Lesson Plan

Name of Faculty : **Mr. Sonu Jakhar, Assistant Professor of Chemistry**
Discipline : **Computer Science and Engineering**
Semester : **1st (Odd)**
Subject : **Chemistry (BSC/2-T)**
Lesson Plan Duration : **15 weeks (from Oct.2022-Feb.2023)**

Work Load (Lecture/Practical) per week (in hours): **Lectures-03 hours & Tutorial- 01 hour**

Week	Theory		Topic Covered Date and Remarks		
	Lecture-Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1st	1.	Molecular Orbital theory			
	2.	Crystal Field theory			
	3.	Aromaticity			
	4.	Magnetic properties			
2nd	5.	Band structure of solids			
	6.	Principles of spectroscopy			
	7.	Selection rules			
	8.	Electronic spectroscopy			
3rd	9.	Fluorescence and its applications			
	10.	IR spectroscopy			
	11.	Nuclear magnetic resonance (NMR)			
	12.	Magnetic resonance imaging (MRI)			
4th	13.	Diffraction and scattering			
	14.	Ionic and dipolar interactions			
	15.	Van der Waals forces			
	16.	Equation of state for real gases and Critical phenomena			
5th	17.	**Minor Test 1st**			
6th	18.	Thermodynamic functions			
	19.	Estimation of Entropy & free energies			
	20.	Free Energy and emf			
	21.	Cell potentials			
7th	22.	Nernst equation and its applications			
	23.	Water chemistry, corrosion.			
	24.	Metallurgy through Ellingham Diagram			
	25.	Effective nuclear charge			
8th	26.	Penetration and energy of orbitals			
	27.	Polarizability and oxidation states			
	28.	Atomic and Ionic size			
	29.	Ionization Energy and Electron affinity			
9th	30.	Electronic configurations and electronegativity			
	31.	HSAB Principle			
	32.	Coordination number and geometries			
	33.	Representation of 3D structures			
10th	34.	**Minor Test 2nd**			
11th	35.	Structural isomers			
	36.	Stereoisomers			
	37.	Symmetry and chirality			
	38.	Enantiomers and Diastereomers			
12th	39.	Optical activity			
	40.	Absolute configurations			
	41.	Conformational analysis			
	42.	Introduction of organic reactions			
13th	43.	Substitution reactions			
	44.	Elimination reactions			
	45.	Cyclization and ring opening reactions			
	46.	Oxidation and reduction			
14th	47.	Synthesis of a drug molecules			
	48.	**Minor Test 3rd**			
15th	49.	Query and Solution			