



Aggarwal College Ballabgarh

LESSON PLAN

17 WEEKS (JAN-APRIL)-2025

Name of Faculty: Manshi Tyagi

Designation/ Department: Assistant Professor/ Department of Chemistry

CLASS: B.Sc. II Year

SEMESTER: 4

SECTION:

SUBJECT: Physical Theory

Week		
1	7-1-2025	Section-A- Thermodynamics – II: Second law of thermodynamics, Need of the law, different definitions of the law
	8-1-2025	Carnot Cycle and its efficiency.
	9-1-2025	Carnot theorem
	10-1-2025	
	11-1-2025	
	12-1-2025	S. U. N. D. A. Y.
2	13-1-2025	Thermodynamic scale of temperature, Concept of entropy, entropy as a state function of V and T, entropy as a function of P and T.
	14-1-2025	Topic Continued.....
	15-1-2025	Topic Continued.....
	16-1-2025	Entropy change in physical processes
	17-1-2025	
	18-1-2025	
	19-1-2025	S. U. N. D. A. Y.
3	20-1-2025	Clausius inequality
	21-1-2025	Entropy as criteria of spontaneity and equilibrium.
	22-1-2025	Entropy change in ideal gases and mixing of gases
	23-1-2025	Topic Continued.....

	24-1-2025	
	25-1-2025	
	26-1-2025	REPUBLIC DAY/S. U. N. D. A. Y.
4	27-1-2025	Work function, Gibb's free energy function
	28-1-2025	Gibbs function (G) and Helmholtz function (A) as thermodynamic function.
	29-1-2025	Topic Continued.....
	30-1-2025	Criteria of spontaneity of reversible processes in terms of enthalpy change
	31-1-2025	
	1-2-2025	
	2-2-2025	S. U. N. D. A. Y/BASANT PANCHAMI
5	3-2-2025	Topic Continued.....
	4-2-2025	entropy change,
	5-2-2025	work function and free energy function. Variation of G and A with P,V and T
	6-2-2025	Topic Continued.....
	7-2-2025	
	8-2-2025	
	9-2-2025	S. U. N. D. A. Y
6	10-2-2025	Thermodynamics – III: Gibb Helmholtz equation and its application , clausius-clapeyron equation.
	11-2-2025	Topic Continued.....
	12-2-2025	HOLIDAY: GURU RAVIDAS JAYANTI
	13-2-2025	Nernst heat theorem
	14-2-2025	
	15-2-2025	
	16-2-2025	S. U. N. D. A. Y.

7	17-2-2025	Third law of thermodynamics and its applications.
	18-2-2025	Partial molar quantities
	19-2-2025	Chemical Potential
	20-2-2025	Gibb's Duhem equation
	21-2-2025	
	22-2-2025	
	23-2-2025	S. U. N. D. A. Y.
8	24-2-2025	Gibb,s adsorption equation and its application.
	25-2-2025	Variation of chemical potential with temperature and pressure
	26-2-2025	HOLIDAY: MAHA SHIVRATRI
	27-2-2025	Remedial Class
	28-2-2025	
	1-3-2025	
	2-3-2025	S. U. N. D. A. Y.
9	3-3-2025	Section –C Electrochemistry-II: Redox reactions, electrolytic and galvanic cells.
	4-3-2025	Reversible and irreversible cells ,reversible electrodes, types of reversible electrodes, metal electrodes, gas metal electrode,metal insoluble salt on ions and redox electrodes
	5-3-2025	Topic Continued.....
	6-3-2025	electrode reactions, cell voltage, function of salt bridge, electrode potential and its determination
	7-3-2025	Topic Continued.....
	8-3-2025	
	9-3-2025	S. U. N. D. A. Y.
10	10-3-2025	Standard hydrogen electrode, reference electrode, standard cell, sign convention.
	11-3-2025	Topic Continued.....

	12-3-2025	Electrochemical series and its significance.
	13-3-2025	HOLI
	14-3-2025	HOLI
	15-3-2025	
	16-03-2025	S. U. N. D. A. Y.
11	17-3-2025	Nernst equation for a reversible electrode and cell.
	18-3-2025	Calculation of thermodynamic quantities of a cell reaction ΔG , ΔH and K .
	19-3-2025	Topic Continued.....
	20-3-2025	Polarisation over potential and hydrogen over voltage
	21-3-2025	
	22-3-2025	
	23-3-2025	S. U. N. D. A. Y.
12	24-3-2025	SECTION-D-Electrochemistry-III: Definition of pH. Determination of pH using hydrogen, quinhydrone and glass electrode by potentiometric method.
	25-3-2025	Topic Continued.....
	26-3-2025	Topic Continued.....
	27-3-2025	Buffers solution, Buffer action, Henderson - Hazel equation. Hydrolysis of salts, corrosion, types, theories and methods of controlling it.
	28-3-2025	
	29-3-2025	
	30-3-2025	S. U. N. D. A. Y.
13	31-3-2025	HOLIDAY: ID-UL-FITR
	1-4-2025	Chemical Kinetics: Experimental methods of chemical kinetics: conductometric, potentiometric, optical method, polarimetry and spectrophotometer.
	2-4-2025	Topic Continued.....
	3-4-2025	Topic Continued.....
	4-4-2025	

	5-4-2025	
	6-4-2025	S. U. N. D. A. Y.
14	7-4-2025	Theories of reaction rates
	8-4-2025	Effect of temperature on rate of reaction
	9-4-2025	Simple collision theory based upon transition state
	10-4-2025	HOLIDAY: MAHAVIR JAYANTI
	11-4-2025	
	12-4-2025	
	13-4-2025	S. U. N. D. A. Y.
15	14-4-2025	HOLIDAY: AMBEDKAR JAYANTI
	15-4-2025	Hard sphere model theory (equilibrium hypothesis)
	16-4-2025	Expression for the rate constants based on equilibrium constant their thermodynamic aspect
	17-4-2025	Topic Continued.....
	18-4-2025	
	19-4-2025	
	20-4-2025	S. U. N. D. A. Y.
16	21-4-2025	Topic Continued....
	22-4-2025	Class Test
	23-4-2025	Class Test
	24-4-2025	Class Test
	25-4-2025	
	26-4-2025	
	27-4-2025	S. U. N. D. A. Y.
	28-4-2025	Remedial Class

17	29-4-2025	Remedial Class
	30-4-2025	HOLIDAY: AKSHAY TRITYA
	01-05-2025	Revision Test
	02-05-2025	
	03-05-2025	
	04-05-2025	S. U. N. D. A. Y.

Manshi Tyagi
Department Of Chemistry