***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.SC- III**

**Semester: 6th**

**Subject: Physical Chemistry**

**Lesson Plan duration: Feb 2025- to April 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Introduction to chapter solutions, dilute solutions and colligative properties |
| **March** | **Ist Week** | Explanation of Colligative properties like relative lowering of vapour pressure, elevation in boiling point |
| **2nd Week** | Holi break |
| **3rd Week** | Depression in freezing point, osmotic pressure, applications in calculating molar masses of normal, dissociated and associated solutes |
| **4th Week** | Phase, component and degrees of freedom, Gibbs phase rule derivation, Water system, lead-silver system |
| **April** | **Ist Week** | Introduction to photochemistry, Grotthus Drapper law, Stark-Einstein law, Jablonski Diagram |
| **2nd Week** | Quantum yield, photosensized reactions and numerical problems |
| **April** | **3rd Week** | Maxwell Boltzmann distribution statistics, partition function and its physical significance |
| **4th Week** | Revision |

***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.SC- I**

**Semester: 2nd**

**Subject: Major Chemistry**

**Lesson Plan duration: Feb 2025- to May. 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Introduction |
| **March** | **Ist Week** | Concept of reaction rates, order and molecularity of reaction, Factors affecting rates of reaction, Order and molecularity of reaction, zero order reaction |
| **2nd week** | Holi break |
| **3rd Week** | first order and half order reactions, Arrhenius equation |
| **4th Week** | Nernst Distribution law, thermodynamic derivation, N D L after dissociation and association of solute in one of the phases |
| **April** | **Ist Week** | Degree of hydrolysis and hydrolysis constant of aniline hydrochloride |
| **2nd Week** | VSEPR Theory |
| **3rd Week** | Hybridisation, shapes of simple inorganic molecules |
| **4th Week** | Linear, trigonal planar, square planar, tetrahedral , trigonal planar and octahedral arrangements |
| **May** | **Ist Week** | Molecular orbital theory of homonuclear and heteronuclear molecules |
| **2nd Week** | Dipole moment and % ionic character |
| **May** | **3rd Week** | Revision |
| **4th Week** | Revision and test |
| **5th Week** | Revision and test |

***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.SC- I**

**Semester: 2nd**

**Subject: Minor Chemistry**

**Lesson Plan duration: Feb 2025- to May 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Introduction to atomic properties |
| March | **Ist Week** | Effective nuclear charge, Slater’s rule |
| **2nd Week** | Holi break |
| **3rd Week** | Stoichiometric and non- stoichiometric defects, Born-Haber cycle, solvation energy |
| **4th Week** | Polarizing Power and Fajan’s rule |
| **April** | **Ist Week** | Localized and delocalized bond, vander waal’s interactions, resonance |
| **2nd Week** | Hyperconjuction, inductive effect, electomeric effect |
| **3rd Week** | Kinetic theory of gases |
| **4th Week** | Root mean square velocity, average velocity and most probable velocity |
| **May** | **Ist Week** | Collision diameter, collision number, collision frequency and mean free path |
| **2nd Week** | Revision |
| **May** | **3rd Week** | Revision and tests |
| **4th Week** | Revision and tests |

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***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.SC- II**

**Semester: 4th**

**Subject: Major Chemistry**

**Lesson Plan duration: Feb 2025- to May 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Thermodynamics introduction |
| **March** | **Ist Week** | Internal energy, enthalpy, heat capactities at constant volume and pressure and their relation |
| **2nd Week** | Holi Break |
| **3rd Week** | Joule Thomson coefficient for ideal and real gases and inversion temperature |
| **4th Week** | W, q, dU and dH for isothermal and adiabatic conditions |
| **April** | **Ist Week** | Second law of thermodynamics, Carnot cycles, concept of entropy |
| **2nd Week** | Concept of chemical equilibrium, equilibrium constant |
| **3rd Week** | Clausius Clapeyron equation and its applications |
| **4th Week** | Numericals |
| **May** | **Ist Week** | Analysis of acidic and basic radicals, common ion effect |
| **2nd Week** | revision |
| **May** | **3rd Week** | Revision and tests |
| **4th Week** | Revision and tests |

***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.SC- II**

**Semester: 4th**

**Subject: VOC Chemistry**

**Lesson Plan duration: Feb 2025- to May 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Introduction |
| **March** | **Ist Week** | Plants as producers- photosynthesis, pesticides, herbisides, insecticide, fungicide |
| **2nd Week** | Holi break |
| **3rd Week** | Food processing, chemicals from agriculture waste |
| **4th Week** | Use of polymers in agriculture |
| **April** | **Ist Week** | Soil fertility and soil productivity |
| **2nd Week** | Urea cycle , organic and inorganic nitrogen (Haber Bosch process) |
| **3rd Week** | Micronutrients and factors affecting their availability |
| **4th Week** | Revision |
| **May** | **Ist Week** | Revision |
| **2nd Week** | Revision and tests |
|  | **3rd Week** | Revision and tests |
| **4th Week** | Revision and tests |

***Lesson Plan-1***

**Name of the Faculty: Dr. Seema**

**Discipline: B.Com- II**

**Semester: 2nd**

**Subject: MDC**

**Lesson Plan duration: Feb 2025- to May 2025**

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| **Month** | **Week of the Month** | **Name of the Topics** |
| **February** | **Last week** | Introduction |
| **March** | **Ist Week** | Biography of renowned indian scientists |
| **2nd Week** | Holi break |
| **3rd Week** | Dr. P.C. Ray, Sir C.V. Raman, Dr. A.P.J. Abdul Kalam |
| **4th Week** | Dr. J.C. Bose, Dr. S.N. Bose |
| **April** | **Ist Week** | Periodic Table, classification of elements |
| **2nd Week** | Physical and chemical aspects of metals and non-metals |
| **3rd Week** | Ore and minerals of iron |
| **4th Week** | Minerals of copper, aluminium |
| **May** | **Ist Week** | alloys |
| **2nd Week** | Revision and tests |
|  | **3rd Week** | Revision and tests |
| **4th Week** | Revision and tests |