ELECTRICAL CIRCUIT ANALYSIS-I LAB

Course Code	23EE3251	**Year**	I	**Semester(s)**	II
Course Category	Professional Core	**Branch**	EEE	**Course Type**	Lab
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	NIL
Continuous Internal Evaluation:	**30**	**Semester End Evaluation:**	**70**	**Total Marks:**	**100**

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Apply fundamental laws of electrical circuits to verify Kirchhoff's circuit laws, network reduction techniques, node and mesh analysis.(L3)
CO2	Apply various theorems to compare practical results obtained with theoretical calculations.(L3)
CO3	Determine resistance, self, mutual inductances and coefficient of coupling values, parameters of choke coil.(L4)
CO4	Plot locus diagrams of RL, RC series circuits and examine series and parallel resonance. (L4)
CO5	Conduct experiments as a team / individual by using equipment available in the laboratory.
CO6	Make an effective report based on experiments

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CO1	3			3								3	1
CO2		3		3								3	1
CO3	3			3								3	1
CO4		3		3								3	1
CO5								3				3	1
CO6									3			3	1

Syllabus		
Exp. No.	Contents	Mapped CO
Any Ten Experiments		
1	Verification of Kirchhoff's circuit laws.	CO1 CO5 CO6
2	Verification of node and mesh analysis.	
3	Verification of network reduction techniques.	
4	Determination of cold and hot resistance of an electric lamp	CO3 CO5 CO6
5	Determination of Parameters of a choke coil.	
6	Determination of self, mutual inductances, and coefficient of coupling	
7	Series and parallel resonance	CO4 CO5 CO6
8	Locus diagrams of R-L (L Variable) and R-C (C Variable) series circuits	
9	Verification of Superposition theorem	CO2 CO5 CO6
10	Verification of Thevenin's and Norton's Theorems	
11	Verification of Maximum power transfer theorem	
12	Verification of Compensation theorem	
13	Verification of Reciprocity and Millman's Theorems	

Learning Resources
Text Books
1. Engineering Circuits Analysis, Jack Kemmerly, William Hayt and Steven Durbin, Tata Mc Graw Hill Education, 2005, sixth edition. 2. Network Analysis, M. E. Van Valkenburg, Pearson Education, 2019, Revised Third Edition