



BLOOM PUBLIC SCHOOL
C-8 Vasant Kunj, New Delhi
Syllabus for the Session 2026-27

Class: XI

Subject: Chemistry

SYLLABUS SESSION 2026-27

MONTH	CHAPTER (NCERT Text Book)	CONTENT	ACTIVITIES/PRACTICALS
April	Unit 1: Some Basic Concepts of Chemistry	General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.	Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.
	Unit 2: Structure of Atom	Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations, Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.	Preparation of standard solution of Sodium carbonate.
May	Unit 2: Structure of Atom (Cont'd)	Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and	Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

	<p>Unit 3: Classification of Elements and Periodicity in Properties</p>	<p>its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.</p> <p>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, Ionization enthalpy, electron gain enthalpy,</p>	
July	<p>Unit 3: Classification of Elements and Periodicity in Properties (Cont'd)</p> <p>Unit 4: Chemical Bonding and Molecular structures</p>	<p>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, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.</p> <p>Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond</p>	<p>Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.</p> <p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^-, Br^-, I^-, PO_4^{3-}, $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^-, NO_3^-</p>
August	<p>Unit 4: Chemical Bonding and Molecular structures (Cont'd)</p>	<p>Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of</p>	<p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^-, Br^-, I^-, PO_4^{3-}, $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^-, NO_3^-</p>

	Unit 5: Chemical Thermodynamics	<p>hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.</p> <p>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 non-spontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction).</p>	
September	Unit 5: Chemical Thermodynamics (Cont'd)	<p>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 non-spontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction).</p>	<p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^-, Br^-, I^-, PO_4^{3-}, $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^-, NO_3^-</p>
October	Unit 7: Redox Reactions	<p>Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change</p>	<p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^-, Br^-, I^-, PO_4^{3-}, $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^-, NO_3^-</p>

	Unit 6: Equilibrium	<p>in oxidation number, applications of redox reactions.</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 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).</p>	
November	<p>Unit 6: Equilibrium (Cont'd)</p> <p>Unit 8: Organic Chemistry -Some Basic Principles and Techniques</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 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).</p> <p>General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.</p>	<p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^-, Br^-, I^-, PO_4^{3-}, $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^-, NO_3^-</p>
December	Unit 8: Organic Chemistry -Some	<p>General introduction, methods of purification, qualitative and quantitative analysis, classification</p>	<p>Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-}, $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$,</p>

	Basic Principles and Techniques (Cont'd)	and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.	$(\text{SO}_4)^{2-}$, Cl^- , Br^- , I^- , PO_4^{3-} , $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^- , NO_3^-
January	Unit 9: Hydrocarbons	<p>Classification of Hydrocarbons</p> <p>Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.</p> <p>Alkenes - Nomenclature, the 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.</p> <p>Alkynes - Nomenclature, the 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 the functional group in monosubstituted benzene. Carcinogenicity and toxicity.</p>	Determination of Anions: $(\text{CO}_3)^{2-}$, S^{2-} , $(\text{SO}_3)^{2-}$, $(\text{NO}_2)^-$, $(\text{SO}_4)^{2-}$, Cl^- , Br^- , I^- , PO_4^{3-} , $(\text{C}_2\text{O}_4)^{2-}$, CH_3COO^- , NO_3^-
February	Revision		
March	Annual Exam		

ASSESSMENT SYLLABUS

PERIODIC ASSESSMENT -1	UNIT 1 – Some Basic Concepts of Chemistry UNIT 2 – Structure Of Atom UNIT 3 – Classification of elements and periodicity in properties (Done till July 5)	
PERIODIC ASSESSMENT -2	UNIT 4 – Chemical Bonding and Molecular Structure UNIT 5- Thermodynamics UNIT 7- Redox Reactions	
MID TERM EXAM	UNIT 1 – Some Basic Concepts of Chemistry UNIT 2 – Structure Of Atom UNIT 3 – Classification of elements and periodicity in properties UNIT 4 – Chemical Bonding and Molecular Structure UNIT 5- Thermodynamics (Done till date)	
ANNUAL EXAM	UNIT 1 – Some Basic Concepts of Chemistry UNIT 2 – Structure Of Atom UNIT 3 – Classification of elements and periodicity in properties UNIT 4 – Chemical Bonding and Molecular Structure UNIT 5- Thermodynamics (Done till date) UNIT 6- Equilibrium UNIT 7- Redox Reactions UNIT 8- Organic Chemistry -Some Basic Principles and Techniques UNIT 9- Hydrocarbons	