

EMBASSY OF INDIA SCHOOL (KV) MOSCOW					
SPLIT UP SYLLABUS - CLASS XII - CHEMISTRY 2024-25					
S NO	MONTH	NO OF WORKING DAYS	Description ( Topics /Units)	SUGGESTIVE PRACTICAL / PROJECT/MDP/TEST /ASSIGNMENT	SUGGESTED METHODOLOGY TO BE USED (LIKE PPT/AIL /EXPERIENTIAL LEARNING
1	APRIL	21	<b>Unit I:Solutions - 10 Periods</b> Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor <b>Unit VI: Haloalkanes and Haloarenes. 10 Periods</b> Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. Haloarenes: Nature of C-X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.	- SALT ANALYSIS Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid. MONTHLY TEST	PBL, CCT and Experiential learning, peer group learning, Flip book making
2	MAY	21	<b>Unit II:Electrochemistry - 12 Periods</b> Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion. <b>Unit VII: Alcohols, Phenols and Ethers 10 Periods</b> Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. <del>Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic</del>	(a) Preparation of one lyophilic and one lyophobic sol Lyophilic sol - starch, egg albumin and gum Lyophobic sol - aluminium hydroxide, ferric hydroxide, arsenous sulphide.	CCT, Problem solving and Experiential learning, Activity based learning.

3	JUNE- JULY	18+ 6	<b>Unit III:Chemical Kinetics 10 Periods</b> Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation. <b>Unit IV: d and f Block Elements 12 Periods</b> General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic	Determination of concentration/ molarity of $\text{KMnO}_4$ solution by titrating it against a standard solution of: (a) Oxalic acid, (b) Ferrous Ammonium Sulphate (Students will be required to prepare standard solutions by weighing themselves).	discussion , making conclusion, problem solving , Experiential learning, experimental learning
4	AUGUST	19	<b>Unit V: Coordination Compounds 12 Periods</b> Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, the importance of coordination compounds (in qualitative analysis, extraction of metals and biological system). <b>Unit X: Biomolecules Carbohydrates 12 Periods</b> Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates. Proteins -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure. Vitamins - Classification and functions. Nucleic Acids: DNA and RNA.	Preparation of Inorganic Compounds Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum. Preparation of Potassium Ferric Oxalate. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.	drawing structures , discussion, Making Models - AIL ,
5	SEPTEMBER	20	<b>Unit VIII: Aldehydes, Ketones and Carboxylic Acids 15 Periods</b> Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, Uses. Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.	Identification of functional group present in given organic sample	Problem solving , identification of molecules and reaction mechanism
6	OCTOBER	18	<b>Unit IX: Amines 10 Periods</b> Amines: Nomenclature, classification, structure, methods of preparation, physical properties and Identification. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.	investigatory project	project based learning
7	NOVEMBER	20	<b>REVISION</b>	solving questions	solving question materials
8	DECEMBER	10	<b>REVISION / PRE BOARDS</b>		
9	JANUARY		<b>REVISION / PRE BOARDS</b>		
10	FEBRUARY		<b>REVISION / PRACTICAL EXAM</b>		