SYNERGY POLYTECHNIC, BBSR		
The Lesson Plan		
Descipline:	Semester: 1 st	Name of the Teaching Faculty: Dr. J. Rout , Mr. Aditya Kumar Nanda
Subject:CHEMISTRY	No of Days/per week class allotted:	Semester from Date: 16.3.23 to Date: 11.5.23 No of Weeks:
Week	Class Day	Theory/Practical Topics
1st	1st	Fundamental particles (electron, proton & neutron Definition, mass and charge).Rutherford's Atomic model (postulates and failure),
	2nd	Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones.
	3rd	Bohr's Atomic model (Postulates only), Bohr-Bury scheme
	4th	Aufbau's principle, Hund's rule, Electronic configuration (up to atomic no 30).
	5th	Definition , types (Electrovalent, Covalent and Coordinate bond with examples (formation of NaCl, $MgCl_2$, H_2,Cl_2, O_2, N_2, H_2O,
2nd	1st	Concept of Arrhenius, Lowry Bronsted
	2nd	Lewis theory for acid and base with examples (Postulates and limitations only).
	3rd	Neutralization of acid & base.
	4th	Definition of Salt, Types of salts (Normal, acidic, basic,
	5th	double, complex and mixed salts, definitions with examples
3rd	1st	Definitions of atomic weight, molecular weight, Equivalent weight
	2nd	. Determination of equivalent weight of Acid, Base and Salt.
	3rd	Modes of expression of the concentrations (Molarity , Normality & Molality) with Problems.
	4th	pH of solution (definition with simple numericals)
	5th	Importance of pH in industry (sugar, textile, paper industries only)
4th	1st	Definition and types (Strong & weak) of Electrolytes with example.
	2nd	Faraday's 1st and 2nd law of Electrolysis (Statement, mathematical expression and Simple numerical)
	3rd	Industrial application of Electrolysis- Electroplating (Zinc only).
	4th	Definition of Corrosion, Types of Corrosion
	5th	Atmospheric Corrosion, Waterline corrosion.
5th	1st	Concentration (Gravity separation, magnetic separation,
	2nd	Froth floatation & leaching)
	3rd	Oxidation (Calcinations, Roasting
	4th	Reduction (Smelting, Definition & examples of flux, slag)
	5th	Refining of the metal (Electro refining, & Distillation only)

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6th	1st	Refining of the metal (Electro refining, & Distillation only)
	2nd	**Alloys:**Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example.
	3rd	Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example.
	4th	Composition and uses of Brass, Bronze, Alnico, Duralumin
	5th	**Hydrocarbons** Saturated and unsaturated Hydrocarbons (Definition with example)
7th	1st	Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber.
	2nd	Aliphatic and Aromatic Hydrocarbons (Huckle's rule only).
	3rd	Difference between Aliphatic and aromatic hydrocarbons
	4th	IUPAC system of nomenclature of Alkane, Alkene
	5th	IUPAC system of nomenclature Alkyne,.
8th	1st	alkyl halide and alcohol (up to 6 carbons) with bond line notation
	2nd	Uses of some common aromatic compounds (Benzene, Toluene
	3rd	Uses of, BHC, Phenol, Naphthalene,
	4th	Uses of Anthracene and Benzoic acid) in daily life.
	5th	Uses of Anthracene and Benzoic acid) in daily life.
9th	1st	**Water Treatment** : Sources of water, Soft water, Hard water, hardness
	2nd	Sources of water, Soft water, Hard water, hardness
	3rd	types of Hardness (temporary or carbonate and permanent or non-carbonate),
	4th	Removal of hardness by lime soda method (
	5th	hot lime & cold lime—Principle, process & advantages)
10th	1st	hot lime & cold lime—Principle, process & advantages)
	2nd	Advantages of Hot lime over cold lime process.
	3rd	Organic Ion exchange method
	4th	principle, process, and regeneration of exhausted resins
	5th	**Lubricants**: Definition of lubricant, Types (solid, liquid and semisolid with examples only)
11th	1st	specific uses of lubricants (Graphite, Oils, Grease), Purpose of lubrication
	2nd	**Fuel**: Definition and classification of fuel,
	3rd	Definition of calorific value of fuel, Choice of good fuel.
	4th	Definition of calorific value of fuel, Choice of good fuel.
	5th	Liquid: Diesel, Petrol, and Kerosene --- Composition and uses.
12 th	1st	Gaseous: Producer gas and Water gas (Composition and uses).
	2nd	Elementary idea about LPG, CNG and coal gas (Composition and uses only).
	3rd	Elementary idea about LPG, CNG and coal gas (Composition and uses only).
	4th	
	5th	**Polymer**: Definition of Monomer, Polymer, Homo-polymer,
	1st	Defination ofCo-polymer and Degree of polymerization.
	2nd	Difference between Thermosetting and Thermoplastic,

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13 th	3rd	Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite.
	4th	Definition of Elastomer (Rubber). Natural Rubber (it's draw backs).
	5th	Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber.
14 th	1st	Chemicals in Agriculture: Pesticides: Insecticides, herbicides, fungicides- Examples and uses.
	2nd	Bio Fertilizers: Definition, examples and uses.
	3rd	Revision of questions
	4th	Assignment test
	5th	quiz test
15 th	1st	Discussion the questions for semester exam
	2nd	Discussion the questions for semester exam
	3rd	Discussion the questions for semester exam
	4th	—
	5th	
Sign of Faculty	HOD	Principal

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