

M.Sc.(Chem.) Semester - 2 (CBCS) Examination
March/April – 2024 (As Per Syllabus Year-2023)
Inorganic Chemistry (Core)

Time: 02:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q.1 (A) Answer the following (04)**
(1) Write a note on hydride and dihydrogen ligand containing complexes.
- Q.1 (B) Answer any two questions out of three. (10)**
(1) Give detail account on the metal complexes having phosphine ligands.
(2) Give the preparation and reaction of metal carbonyl.
(3) Write a note on ligand like carbonyl ligand.
- Q.2 (A) Answer the following. (04)**
(1) Discuss the association and dissociation reaction in OMC.
- Q.2 (B) Answer any two questions out of three. (10)**
(1) Explain the reductive elimination and sigma bond metathesis reaction in OMC.
(2) Discuss the hydroformylation reaction with different catalyst.
(3) What is olefin metathesis? Explain thoroughly.
- Q.3 (A) Answer the following. (04)**
(1) Briefly discuss the chemical properties of halogen family.
- Q.3 (B) Answer any two questions out of three. (10)**
(1) Discuss the chemical properties of group-14.
(2) Discuss the chemical properties of nitrogen family.
(3) Explain the physical properties of group-17.
- Q.4 (A) Answer the following. (04)**
(1) Briefly discuss cytochrome.
- Q.4 (B) Answer any two questions out of three. (10)**
(1) What is toxicity and deficiency of common metal in biological system explain with magnesium, iron and zinc.
(2) Write a detail note on metalloenzymes and its function in living organisms.
(3) Discuss oxygen carrier and storage devices.
- Q.5 (A) Answer the following (04)**
(1) What are inorganic molecules? and how they used in pharma industries?
- Q.5 (B) Answer any two questions out of three. (10)**
(1) Discuss clinical application of boron as boric acid, bortezomib and BNCT.
(2) Discuss transition metal complex as medicine.
(3) Explain clinical application of Mg and Ca.
