



**Aggarwal College Ballabgarh**

**LESSON PLAN**  
**18 WEEKS (JULY-NOV)-2024**

**Name of Faculty: Dr. Archana Chauhan**  
**Designation/ Department: Assistant Professor Chemistry**

<b>CLASS: BSc</b>	<b>SEMESTER: 1<sup>st</sup></b>	<b>SECTION: A</b>
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**SUBJECT: Fundamental Chemistry-I**

<b>WEEK</b>	<b>DATE</b>	<b>TOPIC TO BE COVERED</b>
<b>1</b>	<b>1-08-2024</b>	
	<b>2-08-2024</b>	
	<b>3-08-2024</b>	
	<b>4-08-2024</b>	<b>S. U. N. D. A. Y.</b>
	<b>5-08-2024</b>	Ionic bond, lattice energy, Born-Haber cycle and its applications
	<b>6-08-2024</b>	Fajan's rules, hydration energy, bond moment
	<b>7-08-2024</b>	<b>H.O.L.I. D. A. Y.</b>
<b>2</b>	<b>8-08-2024</b>	
	<b>9-08-2024</b>	
	<b>10-08-2024</b>	
	<b>11-08-2024</b>	<b>S. U. N. D. A. Y.</b>
	<b>12-08-2024</b>	Dipole moment and percentage ionic character. Resonance and resonance energy: energy: study of some inorganic and organic compounds.
	<b>13-08-2024</b>	Dipole moment and percentage ionic character. Resonance and resonance energy: energy: study of some inorganic and organic compounds.
	<b>14-08-2024</b>	
<b>3</b>	<b>15-08-2024</b>	<b>H.O.L.I. D. A. Y.</b>
	<b>16-08-2024</b>	

	17-08-2024	
	18-08-2024	<b>S. U. N. D. A. Y.</b>
	19-08-2024	<b>H.O.L.I. D. A. Y.</b>
	20-08-2024	Molecular Orbital Approach: LCAO method, bonding and antibonding MOs
	21-08-2024	
4	22-08-2024	
	23-08-2024	
	24-08-2024	
	25-08-2024	<b>S. U. N. D. A. Y.</b>
	26-08-2024	<b>HOLIDAY</b>
	27-08-2024	Characteristics for s-s, s-p and p-p combination of atomic orbitals, non- bonding combination of orbitals,
	28-08-2024	
5	29-08-2024	
	30-08-2024	
	31-08-2024	
	1-09-2024	<b>S. U. N. D. A. Y.</b>
	2-09-2024	MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of s-p mixing)
	3-09-2024	Heteronuclear diatomic molecules such as $O_2^-$ , $O_2^{2-}$ , $N_2^-$ , CO, $NO^+$ , $CN^-$
	4-09-2024	
6	5-09-2024	
	6-09-2024	
	7-09-2024	
	8-09-2024	<b>S. U. N. D. A. Y.</b>

	9-09-2024	Comparison of VB and MO approaches.
	10-09-2024	Oxides – structures of oxides of N, P. Oxyacids – structure and relative acid strengths of oxyacids of nitrogen and phosphorus.
	11-09-2024	
7	12-09-2024	
	13-09-2024	
	14-09-2024	
	15-09-2024	<b>S. U. N. D. A. Y.</b>
	16-09-2024	Structure of white, yellow and red phosphorus. Oxyacids of sulphur – structures and acidic strength
	17-09-2024	H <sub>2</sub> O <sub>2</sub> –structure, properties and uses. Basic properties of halogen, interhalogen compounds-types and properties
	18-09-2024	
8	19-09-2024	
	20-09-2024	
	21-09-2024	
	22-09-2024	<b>S. U. N. D. A. Y.</b>
	23-09-2024	<b>H.O.L.I. D. A. Y.</b>
	24-09-2024	Halogen-acids and oxyacids of chlorine – structure and comparison of acidic strength.
	25-09-2024	
9	26-09-2024	
	27-09-2024	
	28-09-2024	
	29-09-2024	<b>S. U. N. D. A. Y.</b>
	30-09-2024	Brönsted–Lowry concept, conjugate acids and bases, relative strengths of acids and bases
	1-10-2024	Effects of substituent and solvent, differentiating and levelling solvents. Lewis acid-base concept

	2-10-2024	<b>HOLIDAY</b>
10	3-10-2024	
	4-10-2024	<b>HOLIDAY</b>
	5-10-2024	
	6-10-2024	<b>S. U. N. D. A. Y.</b>
	7-10-2024	Classification of Lewis acids and bases, Lux-Flood concept.
	8-10-2024	Maxwell's distribution of velocities and energies (derivation excluded), calculation of root mean square velocity, average velocity and most probable velocity.
	9-10-2024	
11	10-10-2024	
	11-10-2024	
	12-10-2024	<b>HOLIDAY</b>
	13-10-2024	<b>S. U. N. D. A. Y.</b>
	14-10-2024	Collision diameter, collision number, collision frequency and mean free path, deviation of real gases from ideal behaviour
	15-10-2024	Derivation of Van der Waals Equation of state and its applications in the calculation of Boyle's temperature (compression factor)
	16-10-2024	
12	17-10-2024	<b>HOLIDAY</b>
	18-10-2024	
	19-10-2024	
	20-10-2024	<b>S. U. N. D. A. Y.</b>
	21-10-2024	Explanation of behavior of real gases using Van der Waals equation.
	22-10-2024	Critical temperature, critical pressure, critical volume and their determination.
	23-10-2024	
13	24-10-2024	
	25-10-2024	

	26-10-2024	
	27-10-2024	<b>S. U. N. D. A. Y.</b>
	28-10-2024	<b>DIWALI BREAK</b>
	29-10-2024	<b>DIWALI BREAK</b>
	30-10-2024	<b>DIWALI BREAK</b>
14	31-10-2024	<b>DIWALI BREAK</b>
	1-11-2024	<b>DIWALI BREAK</b>
	2-11-2024	<b>DIWALI BREAK</b>
	3-11-2024	<b>S. U. N. D. A. Y.</b>
	4-11-2024	PV isotherms of real gases, continuity of states, isotherms of Van der Waals equation
	5-11-2024	relationship between critical constants and Van der Waals constants, compressibility factor. Law of corresponding states
	6-11-2024	
15	7-11-2024	
	8-11-2024	
	9-11-2024	
	10-11-2024	<b>ZONAL YOUTH FESTIVAL</b>
	11-11-2024	<b>ZONAL YOUTH FESTIVAL</b>
	12-11-2024	<b>ZONAL YOUTH FESTIVAL</b>
	13-11-2024	
16	14-11-2024	
	15-11-2024	<b>H.O.L.I.D.A.Y.</b>
	16-11-2024	
	17-11-2024	<b>S. U. N. D. A. Y.</b>
	18-11-2024	Test-01

	19-11-2024	Electronic displacements and its applications, reaction intermediates and concept of aromaticity, Concept of isomerism, types of isomerism
	20-11-2024	
17	21-11-2024	
	22-11-2024	
	23-11-2024	
	24-11-2024	<b>S. U. N. D. A. Y.</b>
	25-11-2024	Optical isomerism, optical activity, elements of symmetry, molecular chirality, enantiomers, stereogenic centre
	26-11-2024	Properties of enantiomers, chiral and achiral molecules with two stereogenic centres, diastereomers, threo and erythro diastereomers
	27-11-2024	
18	28-11-2024	
	29-11-2024	
	30-11-2024	
	1-12-2024	<b>S. U. N. D. A. Y.</b>
	2-12-2024	Meso compounds, resolution of enantiomers, inversion, retention and racemization
	3-12-2024	Relative and absolute configuration, sequence rules, R & S system of nomenclature
	4-12-2024	
	5-12-2024	



Signature