

Shivaji College, University of Delhi
Department of Chemistry
Internal Test (2023-24)

Name of the Course : GE
Semester : IV

Name of the Paper : Coordination & Organometallics compound

Faculty Name : Tamanna

Duration : 1 hr

Date of Test : 16-04-2024

Maximum Marks : 16 Marks
(Scaled down to 8)

Attempt all Questions

Que 1 Define an organometallic compounds, Give two examples. (2 Marks)

Que 2 Using MO diagram of CO explain

(i) CO acts as an electron pair donor and acceptor through carbon and not through oxygen.

(ii) CO is referred to as π -acid ligand. (3 Marks)

Que 3 (a) What is synergic effect?

Que 3 (b) What is meant by back bonding in metal carbonyls (3 Marks)

Que 4 Determine the number of M-M bonds present in $\text{Fe}_2(\text{CO})_9$, $\text{Fe}_3(\text{CO})_{12}$, $\text{Co}_4(\text{CO})_{12}$ & $2[(\eta^5\text{-Cp})\text{Mo}(\text{CO})_3]_2$ (3 Marks)

Que 5 Draw the structure of any one of following by VBT and MOT approach

(a) $\text{Cr}(\text{CO})_6$

(b) $\text{Fe}(\text{CO})_5$

(4 Marks)

Que 6

Tamanna