LESSON PLAN

Name of the College: Government College Israna (Panipat)
Academic Session: July to November (2024-25)
Class: B.A. – 1st Semester
Paper: MDC Introductory Chemistry
Paper Code: B23-CHE-104
Teacher's Name: Ms. Pooja Jaglan

Month	Topic to be Covered
22 July 2024	➢ Elementary introduction of atomic structure
August 2024	➢ Chemical bonding ➢ Representation of elements/ atoms ➢ Lewis structure ➢ Electronic configurations (1-30)
September 2024	➢ Carbon and Its Compounds Introduction ➢ Tetravalency of Carbon ➢ Allotropes of carbon and their properties ➢ Hydrocarbons (1-5) ➢ Nomenclature (linear compounds) ➢ Applications of hydrocarbons. ➢ **Assignment 2 and Test.**
October 2024	➢ Polymers Introduction ➢ Elementary idea of synthetic and natural polymers, ➢ Homo polymers and copolymers, ➢ Uses and properties (Natural rubber, Vulcanized rubber, Polyethene, PVC, Styrene, Teflon, PAN, Nylon-66) • **MCQ, Revision, Debate, PPT and Assignment 2**
22th November 2024	➢ Elementary idea of natural and synthetic food preservatives ➢ Rancidity, uses and properties ➢ Different food preservation processes (pickle, Jam) ➢ Artificial sweeteners, uses and properties • **Class Test, Quiz, Discussion, Unit Test, MCQ** • **Students Queries** • **Revision all Syllabus**

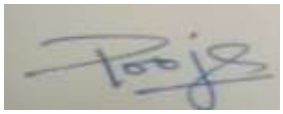
Signature

LESSON PLAN

Name of the College: Government College Israna (Panipat)
Academic Session: July to November (2024-25)
Class: B.Sc. – 1st Semester
Paper: Chemistry(CC/MCC), B23-CHE-101
Teacher's Name: Ms. Pooja Jaglan

Month	Topic to be Covered
22 July 2024	➢ Dual behaviour of matter and radiation ➢ De Broglie's relation ➢ Heinsenberg's uncertainty principle
August 2024	➢ concept of atomic orbitals ➢ significance of quantum numbers, radial and angular wave functions, normal and orthogonal wave functions, significance of Ψ and Ψ2 , shapes of s, p, d, f orbitals, Rules for filling electrons in various orbitals, effective nuclear charge ➢ Slater's rules. Periodic table and atomic properties Classification of periodic table, definition of atomic and ionic radii, ionisation energy, electron affinity and electronegativity, trend in periodic table (in s and p-block elements), ➢ Pauling, Mulliken, Allred Rachow and Mulliken Jaffe's electronegativity scale, Sanderson's electron density ratio.
September 2024	➢ Gaseous State Kinetic theory of gases, Maxwell's distribution of velocities and energies (derivation excluded) Calculation of root mean square velocity, average velocity, and most probable velocity. Collision diameter, collision number, collision frequency and mean free path (Derivations excluded), Deviation of Real gases from ideal behaviour, Derivation of Van der Waal' s Equation of State, its application in the calculation of Boyle' s temperature (compression factor) ➢ Critical Phenomenon Concept of Critical temperature, critical pressure, critical volume, relationship between critical constants and Van der Waal' s constants • **Group Discussion, PPT, Map Presentation and Assignment 1**
October 2024	➢ Structure and Bonding Localized and delocalized chemical bond, Van der Waals interactions. Concept of resonance and its applications, hyperconjugation, inductive effect, Electromeric effect and their comparison. Mechanism of Organic Reactions Curved arrow notation, homolytic and heterolytic bond fission. Types of reagents: electrophiles and nucleophiles. ➢ Types of organic reactions: Substitution, Addition, Condensation, Elimination, Rearrangement, Isomerization and Pericyclic reactions. ➢ Reactive intermediates: Carbocations, carbanions, free radicals, carbenes (structure & stability). ➢ Liquid State Structure of liquids, Properties of liquids – surface tension, refractive

	index, viscosity, vapour pressure and optical rotation. ➢ **MCQ, Revision, Debate, PPT and Assignment**
22th November 2024	➢ Classification of solids, Law of constancy of interfacial angles, law of rational indices, Miller indices, elementary ideas of symmetry and symmetry elements, seven crystal systems and fourteen Bravais lattices ➢ X-ray diffraction, Bragg's law, a simple account of Laue method, rotating crystal method and powder pattern method. • **Class Test, Quiz, Discussion, Unit Test, MCQ** • **Students Queries** • **Revision all Syllabus**



Signature

LESSON PLAN

Name of the College: Government College Israna (Panipat)
Academic Session: July to November (2024-25)
Class: B.Sc. – 6th Semester
Paper: Organic, Inorganic, Physical Chemistry
Teacher's Name: Ms. Pooja Jaglan & Mr. Kulbir Kadyan

Month	Topic to be Covered
22 July 2024	• Metal- Ligand Bonding in Transition Metal complexes
August 2024	• Thermodynamics and Kinetic Aspects of metal complexes • Magnetic properties of Transition metal complexes • Electronic spectra of Transition metal complexes • Quantum Mechanics-I • **Assignment-1**
September 2024	• Spectroscopy • Rotational Spectrum • Vibrational spectrum • Raman Spectrum
October 2024	• NMR Spectroscopy • Carbohydrates • Physical Properties and Molecular Structure • **Assignment-2**
22th November 2024	• Organometallic Compounds • **Class Test, Quiz, Discussion, Unit Test, MCQ** • **Students Queries** • **Revision all Syllabus**

Signature