2025-26

ANNUAL LESSON PLAN FOR CLASS 12TH (CHEMISTRY)

MONTH	DAYS	NAME OF THE LESSON	LEARNING OBJECTIVES
APRIL	22	GENERAL ORGANIC CHEMISTRY	• IUPAC NAMING • ELECTROPHILE AND NUCLEOPHIOLE • +R,-R.+I,_I,+E,-E, EFFECTS • REDUCING AND OXIDISING AGENTS • NUCLEOPHILIC SUBSTITUTION REACTIONS WITH ALL TYPES OF EXAMPLES(SN1,SN2,ArSN) • ELIMINATION REACTIONS(E1,E2,ECB) • ALL THE REACTIONS OF BENZENE RING WITH FUNCTIONAL GROUP • ISOMERISM
MAY	3	=	=
JUNE	18	HALOALKANES AND HALOARENES ALCOHOLS,PHENOLS AND ETHERS	· Name haloalkanes and haloarenes according to the IUPAC system of nomenclature from their given structures; · describe the reactions involved in the preparation of haloalkanes and haloarenes and understand various reactions that they undergo; · correlate the structures of haloalkanes and haloarenes with various types of reactions; · use stereochemistry as a tool for understanding the reaction mechanism; · appreciate the applications of organo-metallic compounds; · highlight the environmental effects of polyhalogen compounds. **ALCOHOLS,PHENOLS AND ETHERS**. name alcohols, phenols and ethers according to the IUPAC system of nomenclature; • discuss the reactions involved in the preparation of alcohols from alkenes, aldehydes, ketones and carboxylic acids; • discuss the reactions involved in the preparation of phenols from haloarenes, benzene sulphonic acids, diazonium salts and cumene; • discuss the reactions for preparation of ethers from (i) alcohols and (ii) alkyl halides and sodium alkoxides/aryloxides; • correlate physical properties of alcohols, phenols and ethers with their structures; • discuss chemical reactions of the three classes of compounds on the basis of their functional groups.
JULY	26	ALDEHYDES, KETONES AND CARBOXYLIC ACIDS AMINES	write the common and IUPAC names of aldehydes, ketones and carboxylic acids; • write the structures of the compounds containing functional groups namely carbonyl and carboxyl groups; • describe the important methods of preparation and reactions of these classes of compounds; • correlate physical properties and chemical reactions of aldehydes, ketones and carboxylic acids, with their structures; • explain the mechanism of a few selected reactions of aldehydes and ketones; • understand various factors

			affecting the acidity of carboxylic acids and their reactions; • describe the uses of aldehydes, ketones and carboxylic acids. AMINES describe amines as derivatives of ammonia having a pyramidal structure; · classify amines as primary, secondary and tertiary; · name amines by common names and IUPAC system; · describe some of the important methods of preparation of amines; · explain the properties of amines; · distinguish between primary, secondary and tertiary amines; · describe the method of preparation of diazonium salts and their importance in the synthesis of a series of aromatic compounds including azo dyes.
AUGUST	22	SOLUTIONS,ELECTROCHEMISTRY	Describe the formation of different types of solutions; · express concentration of solution in different units; · state and explain Henry's law and Raoult's law; · distinguish between ideal and non-ideal solutions; · explain deviations of real solutions from Raoult's law; · describe colligative properties of solutions and correlate these with molar masses of the solutes; · explain abnormal colligative properties exhibited by some solutes in solutions. ELECTROCHEMISTRY describe an electrochemical cell and differentiate between galvanic and electrolytic cells; · apply Nernst equation for calculating the emf of galvanic cell and define standard potential of the cell; · derive relation between standard potential of the cell, Gibbs energy of cell reaction and its equilibrium constant; · define resistivity (r), conductivity (k) and molar conductivity (✆m) of ionic solutions; · differentiate between ionic (electrolytic) and electronic conductivity; · describe the method for measurement of conductivity of electrolytic solutions and calculation of their molar conductivity; · justify the variation of conductivity and molar conductivity of solutions with change in their concentration and define Λ°m (molar conductivity at zero concentration or infinite dilution); · enunciate Kohlrausch law and learn its applications; understand quantitative aspects of electrolysis; · describe the construction of some primary and secondary batteries and fuel cells; · explain corrosion as an electrochemical process.
SEPTEMBER	23	CHEMICAL KINETICS	define the average and instantaneous rate of a reaction; · express the rate of a reaction in terms of change in concentration of either of the reactants or products with time; · distinguish between elementary and complex reactions; · differentiate between the molecularity and order of a reaction; · define rate constant; · discuss the dependence of rate of reactions on concentration, temperature and catalyst; · derive integrated rate equations for the zero and

			first order reactions; · determine the rate constants for zeroth and first order reactions; · describe collision theory.
OCTOBER	11	BIOMOLECS	explain the characteristics of biomolecules like carbohydrates, proteins and nucleic acids and hormones; • classify carbohydrates, proteins, nucleic acids and vitamins on the basis of their structures; • explain the difference between DNA and RNA; • describe the role of biomolecules in biosystem.
NOVEMBER	21	d and f block elements	learn the positions of the d– and f-block elements in the periodic table; • know the electronic configurations of the transition (d-block) and the inner transition (f-block) elements; • appreciate the relative stability of various oxidation states in terms of electrode potential values; • describe the preparation, properties, structures and uses of some important compounds such as K2Cr2O7 and KMnO4; • understand the general characteristics of the d– and f–block elements and the general horizontal and group trends in them; • describe the properties of the f-block elements and give a comparative account of the lanthanoids and actinoids with respect to their electronic configurations, oxidation states and chemical behaviour.
DECEMBER	23	Coordination Compounds	appreciate the postulates of Werner's theory of coordination compounds; • know the meaning of the terms: coordination entity, central atom/ ion, ligand, coordination number, coordination sphere, coordination polyhedron, oxidation number, homoleptic and heterolytic; • learn the rules of nomenclature of coordination compounds; • write the formulas and names of mononuclear coordination compounds; • define different types of isomerism in coordination compounds; • understand the nature of bonding in coordination compounds in terms of the Valence Bond and Crystal Field theories; • appreciate the importance and applications of coordination compounds in our day to day life.
JANUARY	25	Revision	
FEBRUARY	22	Revision	