



**Aggarwal College Ballabgarh**

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

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

<b>CLASS: BSc NM</b>	<b>SEMESTER: 5<sup>th</sup></b>	<b>SECTION: A</b>
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**SUBJECT: Physical Chemistry**

<b>WEEK</b>	<b>DATE</b>	<b>TOPIC TO BE COVERED</b>
<b>1</b>	<b>1-08-2024</b>	Black-body radiation, Plank's radiation law, photoelectric effect
	<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>	
	<b>6-08-2024</b>	
	<b>7-08-2024</b>	<b>H.O.L.I. D. A. Y.</b>
<b>2</b>	<b>8-08-2024</b>	Heat capacity of solids, Compton effect, wave function
	<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>	
	<b>13-08-2024</b>	
	<b>14-08-2024</b>	Significance of Postulates of quantum mechanics, quantum mechanical operator
<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	
	21-08-2024	Commutation relations, Hamilton operator, Hermitian operator
4	22-08-2024	Average value of square of Hermitian as a positive quantity
	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	
	28-08-2024	Role of operators in quantum mechanics, To show quantum mechanically that position and momentum cannot be predicated simultaneously
5	29-08-2024	Determination of wave function & energy of a particle in one dimensional box, Pictorial representation and its significance.
	30-08-2024	
	31-08-2024	
	1-09-2024	<b>S. U. N. D. A. Y.</b>
	2-09-2024	
	3-09-2024	
	4-09-2024	Optical activity, polarization – (Clausius – Mossotti equation). Orientation of dipoles in an electric field, dipole moment
6	5-09-2024	Included dipole moment, measurement of dipole moment-temperature method and refractivity method, dipole moment and structure of molecules
	6-09-2024	
	7-09-2024	
	8-09-2024	<b>S. U. N. D. A. Y.</b>

	9-09-2024	
	10-09-2024	
	11-09-2024	Magnetic permeability, magnetic susceptibility and its determination
7	12-09-2024	Application of magnetic susceptibility, magnetic properties – paramagnetism, diamagnetism and ferromagnetics.
	13-09-2024	
	14-09-2024	
	15-09-2024	<b>S. U. N. D. A. Y.</b>
	16-09-2024	
	17-09-2024	
	18-09-2024	Electromagnetic radiation, regions of spectrum, basic features of spectroscopy
8	19-09-2024	Statement of Born Oppenheimer approximation, Degrees of freedom.
	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	
	25-09-2024	Diatomic molecules. Energy levels of rigid rotator (semi-classical principles)
9	26-09-2024	Selection rules, spectral intensity distribution using population distribution (Maxwell-Boltzmann distribution)
	27-09-2024	
	28-09-2024	
	29-09-2024	<b>S. U. N. D. A. Y.</b>
	30-09-2024	
	1-10-2024	

	2-10-2024	<b>HOLIDAY</b>
<b>10</b>	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	
	8-10-2024	
	9-10-2024	Determination of bond length, qualitative description of non-rigid rotor, isotope effect.
<b>11</b>	10-10-2024	Infrared spectrum: Energy levels of simple harmonic oscillator, selection rules
	11-10-2024	
	12-10-2024	<b>HOLIDAY</b>
	13-10-2024	<b>S. U. N. D. A. Y.</b>
	14-10-2024	
	15-10-2024	
	16-10-2024	Pure vibrational spectrum, intensity, determination of force constant and qualitative relation of force constant and bond energies
<b>12</b>	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	
	22-10-2024	
	23-10-2024	<b>Assignment-01</b>
<b>13</b>	24-10-2024	Test-01
	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	
	5-11-2024	
	6-11-2024	Effects of anharmonic motion and isotopic effect on the spectra
15	7-11-2024	Idea of vibrational frequencies of different functional groups.
	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	Assignment-02
16	14-11-2024	Test-02
	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	

	19-11-2024	
	20-11-2024	Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules
17	21-11-2024	Selectin rules
	22-11-2024	
	23-11-2024	
	24-11-2024	<b>S. U. N. D. A. Y.</b>
	25-11-2024	
	26-11-2024	
	27-11-2024	Quantum theory of Raman spectra.
18	28-11-2024	Quantum theory of Raman spectra.
	29-11-2024	
	30-11-2024	
	1-12-2024	<b>S. U. N. D. A. Y.</b>
	2-12-2024	
	3-12-2024	
	4-12-2024	Revision
	5-12-2024	Revision



Signature