S.D.Public School, Pitam Pura, New Delhi
Academic Planner
Session-(2026-27)
Class--XII
Subject--Chemistry

Date/ Day	Content	Learning Outcome	Modes of Assesment	Assignment/ Class Work	Teaching Pedagogy	Interdisciplinary Aspect/SDG	21st Centuary	Lab. Activity/Practical
April (1-15) 11 Days	**Organic Chemistry--Basic principles (XI Class)** Recapitulation of Basic organic concepts, Isomerism, Electron Displacement effects, Qualitative and Quantitative Analysis of organic compounds. Hydrocarbons (Alkanes, Alkenes , Alkynes and Benzene)	**Bridge Course Program**	Class test of 10 questions in the form of MCQ.	Read And relate the concepts of XI class done with classification and nomenclature of R-X and Ar-X(XII).	Tarsia Grid Activity	Concept Building	Learning Enhancement in group.	
April (16-30) 13 Days	**Ch- Haloalkanes and haloarenes--** Introduction, Classification of Haloalkanes and Haloarenes . Nomenclature, Nature of C-X bond,preparation , physical and chemical properties of R-X and Ar-X.	1) Name hydrocarbons according to IUPAC system of Nomenclature. 2) Recognise and write structures of isomers of haloalkanes and haloarenes. 3) Distiguish between various compounds on the basis of physical and chemical properties.	Class test from SN1 and SN2 reactions	**Class Work** Intext , Examples and NCERT Ex. Que/Ans discussion.	QAXP(Wipro technique)	Chemical Aspects of organic compounds	Cognitive gains	
May (1-15) 6 Days	.Uses and Environmental effects of Halogenated compounds. Practice of Case - Based questions from Polyhalogen Compounds.	1) Understand the meaning of Environmental Chemistry. 2) Make small practicalefforts to conserve environment in school and society.	Assignment based on Resaoning based and Application based questions.	Read relevant newspaper or Magazine articles on Halogenated compounds and their harmful effects on human health and present it in the form of Flow chart.	Puzzle Activity	SDG-Experiential Learning Activity Work	Green Chemistry	Qualitative Analysis

July (1-15) **12 Days**	**Alcohols, Phenols and Ethers--** Introduction, Classification, Nomenclature. Physical and chemical properties of Alcohols and Phenols.Commmercially important Methanol and Ethanol. **Ethers**- Introduction, Nomenclature, physical and chemical properties.	1) Understand the mechanism of Preparation of ' Alcohols, Ethers, Addition of grignard reagent to carbonyl compounds, Dehydration of alcohol. 2.Appreciate the role of alcohols and phenols and ethers as industrial and organic solvents in chemistry labs. 3) Learn about carcinogenicity and toxicity of alcohols, phenols and ethers. 4) Able to distinguish alcohols on the basis of physical and chemical properties. 5) Compare the properties of aliphatic and aromatic alcohols , ethers on the basis of acidic character, reactivity etc.	1) Online Test from conversion reactions.(MCQ) (Kahoot) 2) Concept Map from ethers	Practice of simple conversion reactions from NCERT exercise questions.	Relative Analysis of various types of alcohols available in the market	Mathematical and Analytical Approach	Chemical Safety and Hazard Communi cation.	Qualitative Analysis
July (16-31) **14 Days**	**Aldehydes, Ketones and Carboxylic acids--** Introduction, importance in daily life, Nomenclature of Aldehydes and ketones. Preparation, physical and chemical properties of aldehydes and ketones.	1) Appreciate the role of aldehydes and ketones in various spheres of life. 2) Analyse and interpret the data given.	Assessment in the form of Quiz from name reactions.	1)Examples and Intext Questions discussion in the class 2) Assignment based on Conversions and reasoning based questions.	Flipped Classroom to optimize time in the class.	Meeting the special needs of every individual student.	Problem Based learning	Qualitative Analysis
August (1-15) **11 Days**	**Carboxylic Acids**-- Introduction, Nomenclature preparation, physical and chemical properties of carboxylic acids.	1) Understand the concept of Mechanism of organic reactions. 2) Understand the importance of various types of organic acids in fruits and vegetables. 3) To differentiate various acids on the basis of physical and chemical properties. 4) Able to name any carboxylic acid by IUPAC name.	Concept map	Assignment from Case Based Question (from preparation and properties)	Group Discussion Activity	Mathematical Approach.	Collaborat ive learning	Quantitative Analysis

August (16-31) 11 Days	**Nitrogen containing compounds--Amines** Introduction, Importance in medicine and industry, preparation, physical and chemical properties, Diazonium salts	1) Appreciate the role of amines in various spheres of life. 2) Analyse and interpret the data given. 3) Compare the basic nature of amines in gaseous and aqueous phase. 4) To understand and relate the formation of various compounds from Diazonium salts.	Case Based Questions and Reasoning-Assertion questions from preparation and properties.	Assignment of Repeated questions of Organic Chemistry from CBSE sample papers.	QAXP (Wipro technique)	Chemical and medicinal aspects of nitrogen containing organic compounds.	Analytical thinking	Quantitative Analysis
September(1-15) 11 Days	**Biomolecules**--Carbohydrates(Glucose, Fructose, Sucrose, Maltose, Lactose, Starch, cellulose, glycogen) proteins(structure, amino acids, types of proteins biological significance) enzymes,Vitamins(classification and Functions) nucleic acids, DNA and RNA	1) Understand the significance of chemical compostion and importance of Biomolecules. 2) Apply scientific concepts in daily life in solving problems. 3) To understand the properties of glucose and fructose on the basis of open chain and cyclic structure. 4) To uderstand linkages in carbohydrates, proteins and nucleic acids. 5) To understand the biological significance of vitamins, enzymes and nucleic acids	MCQ from Vitamins and their types	Read relevant newspaper or Magazine articles on various types of protein, their composition and applications in the form of Flow chart.	Group Discussion	Biological Aspect	Collaboration(Peer Review)	Quantative Analysis
September (16-30) 13 Days	**Half Yearly Examination.**							
October (1-15) 11 Days	**Biomolecules**- Hormones and Antioxidants**.** **Physical Chemistry-- Solutions** Recapitulation of the basic terms used in IX and X. Concentration of solution. Solubility, Henry's law, applications, Raoult's law, Ideal and Non ideal solutions.	1)To understand the chemical composition of Hormoes and Antioxidants and their importance in our body. 2) Distiguish between concentrated and dilute solutions. 3) Express concentration of solutions in different units. 4) State, explain and show graphical representation of Henry's, Ideal and Non ideal solutions.	1) Small worksheet of 5-6 questions to Assess previous knowledge of students. 2) Class test based on Graphical data.	1) Assignment based on Numericals from concentration of solution. 2) NCERT intext questions, exercise questions based on numericals.	Tarsia Grid (Concept building) and mathematical skill	Mathematical approach of graphs, data.	Critical Thimking	Quantative Analysis

October (16-31) **9 Days**	**Solutions**- Colligative properties. Van't Hoff factor, Abnormal molar mass. Examples and Intext question diuscussion.	1) Describe colligative properties of solutions and correlate these with molar masses of the solutes. 2) Explain abnormal colligative properties exhibited by some solutes in solution. 3) Correlate the importance of colligative properties in day to day life natural phenomena.	Flow Chart for Colligative properties with various blanks to be filled by students.	1) Assignment based on Numericals from Van't Hoff factor . 2) Assignment based on reasoning based questions from Colligative properties.	Problem Based learning	Biological and Mathematical aspects.	Analytic Thinking	
November (1-15) **9 Days**	**Electrochemistry**- Electrochemical and Electrolytic cell, Electrode potential, Cell potential, Nernst equation, Conductivity, Molar conductivity, Electrolysis, Batteries, corrosion of iron.	1) Differentiate between Electrochemical and Electrolytic cell. 2) Apply Nernst equation for calculating emf of cell. 3) Derive relation between standard potential, Gibb's energy of the cell and K. 4) Differentiate between electrolytic and electronic conductivity. 5) Justify the variation of conductivity and molar conductivity with concentration. 6) Enunciate Kohlrausch law and learn its applications. 7) Understand quantitative aspects of electrolysis. 8) Describe the construction of primary, secondary batteries and fuel cells. 9) Explain corrosion as an electrochemical process.	Group Discussion.	Assignment based on questions from NCERT Exemplar.	Project Based Learning(Factors that promote rusting)	**SDG-8** Decent Work and Economic Growth.	Collaborative Reseach	Functional Group Test
	Chemical Kinetics- Rate of reaction(Average and Instantaneous),Law of mass action, Order and molecularity, Derivations of integrated rate equations for zero and first order, Temperature dependance of rate of reaction, gas phase reaction, catalyst and its effect, collision theory.	1) Define average and instantaneous rate . 2) Express the rate of reaction in terms of concentration of reactants and products. 3) Distinguish between elementary and complex reactions. 4) Differentiate between order and molecularity .5) Discuss the dependence of rate on concentration, temperature and catalyst. 6) Derive integrated rate equations for zero and first order reaction. 7) Describe collision theory and its comarison with Arrehenius equation.	1) Q/A method to check previous knowledge of students. 2) Class test based on Graphical questions.	1) Assignment based on Numericals from Order, molecularity, Arrehenius equation. . 2) Assignment based on reasoning based questions from Colligative properties.	**DART Activity (** Directed activity related to Text)	Mathematical and Physics Aspect	Optimization of Chemical Processes.	Tests for Carbohydrates, Fats proteins and starch

November (16-30) **12 Days**	**d and f-block elements** -- Position in the periodic table, general trends in the properties of transition metals, potassium dichromate, potassium permangante(preparation) Position of Lanthanoids and Actinoids, Physical and chemical behaviour.	1) Learn the position of d- and f-block elements in the periodic table. 2) Know the configuration of d and f-block. 3) Describe the preparation , properties, structure and uses of some important compounds such as KMnO4 and K2Cr2O7. 4) Understand the general characteristics of d and f- block elements. 5) Describe the properties of f-block elements and gave a comparative account of Lanthanoids and Actinoids with respect to configuration, oxidation state and chemical behaviour.	1) MCQ online(Kahoot) test from general trends. 2) Class test from preparation of KMnO4 and K2Cr2O7.	Assignments based on repreated questions from sample papers	**Puzzle Activity**(Identification of substancefrom its properties and applications)	Life Skill(Learning enhancement in group)	Critical Thinking	
	Coordination Compounds- Werner's theory, Nomenclature. VBT (Valence Bond theory), Isomerism, Crystal Field theory, Importance of coordination compounds.	1) Appreciate the postulates of Werner's theory. 2) Know the meaning of the terms;- Coordination entity, central atom, ligand, coordination number, coordination sphere, oxidation number, homoleptic and heteroleptic. 3) learn the rules of Nomenclature 4) Define different types of isomerism in coordination compounds. 5) Understand the nature of bonding in coordination compoundsin terms of VBT and CFT. 6) Appreciate the importance and applications of coordination compounds in our daily life.	Concept Map	Assignment based on reasoning based questions from VBT and CFT.	Group Discussion Activity	Biological Aspect of various coordination compounds.	Cooperative Learning	Chromatography

	Examination Schedule	**Unit Test-1** Some Basic Concepts in Organic Chemistry, Haloalkanes and Haloarenes, Alcohols, phenols and ethers.	**Term-1 Examination :-** Complete Organic chemistry and Biomolecules.	**PreBoard Examination:-** Complete Syllabus				