

SARDAR PATEL UNIVERSITY**Programme: B.Sc (Chemistry)****Semester: VI****Syllabus with effect from: November/December-2013**

Paper Code: US06CCHE03	Total Credit: 3
Title Of Paper: Inorganic Chemistry	

Unit	Description in detail	Weighting (%)
I	Organo Metallic Chemistry Introduction, General methods of preparations, General properties, Organo metallic compounds of alkali metals, Organo metallic compounds of beryllium, magnesium and aluminum, metal olefin complexes, Cyclopentadienyl complexes: metallocenes, Some properties of ferrocene, Structure and bonding in ferrocene molecule, Ionic cyclopentadienyl compounds. Basic Text & Reference Books :- ➤ Advanced Inorganic Chemistry Volume II- 18 th By Satya Prakash, G.D.Tuli, S.K.Basu, R.D.Madan	
II	Bioinorganic Chemistry Introduction, The role of model systems, The alkali and alkaline earth metals, Metalloporphyrins, Iron-sulfur proteins, Hemerythrin, Oxygen supply and transport, The bioinorganic chemistry of cobalt: Vitamin B ₁₂ , Metalloenzymes, Nitrogen fixation. Basic Text & Reference Books :- ➤ Basic Inorganic Chemistry- 3 rd Edition By F.Albert Cotton, Geoffery Wilkinson & Paul L. Gaus	
III	Catalysis General Principles, the language of catalysis, homogeneous and heterogeneous catalysis, Homogeneous catalysis: hydrogenation of alkenes, hydroformylation, methanol carbonylation, Wacker oxidation of alkenes, alkene metathesis, Palladium catalysed C-C bond forming reactions, asymmetric oxidations. Heterogeneous catalysis: the nature of heterogeneous catalysis, hydrogenation of alkenes, ammonia synthesis, sulfur dioxide oxidation, interconversion of aromatics by zeolites, Fisher and Tropsch synthesis, alkene polymerization, electrocatalysis. Basic Text & Reference Books :- ➤ Inorganic Chemistry, 4 th Edition By Shriver & Atkins	
IV	Principles Of Metallurgy And Chemistry Of Pb, Fe, Ni, Cu & Ag Metals, Occurrence of metals, Mineral wealth of India, Metallurgy, Concentration of ore, Calcination and roasting, Standard electrode potentials and metallurgy, thermodynamics of metallurgy, Reducing behavior of carbon, Reduction of mineral to metal, Refining of metals, Physical methods of refining, Chemical methods of refining, Types of furnaces used. Pb: Occurrence & extraction, Properties & uses of lead, White lead.	



<p>Fe: Occurrence and commercial forms of iron, Manufacture of cast iron, wrought iron, steel.</p> <p>Ni: Occurrence & extraction, Properties and uses of nickel.</p> <p>Cu: Occurrence & extraction, Electrolytic refining of copper, Properties and uses of copper.</p> <p>Ag: Occurrence & extraction, Properties and uses of silver, Preparation, properties and uses of silver nitrate, Silvering of mirrors.</p> <p>Basic Text & Reference Books :-</p> <ul style="list-style-type: none">➤ Textbook of Inorganic Chemistry- 20th Edition By P.L.Soni & Mohan Katyal	
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