LESSON PLAN

Name of the Faculty : Ms. Manjot Kaur (Theory) and Ms. Manjot Kaur (Practical)

Discipline : B.Tech.

Semester : 2nd

Subject : Basic Electrical Engineering

Lesson Plan Duration : 15 weeks (from January, 2018 to April, 2018)

** Work Load (Lecture / Practical) per week (in hours): Lectures-03, Practicals-02

Week	Theory (EE-101C)		Practical (EE-151C)	
	Lecture day	Topic (including assignment / test)	Practical day	Topic
1st	1st	• Ohm's Law and Kirchhoff"s Laws	1st	To verify KCL and KVL.
	2nd	• Kirchhoff"s Laws		
	3rd	• Analysis of series, parallel Circuits		
2nd	1st	• Power and energy; *Electromagnetism*:- Faradays Laws, Lenz's Law, Fleming's Rules	2nd	To verify Thevenin and Norton theorem
	2nd	• Statically and dynamically induced EMF; Concepts of self-inductance, mutual inductance and coefficient of coupling		
	3rd	• Energy stored in magnetic fields; Hysteresis and Eddy current losses.		
3rd	1st	• Class test	3rd	To verify maximum power transfer theorem in ac and dc
	2nd	• Superposition Theorems		
	3rd	• Superposition Numericals		
4th	1st	• Thevenin's Theorems	4th	Assessment - 1
	2nd	• Thevenin'sNumericals		
	3rd	• Norton's Theorems		
5th	1st	• Norton's Numericals	5th	To verify superposition theorem
	2nd	• Reciprocity Theorems		

	3rd	• Maximum Power transfer theorem		
		Compensation, Tellegan's Theorems		
6th	1st	• Millman's theorems, Application of theorems to dc and ac circuits	6th	To study frequency response of series R-L-C circuit and determine resonant frequency and Q-factor for various values of R-L-C.
	2nd	• Class Test		
	3rd	• Generation of sinusoidal voltage definition of average value		
7th	1st	• average value, root mean square value	7th	To study frequency response of Parallel R-L-C circuit and determine resonant frequency and Q-factor for various values of R-L-C.
	2nd	• root mean square value		
	3rd	• form factor and peak factor, phasor representation		
8th	1st	• Analysis with phasor diagrams of R, L circuits	8th	Assessment -2
	2nd	• Analysis with phasor diagrams of C, RL circuits		
	3rd	• Analysis with phasor diagrams of RC and RLC circuits		
9th	1st	• Assignment	9th	To find the inductance of the coil with iron core
	2nd	• Real power, reactive power, apparent power and power factor		
	3rd	• series, circuits		
10th	1st	• parallel and series-parallel circuits	10th	To study various types of electrical instrument
	2nd	• Series resonance, selectivity, bandwidth and Q factor		
	3rd	• Parallel resonance, selectivity, bandwidth and Q factor		
11th	1st	• Necessity and Advantages of three phase systems, Generation of three phase power, definition	11th	To perform O.C and S.C tests of a transformer

			of Phase sequence		
	2nd	•	balanced supply and balanced load; Relationship between line and phase values of balanced star and delta connections		
	3rd	•	delta connections; Power in balanced three phase circuits		
12th	1st	•	Measurement of power by two wattmeter method.	12th	Assessment - 3
	2nd	•	Class Test		
	3rd	•	Principle of operation and construction of single phase transformers (core and shell types). EMF equation, losses		
13th	1st	•	efficiency	13th	Measurement of power by 3-phase system by two wattmeter method
	2nd	•	voltage regulation		
	3rd	•	Principle of operation of an Auto Transformer. Applications		
14th	1st	•	Principle of operation and constructional features, Applications	14th	To perform polarity test on single phase transformer
	2nd	•	Principle of Operation and constructional features		
	3rd	•	Classification and Applications.		
15th	1st	•	Principle of Rotating Magnetic Field, Principle of Operation of 3-Phase Induction Motor	15th	Assessment - 4
	2nd	•	Constructional features starting Methods and Applications of Three Phase Induction Motors.		
	3rd	•	Class Test		