ELECTRICAL CIRCUIT ANALYSIS LAB

Course Code	19EE3351	Year	II	Semester	I
Course Category	Program Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisite	BEEE Lab (19ES1151)
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	**Inspect** network theorems.
CO2	**Plot** the frequency response of series RLC circuits and their resonance conditions.
CO3	**Determine** two port network parameters and self, mutual inductance of coupled circuits.
CO4	**Analyze** three phase power drawn by balanced circuits.
CO5	**Simulate** and analyze electrical circuits using Pspice tools.

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	PO12	PSO1	PSO2
CO1	3	3		2					1			1	3	2
CO2	3	3		2					1			1	3	2
CO3	3	3		2					1			1	3	2
CO4	3	3		2					1			1	3	2
CO5	3	3		2	2				1			2	3	2

Syllabus		
Expt. No.	Contents	Mapped CO
PART-A (Any Eight Experiments)		
1	Verification of Maximum Power Transfer Theorem	CO1
2	Verification of Reciprocity Theorem	
3	Verification of Millman's Theorem	
4	Verification of Compensation Theorem	
5	Series and Parallel Resonance with frequency variations	CO2
6	Determination of Self, Mutual Inductances and Coefficient of coupling	CO3
7	Determination of impedance and admittance Parameters	
8	Determination of Transmission and hybrid parameters	
9	Measurement of Active & Reactive Power using two wattmeter method	CO4
10	Measurement of Reactive Power using one wattmeter method	

PART-B: PSPICE SIMULATION OF ELECTRIC CIRCUITS (Any Two Experiments)		
11	Mesh and Nodal Analysis using PSpice	
12	Verification of Thevenin's and Norton's Theorem using PSpice	
13	Verification of Superposition theorem using PSpice	CO5
14	DC Transient response using PSpice	
15	AC Transient response using PSpice	
Learning Resources		
Text Books		
1. Charles K.Alexander, Mathew N.O.Sadiku,"Fundamentals of Electric Circuits" (Fifth Edition), Tata McGraw-Hill.		
2. Sudhakar and Shyammohan S Palli, Circuits and Networks: Analysis and Synthesis, Fifth Edition, McGraw-Hill Education.		