



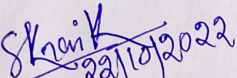
DEPARTMENT OF MATHEMATICS AND SCIENCE
ORISSA SCHOOL OF MINING ENGINEERING, KEONJHAR

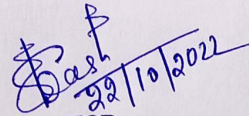
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LESSON PLAN

Discipline: Engineering chemistry			Semester: 1st semester	Name of the Teaching Faculty: Sunil kumar Naik
Subject: Engineering Chemistry Sub code: Th.2b.			No of days /week class allotted: 02/week	Semester from Date: 26/10/2022 to 31/01/2023 No of weeks: 15
Month	Week	No of periods available	Class Day	Theory topics to be covered
October	1 st	01	28.10.2022	Chapter1: Atomic structure Fundamental Particles.(electron, proton & neutron Definition, mass and charge)
	2 nd	03	01.11.2022 04.11.2022 08.11.2022	Atomice mass and mass Number ,Definition examples and properties of Isotopes, isobar and isotones. Bohr's Atomice model (postulates only), Bohr –Bury scheme , Aufbau's principle ,Hund's rule , Electronic configuration .
November	3 rd	02	11.11.2022 15.11.2022	Chapter2: Chemical Bonding :Definition ,types (Electrovalent ,Covalent and Coordinate bond with examples . Formation of NaCl, MgCl ₂ , H ₂ , Cl ₂ ,O ₂ N ₂ , H ₂ O, CH ₄ , NH ₃ , NH ₄ ⁺ ,So ₂
	4 th	02	18.11.2022	Chapter3: Acid Base Theory :concept of Arrhenius Lowry Bronsted and lewis theory for acid and base with examples (Postulates and limitations only)
	5 th	02	22.11.2022	Neutralization of acid & base .Definition of Salt, Types of salt (Normal, acidic, basic Double, Complex and mixed salts, definitions with 2 examples from each).
	6 th	02	25.11.2022 29.11.2022	Chapter 4: Solution : Definition of atomice weight, molecular weight ,Equivalent weight. Determination of equivalent weight of Acid, Base and Salt.
				Monthly Test -01
December	7 th	04	02.12.2022 06.12.2022	Modes of expression of the concentrations (Molarity, Normality & molality)with Simple Problems .pH of solution (definition with simple numerical

January			09.12.2022	Importance of pH in industry(sugar, textile ,paper industries only) Discussion of results of monthly test .
			13.12.2022	Chapter 5: Electrochemistry: Definition and types (strong & weak) of Electrolytes with example .
	8 th	02	16.12.2022	Electrolysis (Principle and Process)with example of NaCl (fused and aqueous solution).
			20.12.2022	Faraday's 1st and 2nd law of Electrolysis (statement, mathematical expression and Simple numerical)
	9 th	01	23.12.2022	Industrial application of Electrolysis- Electroplating (Zinc only) Monthly test -02
	10 th	02	03.01.2023	Chapter 6 : Corrosion: Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion,
			06.01.2023	Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization
	11 th	02	10.01.2023	Chapter 7 : Metallurgy: Definition of Mineral, ores , gangue with example.
			13.01.2023	Distinction between Ores And Minerals. General methods of extraction of metals,
	12 th	02	17.01.2023	i) Ore Dressing ii) Concentration (Gravity separation, magnetic separation, Froth floatation & leaching)
			20.01.2023	iii) Oxidation (Calcinations, Roasting) iv) Reduction (Smelting, Definition & examples of flux, slag) v) Refining of the metal (Electro refining, & Distillation only) Monthly Test-03
	13 th	02	24.01.2023	Chapter 8 : Alloys: Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example.
			27.01.2023	Composition and uses of Brass, Bronze, Alnico, Duralumin
	14 th	02	31.01.2023	Revision &Previous year question & Answer discussion.
			. VERY SIMILAR TEST/MOCK TEST	


 22/10/2022
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