

Lesson Plan [Academic Session [2026-27]

Subject: Minor Chemistry-I [B23-CHE-103]

Ms. Navita, Lecturer of Chemistry

Month	Topic	Academic Activities
August , 2026	Covalent bond: shapes of simple inorganic molecules, and ions based on valence shell electron pair repulsion (VSEPR) theory. And hybridization with suitable example of linear trigonal planer, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.	Introduction of Syllabus and Course outcomes Doubt solving sessions
September, 2026	Chemical kinetics: concept of reaction rates, factor influencing the rate of reaction, order and molecularity of a reaction, integrated rate expression for zero and first order reaction Alkanes (up to 5 carbon atoms): alkanes, classification of carbon atoms in alkanes, isomerism in alkanes, method of formation: Wurtz reaction, kolbe reaction, corey-house reaction and decarboxylation of carboxylic acid.	Assignment on Covalent bond and shape of inorganic molecules. Doubt solving sessions
October, 2026	Metallic Bond and semiconductors: metallic Bond- qualitative idea of band theory of metallic Bond (conductor, semiconductors, insulators).	Mid Term Exam Discussion on Mid Term Exam
November, 2026	Revision of syllabus	Revision of Syllabus Doubt solving sessions

Lesson plan: Academic session [2026-2027]

Subject: Environmental studies: I [B23-VAC-201]

Ms. Navita, Lecturer of Chemistry

Month	Topic	Academic Activities
August, 2026	Introduction to environmental studies: Multidisciplinary nature of environmental studies; scope and importance concept of sustainability and sustainable development. Ecosystem: Definition, structure and function of ecosystem, Energy flow in an ecosystem, food chain, food web, Major ecosystem type: forest ecosystem. grasslands ecosystem, dessert ecosystem and aquatic ecosystem (lakes, rivers, oceans).	Introduction of Syllabus and Course outcomes Doubt solving sessions
September, 2026	Natural resources: Renewable and Non- renewable resources, Land resources: land degradation and soil erosion, Forest resources: Importance of forest, deforestation causes impact on environment, Water resources: uses and over exploitation of surface and ground water, Energy resources: Renewable and non - renewable energy Resources Environmental pollution: types, causes, effect and controls; air , water, soil and noise pollution. Solid waste management: sources, methods of disposal: landfill, incineration and composting.	Assignment on Ecosystem, Structure and function of ecosystem Doubt solving sessions Mid tern exam
October, 2026	Human communities and the Environment: Human population growth: Impact on environment, human health and welfare. Resettlement and rehabilitation of project affected person Disaster management: floods, earthquake, cyclone, landslides and drought.	Discussion on Mid Term Exam Doubt solving sessions
November, 2026	Revision of Syllabus	

Lesson Plan [Academic Session 2026-27]

Multi-Disciplinary Course

Subject: Introductory Chemistry-III [B23-CHE-303]

Ms. Navita, Lecturer of Chemistry

Month	Topic	Academic Activities
August, 2026	Pollution and their types : plastic and polythene pollution, pollution sources, recycling of plastic, greenhouses effect, ozone depletion	Introduction of Syllabus; and Course outcomes Doubt solving sessions
September, 2026	Energy : Energy sources , renewable and non renewable resources, cells and batteries, fuel cell solar cell , polymer cell. Water : source of drinking water and uses, water conservation permissible TDS, Techniques of purification of water , R.O. water purification processes (osmosis & reverse osmosis), waste water management	Mid Term Exam Doubt solving sessions
October, 2026	Soil and fertilizers: general introduction and definition, biological control and chemical control , natural and synthetic pesticides, benefits and adverse effect of DDT, BHC, malathion.	Assignment on pollution and their types. Discussion on Mid Term Exam Doubt solving sessions
November, 2026	Revision of Syllabus	

Lesson Plan [Academic Session 2025-26]

Subject: Minor Chemistry-III [B23-CHE-304]

Ms. Navita, Lecturer of Chemistry

Month	Topic	Academic Activities
August , 2026	S & p block elements: salient features of hydrides, oxides, halides, hydroxides of S-block element, (method of preparation exclude). Structure, preparation and properties of diborane and borazine. Structure of oxoacid of nitrogen, phosphorus, Sulphur and chlorine and comparison of acidic strength of oxo acids. Low chemical reactivity of noble gases.	Introduction of Syllabus and Course outcomes Doubt solving sessions
September, 2026	Electrochemistry-I: electrolytic conduction, factor affecting electrolytic conduction, specific conductance, molar conductance, equivalent conductance and relation among them, their variation with concentration. Application of Kohlrausch's law in calculation of conductance of weak electrolytes at infinite dilution, concept of pH buffer solution.	Assignment on s & p block elements Doubt solving sessions
October, 2026	Thermodynamic-1: definition of thermodynamic terms: system, surrounding type of systems, intensive and extensive properties, state and path function and their differentials. Thermodynamic process, thermodynamic equilibrium, concept of internal energy and enthalpy, heat capacity, heat capacities at constant volume and pressure and their relationship.	Mid Term Exam Discussion on Mid Term Exam
November, 2026	Mechanism of organic reactions: curved arrow notation homolytic and heterolytic bond fission. Types of reagent: electrophiles and nucleophiles. Types of organic reaction: Substitution, addition, condensation, elimination, rearrangement, Isomerization and pericyclic reaction, reactive intermediate. Carbocation, carbanions, free radicals, carbenes (structure and stability).	Revision of Syllabus Doubt solving sessions

Lesson Plan [Academic Session 2026-27]

Subject: Major Chemistry-III [B23-CHE-301]

Ms. Navita, Lecturer of Chemistry

Month	Topic	Academic Activities
August , 2026	S & p block elements: salients feature of hydrides hallides, hydroxides of s- block element (method of preparation excluded) Structure, preperation and properties of diborane and borazine Catenation carbides ,flourocarbons, silicates (structurala aspects), structure of oxide of nitrogen and phosphorus , structure of white and red phosphorus , and comparison of acidic strength of oxo acid. Low chemical reactivity of noble gases chemistry of xenon structure and bonding in fluorides oxides and oxyfloreites of xenon.	Introduction of Syllabus and Course Learning outcomes Doubt solving sessions
September, 2026	Electrochemistry-1: electrolytic conduction, factor affecting electrolytic conduction, molar conductance, specific conductance, equivalent conductance and relation among them , their variation with concentration . application of kohlrauschs law in calculation of conductance of weak electrolyte at infinite dilutionton. Electrochemistry 2: reversible and irreversible cells calculation of thermodynamic quantities of cell reaction (ΔG, ΔH, K) Types of reversible electrodes -metal- metal ion, gas electrode, metal- insoluble- salt anion and redox electrodes Nernest equation, standard hydrogen electrode, reference electrodes, application of EMF measurement in solubility product and potentiometer titration using glass electrode	Assignment on s and p block elements Doubt solving sessions
October , 2026	Stereochemistry of organic compounds: concept of isomerism structural and stereo isomerism, symmetry of elements, enantiomers, optical activity, properties of enantiomers, chiral and a chiral molecule (up to 2 asymmetric centres), diastereomers, threo and erythro nomenclature,	Mid Term Exam Discussion on Mid Term Exam

	meso- compound , relative and absolute configuration, sequence rules, R and S system, of nomenclature. Cis -Trans isomerism, E and Z system of nomenclature , confirmation analysis of ethane and n- butane, conformations of cyclohexane axial and equatorial bonds . Newman and Sawhorse projection formula .	
November, 2026	Alkyl halides : nomenclature method of formation from alkenes and alcohol , nucleophilic substitution reaction of alkyl halides, SN2 and SN1 reaction with energy profile diagram . Aryl halides: method of formation halogenation, Sandmeyer reaction.The addition-elimination, and the elimination-addition mechanism of nucleophilic aromatic substitution reaction. Relative reactivities of alkyl halides vs allyl, vinyl and aryl halides.	Revision of Syllabus Doubt solving sessions