

LESSON PLAN: (ENGINEERING CHEMISTRY)		
Discipline :	Computer Science and Engineering	
Faculty :	J RAVINDRA KUMAR	
Semester :	1st Semester	
Duration :	14 WEEKS (15 <sup>th</sup> September 2022 to 22 <sup>nd</sup> December 2022)	
Work Load :	Lecture :	4 Lectures per week (50 minutes per Class)
Week	Week Day	Theory
1 <sup>st</sup>	1 <sup>st</sup>	1.1 Rutherford's Atomic Model, Bohr's Atomic Model.
	2 <sup>nd</sup>	Bohr-Bury scheme, Aufbau's principle, Electronic configuration.
	3 <sup>rd</sup>	Atomic weight, Molecular weight & Equivalent weight.
	4 <sup>th</sup>	1.2 Electrovalent bond, Covalent bond with examples
2 <sup>nd</sup>	5 <sup>th</sup>	Co-ordinate bond with examples.
	6 <sup>th</sup>	1.3 Arrhenius & Lowry-Bronsted theory of Acids & Bases.
	7 <sup>th</sup>	Lewis theory of Acids & Bases with examples.
	8 <sup>th</sup>	Def & types of salts.
3 <sup>rd</sup>	9 <sup>th</sup>	Determination of equivalent weights of acids, bases, salts & ions.
	10 <sup>th</sup>	Normality, Molarity & Molality of solutions.
	11 <sup>th</sup>	PH of solution. Importance of PH in Industry.
	12 <sup>th</sup>	1.4 Electrochemistry, Electrolytic process,
4 <sup>th</sup>	13 <sup>th</sup>	Faraday's 1st law of electrolysis & its problems.
	14 <sup>th</sup>	Faraday's 2nd law of electrolysis & its problems.
	15 <sup>th</sup>	Industrial application of electrolysis.
	16 <sup>th</sup>	Corrosion:- Def & types of corrosion.
5 <sup>th</sup>	17 <sup>th</sup>	Atmospheric corrosion, water line corrosion & its protection.
	18 <sup>th</sup>	Alloying & Galvanisation.
	19 <sup>th</sup>	INORGANIC CHEMISTRY introduction
	20 <sup>th</sup>	2.1 Metallurgy, Ores & Minerals
6 <sup>th</sup>	21 <sup>st</sup>	Def of mineral, Ore, flux & slag.
	22 <sup>nd</sup>	General methods of extraction of metals.
	23 <sup>rd</sup>	Concentration, Calcination, Roasting & Smelting processes.
	24 <sup>th</sup>	Brief idea on Refining of Ore.
7 <sup>th</sup>	25 <sup>th</sup>	Alloys:- Def of alloy, composition & uses of Brass, Bronze.
	26 <sup>th</sup>	Composition & uses of Alnico, Duralumin, German silver.
	27 <sup>th</sup>	ORGANIC CHEMISTRY. Introduction
	28 <sup>th</sup>	3.1 Saturated & unsaturated Hydrocarbons.
8 <sup>th</sup>	29 <sup>th</sup>	Aliphatic organic compounds & examples

	30 <sup>th</sup>	Aromatic Hydrocarbons with examples.
	31 <sup>st</sup>	IUPAC system of Nomenclature of Alkanes, Alkenes.
	32 <sup>nd</sup>	3.2 Nomenclature of Alkyl halides, Alcohols.
9 <sup>th</sup>	33 <sup>rd</sup>	Nomenclature of Aromatic compounds.
	34 <sup>th</sup>	INDUSTRIAL CHEMISTRY
	35 <sup>th</sup>	WATER : Sources of Water, soft water, hard water.
	36 <sup>th</sup>	Types of hardness (temporary & permanent hardness)
10 <sup>th</sup>	37 <sup>th</sup>	Removal of hardness by Lime soda method.
	38 <sup>th</sup>	Removal of hardness by ion exchange method.
	39 <sup>th</sup>	LUBRICANTS: Def of lubricant, Types of lubricants.
	40 <sup>th</sup>	Purpose of Lubrication.
11 <sup>th</sup>	41 <sup>st</sup>	FUELS : Def & classification of Fuels, calorific value of fuel.
	42 <sup>nd</sup>	Solid fuel & it s types.
	43 <sup>rd</sup>	Liquid fuels & it s types.
	44 <sup>th</sup>	Gaseous fuels & it s types.
12 <sup>th</sup>	45 <sup>th</sup>	POLYMERS : Def of monomer, polymer, Homopolymer, Copolymer & degree of polymerization.
	46 <sup>th</sup>	Difference between Thermosetting & Thermoplastic polymer
	47 <sup>th</sup>	Composition & uses of PE, PVC, Bakelite.
	48 <sup>th</sup>	5. ENVIRONMENTAL CHEMISTRY.
13 <sup>th</sup>	49 <sup>th</sup>	5.1 Troposphere, Stratosphere
	50 <sup>th</sup>	5.2 Pollutants, Contaminants, Receptor, Pathway of pollution.
	51 <sup>st</sup>	5.3 Water pollution & its causes.
	52 <sup>nd</sup>	Different sources of water pollution & control of water pollution.
14 <sup>th</sup>	53 <sup>rd</sup>	5.4 Def of air pollution. Major air pollutants.
	54 <sup>th</sup>	Control of air pollution.
	55 <sup>th</sup>	5.5 Brief idea on Green House effect.
	56 <sup>th</sup>	Depletion of Ozone layer, Acid Rain.