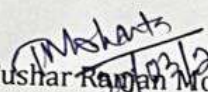


# LESSON PLAN : ENGINEERING CHEMISTRY

Discipline: <b>MECHANICAL ENGG.</b>	Semester: <b>2<sup>nd</sup></b>	Name of the Teaching Faculty: <b>TUSHAR RANJAN MOHANTA</b>
Subject: <b>ENGINEERING CHEMISTRY</b>	No. of days/Per Week class allotted: <b>02</b>	Semester From date : 20/03/2023 To date: 27/06/2023  No. of Weeks: 15
Week	Class Day	Theory
1 <sup>st</sup>	1 <sup>st</sup>	Introduction, Fundamental particles : Electron, Proton & Neutron (mass and charge)
	2 <sup>nd</sup>	Rutherford's Atomic model (Experiment, postulates), Failures of Rutherford's Atomic model
2 <sup>nd</sup>	1 <sup>st</sup>	Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones, Bohr's atomic model (Postulates only)
	2 <sup>nd</sup>	Bohr-Bury scheme, Aufbau's principle
3 <sup>rd</sup>	1 <sup>st</sup>	Hund's rule, Electronic configuration (upto atomic no. 30)
	2 <sup>nd</sup>	Concept of Arrhenius, Bronsted Lowry Theory with examples (Postulates and limitations only).
4 <sup>th</sup>	1 <sup>st</sup>	Lewis theory for acid and base with examples (Postulates and limitations only). Neutralization of acid & base.
	2 <sup>nd</sup>	Types of salts (Normal, acidic, basic, double, complex and mixed Salts, definitions with 2 examples from each).
5 <sup>th</sup>	1 <sup>st</sup>	Definition and types (Strong & weak) of Electrolytes with example. Electrolysis (Principle & process) with example of NaCl (fused and aqueous solution).
	2 <sup>nd</sup>	Faraday's 1st law of Electrolysis (Statement, mathematical expression, numerical)
6 <sup>th</sup>	1 <sup>st</sup>	Faraday's 2nd law of Electrolysis (Statement, Mathematical expression, numerical), Industrial application of Electrolysis-Electroplating (Zinc only)
	2 <sup>nd</sup>	Corrosion : Definition & Types, Atmospheric Corrosion
7 <sup>th</sup>	1 <sup>st</sup>	Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization
	2 <sup>nd</sup>	Saturated and Unsaturated Hydrocarbons (Definition with example)
8 <sup>th</sup>	1 <sup>st</sup>	Aliphatic and Aromatic Hydrocarbons (Huckle's rule only). Difference between Aliphatic and aromatic hydrocarbons
	2 <sup>nd</sup>	IUPAC system of nomenclature of Alkane
9 <sup>th</sup>	1 <sup>st</sup>	IUPAC system of nomenclature of Alkane-examples
	2 <sup>nd</sup>	IUPAC system of nomenclature of Alkene
10 <sup>th</sup>	1 <sup>st</sup>	IUPAC system of nomenclature of Alkene-examples
	2 <sup>nd</sup>	IUPAC system of nomenclature of Alkyne
11 <sup>th</sup>	1 <sup>st</sup>	IUPAC system of nomenclature of Alkyne-examples
	2 <sup>nd</sup>	IUPAC system of nomenclature of alkyl halide and alcohol



12 <sup>th</sup>	1 <sup>st</sup>	Uses of some common aromatic compounds ( Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life.
	2 <sup>nd</sup>	Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization.
13 <sup>th</sup>	1 <sup>st</sup>	Difference between Thermosetting and Thermoplastic
	2 <sup>nd</sup>	Composition and uses of Polythene, & Poly-Vinyl Chloride
14 <sup>th</sup>	1 <sup>st</sup>	Composition and uses of Bakelite
	2 <sup>nd</sup>	Definition of Elastomer ( Rubber). Natural Rubber (it's draw backs )
15 <sup>th</sup>	1 <sup>st</sup>	Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber.
	2 <sup>nd</sup>	Pesticides: Insecticides, herbicides, fungicides-Examples and uses

  
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