



**DEPARTMENT: MATHEMATICS AND SCIENCE**  
**BHUBANANANDA ORISSA SCHOOL OF ENGINEERING,**  
**CUTTACK**

## **LESSON PLAN**

**By**

**Mrs. Soumyanjali Pati**

**ACADEMIC SESSION:-2022-23**

**SEMESTER: - 1ST SEMESTER**

**SUBJECT: -ENGINEERING CHEMISTRY**

**SECTION- H(CSE AND IT)**

<b>Discipline: CSE AND IT</b>	<b>Semester: 1st Semester SECTION-H</b>	<b>Name of the Teaching Faculty: Mrs Soumyanjali Pati</b>
<b>Subject: Engineering Chemistry</b>	<b>No. of Days/ per week class allotted: 02 periods/per week (Tues and wed):- (1 period each)</b>	<b>Semester From: - Date: _26/10 / 2022 to 31/ 01/2023</b> <b>No of Weeks: - 11</b>
<b>Week</b>	<b>Class Dates</b>	<b>Theory Topics</b>
<b>1<sup>st</sup></b>	22.11.22  23.11.22	Introduction, Syllabus discussion and previous years related study discussion  <b>Chapter 2 : Chemical Bonding :</b> Definition , types Electrovalent bond with examples ( formation of NaCl, MgCl <sub>2</sub> )
<b>2<sup>nd</sup></b>	29.11.2022	Covalent bond with examples ( formation of H <sub>2</sub> ,Cl <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> O,CH <sub>4</sub> , NH <sub>3</sub> )
<b>3<sup>rd</sup></b>	30.11.2022  06.12.2022  07.12.22	Coordinate bond with examples ( formation of NH <sub>4</sub> <sup>+</sup> , SO <sub>2</sub> ) only  CLASS TEST AND QUESTION ANSWER DISCUSSION <b>Chapter 3 : Acid base theory :</b> Concept of Arrhenius, Lowry Bronsted ( Postulates and limitations only).  Lewis theory for acid and base with examples ( Postulates and limitations only)SCUSSION

4 <sup>th</sup>	13.12.22	Neutralization of acid & base. Definition of Salt, Types of salts (Normal, acidic, basic, double, complex and mixed salts, definitions with 2 examples from each.  <b>CLASS TEST AND QUESTION AND ANSWER DISCUSSION</b>
	14.12.2022	<b>Chapter 4: Solutions :</b>  Definitions of atomic weight, molecular weight, Equivalent weight. Determination of equivalent weight of Acid, Base and Salt.  Modes of expression of the concentrations ( Molarity , Normality & Molality) with Simple Problems.
5 <sup>th</sup>	20.12.22	<b>Chapter 4: Solutions :</b>  pH of solution ( definition with simple numericals ) Importance of pH in industry ( sugar, textile, paper industries only
	21.12.2022	<b>CLASS TEST AND QUESTION ANSWER DISCUSSION</b>
6 <sup>th</sup>	27.12.2022	<b>Chapter 9 : Hydrocarbons :</b>  Saturated and Unsaturated Hydrocarbons ( Definition with example) Aliphatic and Aromatic Hydrocarbons ( Huckle's rule only). Difference between Aliphatic and aromatic hydrocarbons
	28.12.2022	Saturated and Unsaturated Hydrocarbons ( Definition with example) Aliphatic and Aromatic Hydrocarbons (

7th	03.01.2023	IUPAC SYSTEM OF NOMENCLATURE OF ALKANES
	04.01.2023	IUPAC system of nomenclature of Alkene, Alkyne.
8th	10.01.2023  11.01.2023	<p>IUPAC system of nomenclature of alkyl halide and alcohol ( up to 6 carbons ) with bond line notation</p> <p>Uses of some common aromatic compounds ( Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life</p> <p>Previous year semester question discussion (IUPAC Nomenclature)</p> <p><b>Chapter 11 : Lubricants:</b></p> <p>Definition of lubricant, Types ( solid, liquid and semisolid with examples only ) and specific uses of lubricants ( Graphite, Oils, Grease), Purpose of lubrication</p>

9th	17.01.2023	<b>CLASS TEST AND QUESTION AND ANSWER DISCUSSION</b>
10 <sup>th</sup>	18.01.2023  24.01.2023	<p><b>Chapter 12 : Fuel:</b></p> <p>Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel.</p> <p>Diesel, Petrol, and Kerosene --- Composition and uses.</p> <p>Gaseous: Producer gas and Water gas (Composition and uses). Elementary idea about LPG, CNG and coal gas (Composition and uses only)</p>
	25.01.2023	<p><b>Chapter 13 : Polymer:</b></p> <p>Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization. Difference between Thermosetting and Thermoplastic, Composition and uses of Polythene, &amp; Poly-Vinyl Chloride and Bakelite. Definition of Elastomer ( Rubber). Natural Rubber (it's draw backs ). Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber</p>

11 <sup>th</sup>	31.01.2023	<p><b>Chapter 14: Chemicals in Agriculture:</b></p> <p>Pesticides: Insecticides, herbicides, fungicides- Examples and uses. Bio Fertilizers: Definition, examples and uses</p>
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**REFERENCE BOOK:**

1. Eng. Chemistry by Y.R. Sharma and Dr P. Mitra, Kalyani Publishers.
2. Textbook of intermediate Chemistry Part-1 and Part-2 by Nanda, Das, Sharma Kalyani Publishers.

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