

Lesson Plan

Name of the Assistant/ Associate Professor: KULDEEP

Sem. 2nd

Class and Section: B.Sc 1st

Subject: Chemistry

| Month | Topics |
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| 21 st March to 31 st March | Nomenclature of alkenes, , Chemical reactions of alkenes mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration-oxidation, oxymercurationreduction, ozonolysis, hydration, hydroxylation and oxidation with KMnO ₄ , |
| 1 st April to 30 th April | Nomenclature of benzene derivatives: Aromatic nucleus and side chain. Aromaticity: the Huckel rule, aromatic ions, annulenes up to 10 carbon atoms, aromatic, anti - aromatic and non - aromatic compounds. Aromatic electrophilic substitution general pattern of the mechanism. Chemical reactions 1,2 and 1,4 . Methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, hydroborationoxidation of alkynes SN2 and SN1reactions with energy profile diagrams.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. |
| 1 st May to 31 st May | Hydrogen Bonding & Vander Waals Forces Hydrogen Bonding Brief discussion of various types of Vander Waals Forces . Metallic Bond and Semiconductors Metallic Bond- Brief introduction to metallic bond, band theory of metallic bond Semiconductors-Introduction, types and applications.. s-Block Elements Comparative study of the elements including , diagonal relationships, solvation and complexation tendencies including their function in biosystems. Chemistry of Noble Gases Chemical properties of the noble gases with emphasis on their low chemical reactivity, chemistry of xenon, structure and bonding of fluorides, oxides & oxyfluorides of xenon. Boron family (13th gp):- Diborane – properties and structure (as an example of electron – deficient compound and multicentre bonding), Catenation, p π - d π bonding (an idea), carbides, fluorocarbons, silicates structural aspects), silicon – general methods of preparations, properties and uses. <i>Class Test</i> . |
| 1 st June to 30 th June | 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 H ₂ O ₂ -structure, properties and uses. Halogen Family (17th group) Basic properties of halogens Ostwald's Dilution Law. calculation of molar ionic conductance and effect of viscosity temperature & pressure on it.. Applications of conductivity measurements: determination of degree of dissociation, determination of K _a of acids determination of solubility product of sparingly soluble salts, conductometric titrations. |
| 1 st July to 11 th July | 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. Kinetics-II 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. <i>Class Test & Assignment.</i> |

Teacher's Name **KULDEEP**

Kuldeep
Teacher's Signature

BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: HANSA Sem. IV

Class and Section: B.Sc. Ind. (Medical) Subject: CHEMISTRY

| Month | Topics |
|--|---|
| 21 st March to 31 st March | Thermodynamics - III - Second Law of Thermodynamics Carnot cycle, Concept of Entropy + Unit test Thermodynamics - IV - Third Law of Thermodynamics, Gibbs & Helmholtz Functions. |
| 1 st April to 30 th April | Electrochemistry - III - Electrolytic & Galvanic cells. Calculation of Thermodynamic quantities ΔG , ΔH & ΔK . Types of Reversible electrodes. Electrochemical series & its applications. Unit Test Electrochemistry - IV - Conc ⁿ cell, LTP Applications of EMF IR Spectroscopy: \rightarrow Molecular vibrations, IR Bands, Applications |
| 1 st May to 31 st May | Amines: \rightarrow structure, nomenclature, physical & chemical properties (Unit Test) Diagonium salts \rightarrow structure, nomenclature, physical & chemical properties nitro compounds Aldehydes & Ketones: \rightarrow Nomenclature, structure & properties |
| 1 st June to 30 th June | Lanthanides: \rightarrow Electronic structure, D.S., Lanthanide contraction, complex formation, occurrence & compounds. Actinides: \rightarrow General features & chemistry of actinides Theory of Qualitative & Quantitative Inorganic Analysis: I \rightarrow Chemistry of analysis of various acidic radicals, Unit Test |
| 1 st July to 11 th July | Theory of Qualitative & Quantitative Inorganic Analysis - II \rightarrow Chemistry of analysis of various groups of Basic radicals. Theory of precipitation, co-precipitation, Post-precipitation, Unit Test Assignment. |

Teacher's Name HANSA

Hansa
Teacher's Signature

Lesson Plan

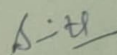
Name of the Assistant/ Associate Professor: SUNITA KUMARI Sem. IVth

Class and Section: B.Sc IInd (N.H.)

Subject: chemistry

| Month | Topics |
|--|--|
| 21 st March to 21 st March | <p><u>Thermodynamics - III</u> :→ Second Law of thermodynamics, need for the law, diff. states of law, cannot cycles, cannot theorem, Thermodynamic state of trip Concept of entropy, entropy as a function of V & T and P & T. Unit test</p> <p><u>Thermodynamics - IV</u> → Third law of thermodynamics, Nernst heat theorem.</p> |
| 1 st April to 30 th April | <p>Gibb's function & Helmholtz function. Unit test.</p> <p><u>Electrochemistry - III</u> → Electrolytic and Galvanic cells calculation of thermodynamic quantities ΔG, ΔH & ΔK. Types of Reversible electrodes, electrochemical series & its application. Unit test.</p> <p><u>Electrochemistry - IV</u> - concentration cells, ESR, applications of EMF.</p> <p><u>IR spectroscopy</u> → Hook's law, IR Bands, interpretation Application.</p> |
| 1 st May to 31 st May | <p><u>Amines</u> : - Structure, nomenclature, Preparation, Physical and chemical properties. Unit test</p> <p><u>Diazonium salt and Nitro compounds</u> : - structure, nomenclature, Preparation, Physical & chemical properties.</p> <p><u>Aldehydes and Ketones</u> : - Nomenclature, structure, synthesis, Physical and chemical properties. Unit test</p> |
| 1 st June to 30 th June | <p><u>Lanthanides</u> : - Electronic structure, lanthanide contraction, Physical properties, complex formation, occurrence & isolation, compounds.</p> <p><u>Actinides</u> : - chemistry of actinides, separation of Np, Pu, and Am from U, comparison of lanthanides and actinides.</p> <p><u>Theory of Qualitative and Quantitative Analysis I</u> - chemistry of various acidic radicals. Unit test</p> |
| 1 st July to 11 th July | <p><u>Theory of Qualitative and Quantitative Analysis - II</u> - chemistry of analysis of various groups of Basic radicals, theory of precipitation, co-precipitation, post-precipitation, purification of precipitation. Unit test.</p> <p>Assignment.</p> |

SUNITA KUMARI
Teacher's Name


Teacher's Signature

BAIJNATH CHAUDHARY GOVT. COLLEGE FOR WOMEN, NANGAL CHAUDHARY

Lesson Plan

Name of the Assistant/ Associate Professor: ...P. Inbi..... Sem. 6th

Class and Section: ...B.Sc. IIIrd (Nmtm) Subject: ...Chemistry...

| Month | Topics |
|---|---|
| 21 st March to 31 st March | Heterocyclic compounds-I Heterocyclic compounds-II organosulphur compounds Test |
| 1 st April to 30 th April | Organic synthesis via Grignard Synthetic Polymer Amino acids, Peptides and Proteins. Acids & Bases |
| 1 st May to 31 st May | Organometallic chemistry Bioinorganic chemistry Silicones & phosphazenes. Test- |
| 1 st June to 30 th June | Spectroscopy-III Electronic spectrum Photochemistry |
| 1 st July to 11 th July | Solutions, Dilute solutions Colligative Properties Phase Equilibrium Assignment |

Smt. P. Inbi
Teacher's Name

P. Sharma
Teacher's Signature