



TheCamfordInternationalSchool

ANNUALLESSONPLAN2023-2024

GRADE: 11

SUBJECT:CHEMISTRY(043)

MONTH	CHAPTERNO. AND NAME	DETAILCONCEPTSTOBECOVERED	PRACTICALS
APRIL 19 days	SOME BASIC CONCEPTSOF CHEMISTRY	GeneralIntroduction:Importanceandscopeofchemistry. Nature of matter, laws of chemical combination, Dalton's atomictheory:conceptofelements,atomsand molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula,chemicalreactions,stoichiometryandcalculations based on stoichiometry.	PREPARATIONOF INORGANIC CRYSTALS
MAY 8 days	CLASSIFICATION OF ELEMENTS	Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii Ionizationenthalpy,electron gain enthalpy,electronegativity, valency. Nomenclature of elements with atomic number greater than 100.	VOLUMETRIC ANALYSIS (OXALIC ACID VS NaOH)

<p>AUGUST 23 days</p>	<p>HYDRO CARBONS</p>	<p>Classification of Aliphatic Hydrocarbons:</p> <p>Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.</p> <p>Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markownikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.</p> <p>Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of hydrogen, halogens, hydrogen halides and water.</p> <p>Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.</p>	<p>DETERMINATION OF MELTING AND BOILING POINT OF SUBSTANCE</p>
<p>SEPTEMBER 28 days</p>	<p>EQUILIBRIUM</p>	<p>Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium - ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of polybasic acids, acid strength, concept of pH, Henderson Equation, hydrolysis of salts (elementary idea), buffer solution, solubility product, common ion effect (with illustrative examples).</p>	

<p>OCTOBER 17 days</p>	<p>THERMODYNAMICS</p>	<p>Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.</p> <p>First law of thermodynamics - internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction)</p> <p>Introduction of entropy as a state function, Gibbs energy change for spontaneous and non-spontaneous processes, criteria for equilibrium.</p> <p>Third law of thermodynamics (brief introduction).</p>	
<p>NOVEMBER 22 days</p>		<p>REVISION</p>	
<p>DECEMBER 20 DAYS</p>		<p>REVISION</p>	
<p>JANUARY 21 days</p>		<p>REVISION</p>	

