



CAMBRIAN PUBLIC SCHOOL KANKE ROAD RANCHI

Class – XII (Session 2026-27)

LEARNING PLAN OUTCOMES

Subject: Chemistry (043)

S.No.	Months	Name of Chapter	Learning Outcomes
1.	April	Solutions	Students will be able to understand • The formation of different types of solutions; • Concentration of solution in different units; • Henry's law and Raoult's law; • Ideal and non-ideal solutions; • Deviations of real solutions from Raoult's law; • Colligative properties of solutions and correlation with molar masses of the solutes; • Abnormal colligative properties exhibited by some solutes in solutions.
	April + May	Electrochemistry	Students will be able to understand • Electrochemical cell and Galvanic and electrolytic cells; • Nernst equation for calculating the EMF of galvanic cell and standard potential of the cell; • Relation between standard potential of the cell, Gibbs energy of cell reaction and its equilibrium constant; • Resistivity, conductivity and molar conductivity of ionic solutions; • Ionic(electrolytic) and electronic conductivity; • Methods for measurement of conductivity of electrolytic solutions and calculation of their molar conductivity. • The variation of conductivity and molar conductivity of solutions with change in their concentration and molar conductivity at zero concentration or infinite dilution Kohlrausch law and its applications; • The construction of some primary and secondary batteries and fuel cells; • Corrosion
2.	May	Chemical Kinetics	Students will be able to understand. • The average and instantaneous rate of a reaction;

			The rate of a reaction in terms of change in concentration of either of the reactants or products with time; Elementary and complex reactions;
			- Molecularity and order of a reaction; - Rate constant; - The dependence of rate of reactions on concentration, temperature and catalyst; - Integrated rate equations for the zero and first order reactions; - The rate constants for zeroth and first order reactions; Collision theory.
3.	June	d and f Block Elements	Students will be able to understand - The positions of the d- and f-block elements in the periodic table; - The electronic configurations of the transition (d-block) and the inner transition (f-block) elements; - The relative stability of various oxidation states in terms of electrode potential values; - The preparation, properties, structures and uses of some important compounds such as $K_2Cr_2O_7$ and $KMnO_4$; - The general characteristics of the d- and f-block elements and the general horizontal and group trends in them; - The properties of the f-block elements and comparative account of the lanthanoids and actinoids with respect to their electronic configurations, oxidation states and chemical behaviour.
4.	July	Co-Ordination Compound	- The postulates of Werner's theory of coordination compounds; - Coordination entity, central atom/ion, ligand, coordination number, coordination sphere, coordination polyhedron, oxidation number, homoleptic and heteroleptic; - The rules of nomenclature of coordination compounds; - The formulas and names of mononuclear coordination compounds; - Different types of isomerism in coordination compounds; - The nature of bonding in coordination compounds in terms of the Valence Bond and Crystal Field theories;

			The importance and applications of coordination compounds in our day to day life.
	July	Haloalkanes and Haloarenes	Students will be able to understand - Naming of haloalkanes and haloarenes according to the IUPAC system of nomenclature from their given structures; - The reactions involved in the preparation of haloalkanes and haloarene
5.	August	Alcohol Phenol and Ether	- Haloarenes and various reactions that they undergo; - The structures of haloalkanes and haloarenes with various types of reactions; - Stereochemistry as a tool for understanding the reaction mechanism; - The applications of organo-metallic compounds; - The environmental effects of polyhalogen compounds. - Introduction to the Chapter Common and IUPAC name Physical and Chemical Properties of alcohol phenol and ether
	August	Aldehyde, Ketone and Carboxylic Acid	- The common and IUPAC names of aldehydes, ketones and carboxylic acids; - The structures of the compounds containing functional groups namely carbonyl and carboxyl groups; - The important methods of preparation and reactions of these classes of compounds; - Physical properties and chemical reactions of aldehydes, ketones and carboxylic acids, with their structures; - The mechanism of a few selected reactions of aldehydes and ketones; - Various factors affecting the acidity of carboxylic acids and their reactions; - The uses of aldehydes, ketones and carboxylic acids.
6.	September	Revision and Half Yearly Exam	
7.	October	Amine	Students will be able to understand- - Amines as derivatives of ammonia having a pyramidal structure; - Amines as primary, secondary and tertiary; Naming of amines by common names and IUPAC system; The important methods of preparation of amines;

			The properties of amines; Difference between primary, secondary and tertiary amines; The method of preparation of diazonium salts and their importance in the synthesis of a series of aromatic compounds including azo dyes.
	October	Biomolecules	Students will be able to understand - The characteristics of biomolecules like carbohydrates, proteins and nucleic acids and hormones; - Structures of carbohydrates, proteins, nucleic acids and vitamins - The difference between DNA and RNA; - The role of biomolecules in biosystem.
8.	November	Chapter wise revision Competency based questions answers	
9.	December	Revision and Pre-Board exam	
10.	January	Pre-Board exam and CBSE practical exam	
11.	February	Prac exam and Board examination	
12.	March	Prac exam and Board examination	
