CHEMISTRY SYLLABUS MICRO SPLIT – UP (CHAPTERWISE)
Session (2026-27)
Class XI

S. No.	Name of Chapter	Sub Topics	Period Required
1.	**Some Basic Concepts of Chemistry (Total period required – 14)** **(20 April to7 May)**	Importance and scope of Chemistry. Nature of matter,	03
		laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and	02
		Atomic and molecular masses, mole concept and molar mass	03
		percentage composition, empirical and molecular formula	04
		chemical reactions, stoichiometry and calculations based on stoichiometry.	02
2.	**Structure of Atom** **(Total period required – 20)** **(8th MAY to26th May)**	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.	
		Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells.	04
		dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals,	04
		quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle,	03
		, Pauli's exclusion principle and Hund's rule,	03
		electronic configuration of atoms, stability of half-filled and completely filled orbitals	03
3.	**Classification of Elements and Periodicity in Properties (Total period required – 12)**	Significance of classification, brief history of the development of periodic table	02
		modern periodic law and the present form of periodic table	01
		periodic trends in properties of elements -atomic radii, ionic radii,	03

	(1July to 15 July)	inert gas radii, Ionization enthalpy, electron gain enthalpy,	03
		electronegativity, valency. Nomenclature of elements with atomic number greater than 100.	03
4.	**Chemical Bonding and Molecular Structure (20 Periods)** **(Total period required – 20)** **(16 July to 6 August))**	Valence electrons, ionic bond, covalent bond, bond parameters, Lewis's structure, polar character of covalent bond	05
		covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules.	05
		VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules	05
		molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.	05
7.	**Redox Reactions (09 Periods)** **(Total period required – 09)** **(7 August to 18 August)**	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	06
		balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions	02
	HALF YEARLY **CHAPTER 1,2,3,4,7**	In second week of September	
7.	**Organic Chemistry(20 Periods)** (1 October to 24 October)	classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect,	04
		electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond:	05
		. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.	05
8.	**Hydrocarbons(18 Periods)** **(25 October to20 november)**	Classification, Alkanes, Alkenes, Alkynes, Aromatic Hydrocarbon, Carcinogenic and Toxicity.	

		, Aromatic Hydrocarbon, Carcinogenic and Toxicity.	
5.	**Chemical Thermodynamics (23 Periods)** **(Total period required – 23)** **(21November to 15 december))**	First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH,	07
		Hess's law of constant heat summation, enthalpy of bond dissociation enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution.	08
		. 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).	08
6.	**Equilibrium (16 Periods)** **(Total period required – 16)** **(16 December to 12 January)**	Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium	08
		- 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).	08

CHEMISTRY PRACTICAL SYLLABUS (30 marks)

1. Salt analysis: **(08 marks)**
To analyze the given salt for acidic and basic radicals

2. Volumetric analysis: (08 marks)
a. Prepare 100 mL solution of Mohr's salt (Ferrous ammonium sulphate) of given molarity. Using this solution find out the molarity, strength and percentage purity of given $KMnO_4$ solution.
b. Prepare 100 mL solution of oxalic acid of given molarity. Using this solution find out the molarity, strength and percentage purity of given $KMnO_4$ solution.

3. Content Based Experiment (06 marks)
Identify the functional group present in the given organic compound.

4. Investigatory project **(04 marks)**
Practical record & Viva **(04 marks)**