

KLE ENGLISH MEDIUM SCHOOL

JULE SOLAPUR

GRADE XI SYLLABUS SPLIT (2023 - 24)

CHEMISTRY					
SR.	MONTH	UNIT / SUBUNIT	VALUES	ACTIVITY/PROJECT	EXAMINATION
1	JULY (18 Periods)	Unit I Some Basic Concepts of Chemistry	To develop the scientific and mathematical skills	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		General Introduction: Importance and scope of Nature of matter, laws of chemical combination Dalton's atomic theory: concept of elements, Atomic and molecular masses, mole concept Percentage composition, empirical and chemical reactions Stoichiometry and calculations based on			
2	JULY (20 Periods)	Unit II: Structure of Atom	To develop scientific skills disciplinary value .	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		Discovery of Electron, Proton and Neutron, Thomson's model, Rutherford's model & Bohr's concept of shells and subshells, dual nature of De Broglie's relationship, Heisenberg Shapes of s, p and d orbitals, rules for filling Electronic configuration of atoms, stability of			
3	JULY & AUGUST (12)	Unit III: Classification of Elements and	Develops social value, disciplinary value	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		Significance of classification, brief history of the Modern periodic law and the present form of Periodic trends in properties of elements - Nomenclature of elements with atomic number			
4	AUGUST SEPTEMBER (20 Periods)	Unit IV: Chemical Bonding and Molecular	Develops social value, disciplinary value	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		Valence electrons, ionic bond, covalent bond, Lewis's structure, polar character of covalent geometry of covalent molecules, VSEPR theory, Involving s, p and d orbitals and shapes of some molecular orbital theory of homonuclear Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox			
5	OCTOBER & NOVEMBER (14 Periods)	Unit VIII Organic Chemistry -Some Basic Principles and Techniques	To develop the scientific and mathematical skills	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	PERIODIC TEST-2
		General introduction, methods of purification, qualitative and quantitative analysis, classification IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond resonance and hyper conjugation inductive effect, electromeric effect, Homolytic and heterolytic fission of a covalent bond: and Free radicals, carbocations types of organic reactions			
6	DECEMBER (6 Periods)	Unit VII: Redox reactions	To develop scientific skills disciplinary value .	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	PERIODIC TEST-2
		Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions			
7	JANUARY (16 PERIODS)	Unit V Chemical Thermodynamics	Develops social value, disciplinary value	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		Concepts of System and types of systems, surroundings, work, heat energy, extensive and intensive properties, state functions. First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of U and H, 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) Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes criteria for equilibrium Third law of thermodynamics (brief introduction).			
8	JANUARY (12 PERIODS)	Unit IX Classification of Hydrocarbons	Develops social value, disciplinary value	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism physical properties, methods of preparation chemical reactions: addition of hydrogen halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.. 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. Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic 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			
9	February (14 Periods)	Equilibrium	Develops social value, disciplinary value	LAB PRACTICALS/ACTIVITIES & PROJECTS AS PRESCRIBED BY CBSE BOARD	
		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 poly basic acids, acid strength, concept of pH, hydrolysis of salts.(elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples)			
NOTE UNIT I-UNIT IX ALL ARE FROM EXINATION POINT OF VIEW					