

**BHAI GURDAS INSTITUTE OF ENGINEERING AND TECHNOLOGYSANGRUR**  
**Department of Applied Science**  
**LESSON PLAN**

**Subject Name: - Chemistry**

**Subject Code:-BTCH101-18**

**Semester: - 2<sup>nd</sup> SEM**

**YEAR:- 2023**

Lecture No.	Unit	Week	Topics to be covered	Teaching Aid	Reference	
L-1	Unit 1	Week1	Schrodinger Wave Equation	Chalk board	Engineering Chemistry Dr.Rajshree Khare	
L-2			Particle in a box solution and their applications.			
L-3			Molecular orbital's of diatomic molecules			
L-4			Doubts Clear			
L-5		Week2	Energy level diagrams			
L-6			Equations solve			
L-7			Revision			
L-8			Pi- molecular orbital's of butadiene and benzene.	Chalk board		<a href="https://youtu.be/mcRbrT13zIU">https://youtu.be/mcRbrT13zIU</a>
L-9		Week3	Crystal field theory			
L-10			Magnetic properties			Lecture Method
L-11			Revision			

L-12		Week3	Role of doping on band structure		Engineering Chemistry Dr.Rajshree Khare
L-13		Week4	Crystal field theory for tetrahedral and octahedral complex		
L-13	Unit3		Ionic, dipolar and vanderwaals interactions	presentation	<a href="https://youtu.be/MJgIB2yiWu4">https://youtu.be/MJgIB2yiWu4</a> Engineering Chemistry Dr.Rajshree Khare
L-14			Class Test		
L-15			Equation state of real gas	Chalk board	
L-16		Week5	Critical Phenomena		
L-17			Structural isomers and stereoisomer	<a href="https://youtu.be/1qU4dQtSMdM">https://youtu.be/1qU4dQtSMdM</a>	
L-18			Configuration and conformations analysis		
L-19			Class test		
L-20			Week6	Isomerism in transitional metal compounds	Chalk board
L-21			Substitution and addition reactions		
L-22			Eliminations, oxidation, reduction reaction		
L-23			Cyclization and ring opening reactions		
L-24			Revision		

		Week7	implementation		
L-25			Synthesis of Commonly used drug molecule		
L-26			Class Test		
L-27	Unit2	Week8	Principles of spectroscopy Selection rules	Chalk board	Fundamentals of Molecular Spectroscopy, by C. N. Banwell <a href="https://youtu.be/qtWCvLR9No">https://youtu.be/qtWCvLR9No</a>
L-28			Electronic spectroscopy	<a href="https://youtu.be/vjJIVOVqsPo">https://youtu.be/vjJIVOVqsPo</a>	
L-29			Florescence	<a href="https://youtu.be/vjJIVOVqsPo">https://youtu.be/vjJIVOVqsPo</a>	
L-30			Vibration and Rotational Spectroscopy.		
L-31		Week9	Nuclear Magnetic resonance	Chalk board	<a href="https://youtu.be/HhV3H-m5f2c">https://youtu.be/HhV3H-m5f2c</a> Engineering Chemistry Dr.Rajshree Khare
L-32			Diffraction and Scattering		
L-33			Thermodynamic function: energy, entropy, and free energy.		
L-34			Estimations of energy, entropy, and free energy		
L-35			Revision		

	Unit4	Week10	Cell potentials and Nernst equation with applications.	Chalk board	Physical Chemistry, by P. W. Atkins
L-36					
L-37			Acid base ,oxidation, reduction, solubility equilibria	Lecture Method	
L-38			Doubts		
L-39		Week11	Water Chemistry, Corrosion	Chalk board	Engineering Chemistry Dr.Rajshree Khare
L-40			Water Chemistry, Corrosion		
L-41			Effective nuclear charge, penetration of orbital's		
L-42			Variation of s, p, d ,f orbital's in periodic table	<a href="https://youtu.be/nNkw_0c8vY0">https://youtu.be/nNkw_0c8vY0</a>	
L-43		Week12	Electronic configurations	Lecture Method	
L-44	Class Test				
L-45	Ionization energy, electron affinity,				
L-46	electronegativity				
L-47	Week13	Coordination numbers and geometries			
L-48		Molecular geometries	Presentation		
L-49			Revision		

(COURSE INCHARGE)

