

The Camford International School

ANNUAL LESSON PLAN [2025-2026]

SUBJECT : CHEMISTRY

MONTH	CHAPTER NO. AND NAME	DETAIL CONCEPTS TO BE COVERED	PRACTICALS
MARCH	SOLUTIONS	Types of solutions, Methods of expressing concentration of solution. solubility of solid in liquid, Gas in liquid, Vapour pressure of liquid-liquid solutions, Ideal and non Ideal solution, Azeotrope, Colligative properties(elevation in boiling point. depression in freezing point, osmotic pressure),Abnormal molecular mass.	
24 days	HALOALKANES AND HALO ARENES.	Nomenclature of haloakanes and haloarenes, classification, nature of bond, reactions involved in the preparation of haloalkanes and haloarenes and different types of reactions, S_N^{-1} , S_N^{-2} mechanism, stereo chemistry to understand the reaction mechanism, applications of organo-metallic compounds, the environmental effects of polyhalogen compounds and distinction of halo compounds.	Preparation of inorganic crystals.

APRIL 18 days	ELECTROCHEMISTRY	Description of electrochemical cell, difference between galvanic and electrolytic cells, standard hydrogen electrode, Nernst equation, applying Nernst equation for calculating the emf of galvanic cell and standard potential of the cell, deriving the relation between standard potential of the cell, Gibbs energy of the cell reaction and equilibrium constant, resistivity, conductivity and molar conductivity of ionic solutions, difference between ionic and electronic conductivity, method for the measurement of conductivity of electrolytic solutions and calculation of their molar conductivity, variation of conductivity and molar conductivity of solutions with change in their concentration and meaning of limiting molar conductivity, Kohlrausch law and its applications, quantitative aspect of electrolysis,	
	ALCOHOLS, PHENOLS AND ETHERS	IUPAC system of nomenclature; the reactions involved in the preparation of alcohols from (i) alkenes (ii) aldehydes, ketones and carboxylic acids; the reactions involved in the preparation of phenols from (i) haloarenes (ii) benzene sulphonic acids (iii) diazonium salts and (iv) cumene; the reactions for preparation of ethers from (i) alcohols and (ii) alkyl halides and sodium alkoxides/aryloxides; physical properties of alcohols, phenols and ethers with their structures; chemical reactions of the three classes of compounds on the basis of their functional groups.	Preparation of organic crystals.

MAY 7 days	BIOMOLECULES	The bio molecules like carbohydrates, proteins and nucleic acids; classification of carbohydrates, proteins, nucleic acids and vitamins on the basis of their structures; the difference between DNA and RNA; the role of bio molecules in bio system	Food stuff analysis
JUNE 23 days	COORDINATION COMPOUNDS	The postulates of Werner's theory of coordination compounds; the meaning of the terms: coordination entity, central atom/ ion, ligand, coordination number, coordination sphere, coordination polyhedron, oxidation number, homoleptic and heteroleptic; the rules of nomenclature of coordination compounds; writing the formulas and names of mononuclear coordination compounds; definition of 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 stability of coordination compounds	VOLUMETRIC ANALYSIS(MOHR'S SALT VS KMnO4)
	CHEMICAL KINETICS	Definition of 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; distintion between elementary and complex reactions; difference between the molecularity and order of a reaction; rate constant; dependence of rate of reactions on concentration, temperature and catalyst; derivation of integrated rate equationsfor the zero and first order reactions; determination of the rate constants for zeroth and first order reactions; collision theory.	VOLUMETRIC ANALYSIS(OXALIC ACID VS KMnO4)

JULY 25 days	ALDEHYDES,KETONES AND CARBOXYLIC ACIDS	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; correlating 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. The positions of the <i>d</i> - and <i>f</i> -block elements in the periodic table; the electronic configurations of the transition (<i>d</i> -block) and the inner transition (<i>f</i> -block) elements; the relative stability of various oxidation states in terms of electrode potential values; the general characteristics of the <i>d</i> - and <i>f</i> -block elements and the general horizontal and group trends in	CHROMATOGRAPHY Effect of temperature on rate of reaction
AUGUST 22 days	d AND f BLOCK ELEMENTS	them; the properties of the <i>f</i> -block elements and give a comparative account of the lanthanoids and actinoids with respect to their electronic configurations, oxidation states and chemical behaviour,	SALT ANALYSIS
SEPTEMBER 21 days	AMINES	Amines as derivatives of ammonia having a pyramidal structure; classification of amines as primary, secondary and tertiary; name amines by common names and IUPAC system; some of the important methods of preparation of amines; the properties of amines; distinguish 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	Functional group analysis

OCTOBER 21 days	Revision	
NOVEMBER 22 days	Pre-Board Examination- I	
DECEMBER 23days	Pre-Board Examination-II	
JANUARY 19 days	CBSE Board practical examinations	