DISCIPLINE : **Electrical, CSE & ETC**	SEMESTER :1st	NAME OF THE TEACHING FACULTY : Soumya Ranjan Behera
SUBJECT : ENGG. CHEMISTRY	NO. OF DAYS/ PER WEEK CLASS ALLOTED: **04**	SEMESTER FROM DATE :16.08.2023 TO :10.12.2023 NO. OF WEEKS : **15**
WEEK	**CLASS DAY**	**TOPICS**
1^{ST}	1^{ST}	Fundamental Particles, Rutherford's Model.
	2^{ND}	Atomic Mass, Mass Number, Isotope, Isobar, Isotone.
	3^{RD}	Bohr's atomic model, Bohr Bury Scheme
	4^{TH}	Aufbau's Principle and Hund's rule.
2^{ND}	1^{ST}	Electronic configuration upto 30 Element.
	2^{ND}	Definition and types of bond and formation of NaCl.
	3^{RD}	Formation of $MgCl_2$, H_2, Cl_2, O_2, N_2, H_2O, CH_4, NH_3, NH_{4+}, SO_2
	4^{TH}	Arrhenius, Lowry Bronsted, Lewis theory.
3^{RD}	1^{ST}	Neutralization of Acid and Base, defination of salt
	2^{ND}	Normal, Acidic, Basic, Double , Complex, Mixed Salt
	3^{RD}	Atomic Weight, Molecular Weight, Equivalent Weight
	4^{TH}	Determination of Equivalent weight of Acid, Base and Salt
4^{TH}	1^{ST}	Molarity, Normality and Molality
	2^{ND}	P^H of solution with simple numerical.
	3^{RD}	Importance of P^H in sugar, textile and paper industries
	4^{TH}	Defination and types of Electrolyte with examples
5^{TH}	1^{ST}	Electrolysis with example of NaCl
	2^{ND}	Faraday's first and second law of electrolysis
	3^{RD}	Industrial application of electrolysis , electroplating
	4^{TH}	Defination and types of Corrosion, Atmospheric Corrosion
6^{TH}	1^{ST}	Waterline corrosion and mechanism of rusting of Fe
	2^{ND}	Protection from corrosion by alloying and galvanization
	3^{RD}	Defination of Minerals, Ores, Gangue with examples
	4^{TH}	Distinction between ores and minerals, Ore dressing
7^{TH}	1^{ST}	Gravity separation, Magnetic Separation, and leaching
	2^{ND}	Froth flotation, Oxidation (Calcination and roasting)
	3^{RD}	Reduction (Smelting, Defination and Examples of flux , Slag)
	4^{TH}	Refining of the metal (Electro Refining and Distillation)
8^{TH}	1^{ST}	Defination and types of Alloys with examples
	2^{ND}	Composition and uses of Brass, Bronze, Alnico, Duralumin
	3^{RD}	Saturated hydrocarbons (Defination and examples)

	4TH	Unsaturated hydrocarbons (Defination and examples)
9TH	1ST	Aliphatic and Aromatic hydrocarbons
	2ND	Huckle's Rule
	3RD	Difference between aliphatic and aromatic hydrocarbons
	4TH	IUPAC nomenclature of alkane, alkene, alkyne
10TH	1ST	IUPAC nomenclature of Alkyl halide, Alcohol with bond line notation
	2ND	Uses of Benzene, Toluene and BHC in daily life
	3RD	Uses of Phenol, Napthalene in daily life
	4TH	Uses of Anthracene and Benzoic acid in daily life
11TH	1ST	Sources of water, soft water, hard water
	2ND	Hardness and its types (temporary and permanent)
	3RD	Removal of hardness by lime soda method (hot lime)
	4TH	Removal of hardness by cold lime method
12TH	1ST	Advantages of hot lime over cold lime process
	2ND	Organic ion exchange method
	3RD	Defination and types of lubricants
	4TH	Specific use of lubricants and purpose of lubrication
13TH	1ST	Defination and types of fuel, Defination of Calorific value of fuel
	2ND	Choice of good fuel, liquid diesel, petrol and kerosene
	3RD	Producer gas and water gas. Idea about LPG
	4TH	CNG and coal gas composition and uses
14TH	1ST	Defination of Monomer, Polymer, Homo and co- polymers
	2ND	Degree of Polymerization. Difference between Thermosetting and plastic
	3RD	Composition and uses of polythene, PVC, Bakelite.
	4TH	Defination of Elastomer. Natural Rubbers, Vulcanisation of rubber
15TH	1ST	Advantages of Vulcanised rubber over raw rubber.
	2ND	Examples and uses of pesticide; insecticide
	3RD	Examples and uses of Herbicide and Fungicide
	4TH	Defination, uses and examples of Bio- fertilizer

S. Behera