

M.Sc.(Chem.) Semester - 2 (CBCS) Examination
May/June-2022 (OLD COURSE)
INORGANIC CHEMISTRY(CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

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

Q.1	Answer the following: (Any Seven)	14
	a. Give the types of bonding in OMC. b. Name the trace metals present in biological system. c. Discuss in brief term Hapticity. d. Define the toxicity of lead. e. Give the ESR spectrum of Hydrogen atom. f. What is cationic exchanger? Give few examples. g. Explain the deficiency of magnesium. h. Discuss use of DMG in inorganic analysis with suitable example. i. Draw the structure of Chlorophyll. j. Write a short note on diphenyl carbazone.	
Q.2	Answer the following: (Any Two)	14
	a. Explain classification and synthesis of σ-bonded OMC compounds on detail. b. Write a detail note on essential ultra-trace metals and non-metals. c. Discuss ESR spectrum when one electron delocalized over two equivalent protons.	
Q.3	Answer the following:	14
	a. Discuss the bonding and structure of η^2-alkene complexes. b. Write a note on oxygen carrier in biological system. c. Explain the separation of cobalt and nickel by ion exchange chromatography.	
OR		
Q.3	Answer the following:	
	a. Define Hyperfine splitting of EPR spectra. b. Write a note on iodine and thyroid hormones.	
Q.4 (A)	Answer the following:	14
	Discuss the any two out of three following questions: (I) Separation of Chloride and bromide by ion exchanger. (II) α -nitroso-3-naphthol. (III) anthranilic acid.	
Q.4 (B)	Discuss the any one out of two following questions: (I) Separation of Cadmium and Zinc by ion exchanger. (II) Tannin.	
Q.5	Answer the following: (Any Two)	14
	a. Discuss the electron Zeeman Interaction. b. Write a detail note on enyl OMC with its preparation, physical of chemical properties.	
