




Shradha
DELUXE

- EMPLOYEE'S ATTENDANCE
- LEDGER BOOK
- CASH BOOK

Lesson Plan
ETC Engineering
Chemistry

~~15/11/22~~

ENGG. CHEMISTRY

2021-22.

<u>month- November</u>		
<u>Week</u>	<u>Day</u>	<u>Topics</u>
1 st	1 st	Introduction on chemistry, Define symbols, valency and chemical formula
	2 nd	General concept of Atomic structure, fundamental particles (electron, proton & neutron)
	3 rd	Rutherford's atomic model (postulates & failure)
	4 th	Atomic mass and mass number
	5 th	Definition, examples and properties of isobars, isotopes and isotones
2 nd	1 st	Bohr's atomic model (postulates only)

2 nd	Poise-Bury scheme, Aufbau's principle.
3 rd	Hund's rule, electronic configuration (upto 30)
4 th	Introduction on Bonding, Definition and types of bonding
5 th	Electrovalent bond with examples, formation of NaCl, MgCl ₂
3 rd 1 st	Covalent bond with examples, formation of H ₂ O, H ₂ , Cl ₂ , O ₂
2 nd	Coordinate bond with examples, formation of SO ₂ , N ₂ , NH ₄ ⁺
3 rd	Introduction: Acid-Base theory

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4 th	Concept of Arrhenius theory of Acids and Bases
5 th	Bronsted, Lowry theory for Acids and Bases (pros/cons and limitations)
4 th 1 st	Lewis theory for Acids and Bases
2 nd	Neutralisation of Acids and Bases, Definition of Salt
3 rd	Types of salt (Normal, acidic and basic) with examples
4 th	Double, complex and mixed salts with examples
5 th	Definition of atomic wt, molecular wt and equivalent wt.

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3 th	1 st	Determination of equivalent wt. of Acid, Base and salt.
	2 nd	Modes of expression of the concentrations, molarity with simple problems
<u>month - December</u>		
1 st	1 st	Modes of expression of the concentration of Normality with simple problems
	2 nd	Modes of expression of the concentration of molality with simple problems
	3 rd	pH of solution (Definition with simple numericals)
2 nd	1 st	Definition and types of electrolytes

	2 nd	Electrolysis with example of NaCl fused and aqueous solution
	3 rd	Faraday's 1 st law of electrolytes with simple numericals
	4 th	Faraday's 2 nd law of electrolytes with simple numericals
	5 th	Industrial application of electrolysis, electroplating
	3 rd	1 st Definition of corrosion Types of corrosion: Rusting of iron: (i) Alloying (ii) Galvanization
	2 nd	Definition of mineral, ore, gangue with examples, Distinction bet ⁿ ores and minerals

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3rd Methods of extraction of metals (c) ore dressing
(d) Concentration

4th Methods of extraction of metals (e) oxidation
(f) Reduction
(g) Refining of metal

5th Alloys: Definition of Alloy, Types of Alloy, with examples

4th 1st Composition and uses of Brass, Bronze, Alnico and Duralumin

2nd Organic chemistry: Hydrocarbons, saturated hydrocarbons, Definition with examples

3rd Unsaturated hydrocarbons: Aliphatic hydrocarbons

4th Aromatic hydrocarbons (Huckel's rule) Difference betⁿ Aliphatic and Aromatic hydrocarbons

5th 1st IUPAC system of alkanes, alkane, alkyl halide

2nd IUPAC system of alcohol (upto 6 carbons) with bond line notation.

3rd Uses of common aromatic compounds (Benzene, Toluene, BHC) in daily life.

4th Uses of phenol, Naphthalene, Anthracene, Benzoic acid

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month - January

2nd 1st Chapter 10: Water treatment:
Sources of water, soft water,
Hard water

2nd Hardness, types of hardness
(temporary or permanent)

3rd Removal of hardness by
lime-soda method (hot lime,
cold lime, principle, process
and advantages)

4th Advantages of hot lime over
cold lime process

5th Organic ion exchange method
(principle, process and
regeneration of exhausted
resins)

2nd 1st Chapter - 11: Lubricant:
Definition of lubricant
Types (solid, liquid and
semiliquid)

2nd Specific uses of lubricants
(Graphite, oils, Grease)

2nd Fuel: Definition and classi-
fication of fuel, calorific
value of fuel

4th Choice of good fuel: Diesel,
petrol and kerosene. Elementary
idea about LPG and CNG

4th 1st Definition of monomer,
polymer, Homo-polymer,
co-polymer

2nd Degree of polymerization,
Difference betn thermos-
etting and thermoplastic

3rd Composition and uses of
polythene, PVC and Bakel-
ite

4th Definition of elastomers,
Natural Rubber.

5th

vulcanisation of Rubber,
Advantages of vulcanised
Rubber over raw rubber

5th

1st

Chemical in Agriculture :-
Pesticides, Insecticides with
examples and uses