

LESSION PLAN (From Date:-16-08-2023 to Date:- 11-12-2023), No. of Weeks:- 15

BRANCH :- CIVIL ENGINEERING, SEMESTER:- 1ST SEMESTER(WINTER-2023)

Subject:- Engg. Chemistry Theory(Th-2B) ,

Name of Faculty :- Sri Prabodha Kumar satapathy, Sr. Lecturer

Month	Week	Period	Topic to be Discussed
August	3rd	1	Fundamental Particles(Electrons, protons & Neutrons)
		2	Isotopes, Isobars, Isotones
		3	Rutherfords atomic model and its failure
August	4th	1	Bohr's atomic model, limitations
		2	Bohr-bury scheme, Aufbau principle
		3	Hund's rule, electronic configuration of elements
		4	Chemical bond, Electrovalent bond with examples
Aug/ Sept	5th/1st	1	Covalent bond with examples
		2	Coordinate bond with examples
		3	Arrhenius Theory of acids and bases, limitations
		4	Lowry - Bronsted Theory of acids and bases, limitations
Sept	2nd	1	Lewis Theory of acids and bases, limitations
		2	Neutralization of acids and bases, salts and types of salts with examples
		3	Atomic weight, molecular weight, Equivalent weight
Sept	3rd	1	Equivalent weight of acids, bases, and salts
		2	Normality, molarity and molality
		3	pH of solution, importances of pH in industry
		4	simple numerical problems on molality, normality, molarity, and pH of solutions
Sept	4th	1	Electrolytes and examples, electrolysis
		2	electrolysis with example of NaCl, applications(electroplating)
		3	Faraday's laws of electrolysis,
		4	Corrosion, atomspheric corrosion, waterline corrosion, rusting of iron
Sept	5th	1	Protection of corrosion by alloying and galvanisation
		2	Minerals and Ores, gangue with examples , metallurgy, ore dressing
		3	concentration of ores
		4	oxidation and methods of reduction
Oct	1st	1	Refining and various methods of refining
		2	Alloys, ferroalloys, non-ferro alloys, amalgams and importances of alloys
		3	Composition and uses of Brass, Bronze, Alnico, Duralumin
		4	Introduction to Organic chemistry, Saturated and unsaturated hydrocarbons with examples
Oct	2nd	1	Aliphatic and Aromatic hydrocarbons, Huckel's rule, Meaning of aromaticity
		2	Naming of Organic compounds, IUPAC Nomenclature
		3	IUPAC Nomenclature
		4	IUPAC Nomenclature

Oct	3rd	1	IUPAC Nomenclature
		2	Revision on nomenclature
		3	Uses of benzene, toluene, BHC, Phenol, Napthalene
		4	Anthracene, Benzoic acid, Discussion of related questions
Oct	4th	PUJA HOLIDAYS	
Oct/Nov	5th/1st	1	Sources of Water, soft water, hard water,, hardness of water, types of hardness
		2	Removal of tempoprary hardness,
		3	Removal of permanent hardness by Lime-Soda process (hot and cold lime soda-Principle, process and advantages)
		4	Advantages of hot lime soda process over cold lime soda process,
Nov	2nd	1	ion- exchange resin, organic ion - exchange process
		2	organic ion - exchange process, regeneration of exhausted ion exchange resin
		3	Lubricants, types of lubricants, purposes of lubrication
		4	specific uses of solid, liquid and semi-solid lubricants
Nov	3rd	1	Fuels (definition, classification, characteristics of good fuel), calorific value of fuels
		2	Liquid fuels (petrol, kerosene, diesel), composition and uses
		3	Gaseous fuels (Producer gas, water gas) composition and uses.
		4	Elementary idea about LPG, CNG, and coal gas(composition and uses only)
Nov	4th	1	Definition of monomer, polymer, homopolymer, co-polymer, degree of polymerisation,
		2	Difference between thermosetting and thermoplastic polymers
		3	Composition and uses of Polythene, PVC
		4	Composition and uses of Bakelite,
Dec	1st	1	Elastomers(rubbers), demerits of natural(raw) rubber
		2	Vulcanisation of rubber, advantages of vulcanised rubber
		3	Pesticides, insecticides, herbicides, fungicides(definition, examples and uses)
		4	Biofertilisers(definition, Examples and uses)
Dec	2nd	1	Revision
		2	Revision
		3	Revision

Sign. Of faculty 10/10/23

HOD, Math & Science 10/10/23

Academic Cordinator 10/10/23

Principal 10/10/23