BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: Kuldeep Sem II

Class and Section: B.Sc. Ist **Subject: Chemistry**

Month	Topics
17th January to 31st January 2023	Nomenclatu re of alkenes, , mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides,. The Saytzeff rule, Hofmann elimination, physical p roperties and relative stabilities of alkenes, mechansim of nitration, halogenation, sulphonation, and Friedel-Crafts reaction. Energy profile diagrams. Activating , deactivating subs tituents and orientation
01st Feburary to 28th Feburary 2023	Diels-Alder reaction, Nomenclature, structure and bonding in alkynes. Methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroborationoxidation of alkynes, Methods of formation and reactions of aryl halides, The additionelimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions. Relative reactivities of alkyl halides vs allyl, vinyl and aryl halides. Rate of reaction, rate equation, factors influencing the rate of a reaction – concentration, temperature, pressure, solvent, light, catalyst. Order of a reaction, integrated rate expression for zero order, first order, second and third order reaction. Half life period of a reaction. Methods of determination of order of reaction.
1st March to 31st March 2023	Effect of temperature on the rate of reaction – Arrhenius equation. Theories of reaction rate – Simple collision theory for unimolecular and bimolecular collision. Transition state theory of Bimolecular reactions. molar conductance,equivalent conductance and relation among them, their vartion with concentration.Arrhenius theory of ionization, Ostwald's Dilution Law. Debye- Huckel – Onsager's equation for strong electrolytes (elementary treatment only) Transport number, definition and determination by Hittorfs methods, Kohlarausch's Law, calculation of molar ionic conductance and effect of viscosity temperature & pressure on it. Application of Kohlarausch's Law in calculation of conductance of weak electrolytes at infinite diloution conductometric titrations. Definition of pH and pKa, Buffer solution, Buffer action, Henderson – Hazel equation, Buffer mechanism of buffer action
1st April to 30 April 2023	Hydrogen Bonding, Metallic Bond- Brie f introduction to meta llic bond, band theory of meta llic bond Semiconductors- Introduction, types and applications. Comparative study of the elements including , diagonal relationships, salient features of hydrides (methods of preparation excluded), solvation and complexation tendencies including their function in biosystems. Chemis try of Noble Gases Chemical properties of the noble gases with emphasis on their low chemical reactivity, chemistry of xenon, structure and bonding of fluorides, ox ides & oxyfluorides of xenon. Boron family (13th gp):- Diborane – properties and structure (as an example of electron – deficient compound and multicentre bonding), Borazene – chemical properties and structure Trihalides of Boron – Trends in fewis acid character structure of aluminium (III) chloride. Carbon Family (14th group) Catenation, p π– d π bonding (an idea), carbides, fluorocarbons, silicates structural aspects), silicons – general methods of preparations, properties and uses.
1st May to 08th May 2023	Nitrogen Family (15th group) Oxides – structures of oxides of N,P. oxyacids – structure and relative acid strengths of oxyacids of Nitrogen and phosphorus. Structure of white, yellow and red phosphorus. Oxygen Family (16th group) Oxyacids of sulphur – structures and acidic strength H2O2–structure, properties and uses. Halogen Fami l y (17th group) Basic prope r ties of ha logen, interha logens types propert ies ,hydro and oxyacids of chlorine – structure and compari son of acid strength .

Kuldeep
Teacher's Signature

BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: Dr. SUNITA KUMARI **Sem.** IV th

Class and Section: B.Sc. IInd (M&NM) **Subject:** chemistry

Month	Topics
17th January to 31st January 2023	Thermodynamics – III Thermodynamics – IV Test
01st Feburary to 28th Feburary 2023	Electrochemistry – III Electrochemistry – IV Infrared (IR) absorption spectroscopy in structure elucidation of simple organic compounds. Test.
1st March to 31st March 2023	Amines – Molecular structure and nomenclature, Properties and Reactions. Diazonium salts – Diazotisation, Replacement of diazo group by H, OH, F, Cl, Br, I, NO_2 and CN group. Nitro compounds, Aldehyde & ketones Test
1st April to 30 April 2023	chemistry of f-block elements- Lanthenides chemistry of f-block elements- Actinides Theory of qualitative and quantitative Analysis -I Test
1st May to 08th May 2023	Chemistry of qualitative and quantitative Inorganic Analysis – II Test Assignment

Teacher's Signature

BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: ...DR. HANSA..... **Sem.**...VI th..

Class and Section: .B.Sc.. (Medical) 3rd yr **Subject:** ....Chemistry

Month	Topics
17th January to 31st January 2023	Spectroscopy - III - Electronic Spectrum, Photochemistry Test
01st Feburary to 28th Feburary 2023	Dilute Solutions & colligative properties Phase Equiliburium Organometallic Chemistry Test
1st March to 31st March 2023	Acids and Bases, HSAB Concept Bioinorganic Chemistry Silicones and Phosphazenes Test
1st April to 30 April 2023	Heterocyclic compounds - I Heterocyclic compounds - II, organosulphur-compounds, organic synthesis via enolates Synthetic polymers, Test
1st May to 08th May 2023	Amino Acids, peptides & proteins Test Assignment

Hansa

Teacher's Signature

BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: PINKI **Sem.** VI^th.

Class and Section: B.Sc III^rd (NM) **Subject:** Chemistry

Month	Topics
17th January to 31st January 2023	Electronic Spectroscopy Concept of potential energy curves for bonding and antibonding Molecular Orbital. Photochemistry Luminescence, Photosensitization. The Photochemistry of vision.
01st Feburary to 28th Feburary 2023	Phase Equilibrium Two component system, freezing Mixture Solution – Raoult's law Chemical potential. (Test) Organosulphur compounds. Methods of formation and chemical reaction of thiols, thioethers, sulphonic acids, sulphonamides. Detergents.
1st March to 31st ~~October~~ March 2023	Alkyl and Aryl Sulphonates. Heterocyclic Compounds. Molecular Orbital picture and aromatic characteristics of Pyrrole, furan, thiophene. and pyridine. Skraup synthesis and Bischler-Napieralski synthesis. Substitution Reaction of quinoline and isoquinoline.
1st April to 30 April 2023	organic synthesis via Enolates. Acidity of α- hydrogens. Alkylation of diethyl Malonate and ethyl acetoacetate. Amino acids, Peptides & Proteins. Synthetic polymers. (Test) Acid & Bases. Arrehinus. Lux-Flood. Application of HSAB Principle.
1st May to 08th May 2023	Organometallic chemistry. Bioinorganic chemistry, Metal ions present in biological system. Cooperative effect, Bohr effect. Silicones and Phosphazenes. Preparation and uses of silicons. Polyphosphazenes and bonding in triphosphazenes. Assignment

Teacher's Signature