Lesson Plan

B.Sc. IInd Year (IIIrd Semester)

Paper-IX (CH-202) Physical Chemistry

Teacher name: Dr. Neha Aggarwal

October 2020

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| Definition of thermodynamic terms: system, surrounding etc. Types of systems, intensive and extensive properties. State and path functions and their differentials. Thermodynamic process. Thermodynamic equilibrium, Concept of heat and work. |

November 2020

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| First law of thermodynamics: statement, concepts of internal energy and enthalpy. Heat capacity, heat capacities at constant volume and pressure and their relationship. Joule–Thomson coefficient for ideal gas and real gas and inversion temperature. |

December 2020

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| Calculation of w,q, dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process. Chemical Equilibrium Equilibrium constant and free energy, concept of chemical potential, |

January2021

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| Thermodynamic derivation of law of chemical equilibrium. Temperature dependence of equilibrium constant. Clausius–Clapeyron equation and its applications. Distributioln Law Nernst distribution law – its thermodynamic derivation |

February 2021

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| Applications of distribution law: (i) Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride (ii) Determination of equilibrium constant of potassium tri-iodide complex and (iii) Process of extraction. More stress on numerical problems. |