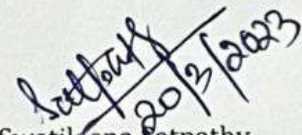


LESSON PLAN: ENGINEERING CHEMISTRY

Discipline: MECHANICAL ENGG.	Semester: 2nd	Name of the Teaching Faculty: SWATILEENA SATPATHY
Subject: ENGINEERING CHEMISTRY	No. of days/per week class allotted: 02	Semester From date : 20/03/2023 To date: 27/06/2023 No. of Weeks: 15
Week	Class Day	Theory
1 st	1 st	Chemical Bonding: Definition, Types, Electrovalent bond: NaCl, MgCl ₂
	2 nd	Covalent Bond with examples H ₂ , Cl ₂ , O ₂ , N ₂ , H ₂ O, CH ₄ , NH ₃
2 nd	1 st	Coordinate bond : NH ₄ ⁺ , SO ₂
	2 nd	Definitions of atomic weight, molecular weight, Equivalent weight
3 rd	1 st	Determination of equivalent weight of Acid, Base and Salt.
	2 nd	Modes of expression of the concentrations (Molarity) With Simple Problems
4 th	1 st	Modes of expression of the concentrations (Normality & Molality) With Simple Problems
	2 nd	pH of solution (definition with simple numerical)
5 th	1 st	Importance of pH in industry (sugar, textile, paper industries only)
	2 nd	Definition of Mineral, ores, gangue with example. Distinction between Ores And Minerals
6 th	1 st	Steps of Metallurgy : Ore Dressing, Concentration of Ore (Gravity Separation, magnetic separation)
	2 nd	Concentration of Ore (Froth floatation & leaching)
7 th	1 st	Oxidation (Calcinations, Roasting)
	2 nd	Reduction (Smelting, Definition & examples of flux, slag)
8 th	1 st	Refining of the metal (Electro refining, & Distillation only)
	2 nd	Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example
9 th	1 st	Composition and uses of Brass, Bronze, Alnico, Duralumin
	2 nd	Sources of water, Soft water, Hard water, hardness, types of Hardness (temporary or carbonate and permanent or non-carbonate)
10 th	1 st	Removal of hardness by lime soda method (hot lime—Principle, process & advantages)
	2 nd	Removal of hardness by lime soda method (Cold lime—Principle, process & advantages)
11 th	1 st	Advantages of Hot lime over cold lime process.
	2 nd	Organic Ion exchange method (principle, process, and regeneration of exhausted resins)

12 th	1 st	Definition of lubricant, Types (solid, liquid and semi solid with examples only)
	2 nd	Specific uses of Lubricants (Graphite, Oils, Grease), Purpose of lubrication.
13 th	1 st	Definition and classification of fuel.
	2 nd	Definition of calorific value of fuel, Choice of good fuel.
14 th	1 st	Liquid: Diesel, Petrol and Kerosene- Composition and uses.
	2 nd	Gaseous: Producer gas and Water gas (Composition and uses)
15 th	1 st	Elementary idea about LPG, CNG and Coal gas (Composition and uses only)
	2 nd	Bio Fertilizers: Definition, examples and uses.


 Swatileena Satpathy
 Lect. In Chemistry
 Govt. Polytechnic Angul