of CO in $Mn_2(CO)_{10}$ and $Fe_3(CO)_{12}$ complexes.