Lesson Plan

Name of Faculty : **Dr. Neelam , Assistant Professor**
Discipline : Engineering Chemistry –(B24-BSC-104)
Semester : I and II to All Branches
Subject : Chemistry and Chemistry Laboratory **(B24-BSC-114)**
Lesson Plan Duration: 15 weeks

Work Load (Lecture/Practical) per week (in hours): **Lectures 03 hours**, **Practicals -12 hours**

Week	Lecture Day	Theory — Topic (Including Assignment/Test)	Practical Day	Practicals — Topic
1st	1	M.O. of the diatomic molecule N2, O2	1	Determine the strength of given HCl solution
	2	Energy level diagram of CO, NO, CN, HCl and HF	1	Determine the strength of given HCl solution
	3	Equation for atomic and molecular orbitals	1	Determine the strength of given HCl solution
2nd	4	Pi molecular orbitals of butadiene	2	To determine the alkalinity of a givens water sample
	5	Aromaticity	2	To determine the alkalinity of a givens water sample
	6	Crystal field theory	3	To determine the temporary & permanent hardness of water sample
3rd	7	Energy level diagrams of Co(NH3)6	3	To determine the temporary & permanent hardness of water sample
	8	Energy level diagrams of Ni(CO)4, PtCl2(NH3)2	4	To determine the surface tension of a given liquid
	9	Magnetic properties of co-ordination compound	4	To determine the surface tension of a given liquid
4th	10	Band structure of solids	5	Viva-Voce-1
	11	Principal of spectroscopy , Electronic spectroscopy	5	Viva-Voce-1
	12	Vibration spectroscopy	6	To determine the relative viscosity of a given liquid
5th	13	Rotation spectroscopy	6	To determine the relative viscosity of a given liquid
	14	Flurorescence and its applications	6	To determine the relative viscosity of a given liquid
	15	Applications of vibration and Rotational spectroscopy	7	To identify the No. of components present in a given organic mixture by TLC
6th	16	Basic concept of NMR and MRI , Diffraction and Scattering	7	To identify the No. of components present in a given organic mixture by TLC
	17	Thermodymic function	8	Viva-Voce-2
	18	Estimations of entropy	8	Viva-Voce-2
7th		**1st Minor Test**		
8th	22	Estimations of free energy ,Free energy and emf	9	Determination of chloride content of given water sample
	23	Cell potiential , chemical potiential,	9	Determination of chloride content of given water sample
	24	Problems Solutions	9	Determination of chloride content of given water sample
9th	25	Clausius- Clapeyron Equation and its application	10	To find out the wavelength and concentration of unknown solution by a spetrophotometer
	26	Feasiability of process	10	To find out the wavelength and concentration of unknown solution by a spetrophotometer
	27	Gibbs Dhum Equation	11	Determination of the partion coefficient of a substance b/w two immiscble liquids
10th	28	Phase Equalibria- Phase rule and derivation of phase rule equation,Term involved in phase rule	11	Determination of the partion coefficient of a substance b/w two immiscble liquids
	29	Phase diagram of One component system (water system	12	Viva-Voce-3
	30	Phase diagram of One component system (water system)	12	Viva-Voce-3
11th		**2nd Minor Test**		
12th	34	Phase diagram of Two component system (water system)	13	To determine the amount of dissolved oxygan present in a given water sample
	35	Phase diagram of Two component system	13	To determine the amount of dissolved oxygan present in a given water sample
	36	Application of Phase equilibria	13	To determine the amount of dissolved oxygan present in a given water sample
13th	37	Corrosion and its prevention	14	Using Redwood viscometer
	38	Introduction of Galvanic cell and its types	14	Using Redwood viscometer
	39	Types of corrosion (Dry and Wet)	15	Using pH meter

14th	40	Electron chemical theory of corrosion	16	Viva-Voce-4
	41	Bimetallic corrosion , Pitting corrosion,	16	Viva-Voce-4
	42	Differential Aeration corrosion, water line corrosion	16	Viva-Voce-4
15th	43	Stree corrosion- Factor effecting the corrosion	17	Final Submission of Record
	44	Prevention of corrosion	17	Final Submission of Record
	45	3rd Minor Test		