CIRCUIT THEORY LAB

Course Code	20ES1352	Year	II	Semester(s)	I
Course Category	Engineering Science	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	BEEE Lab
Continuous Internal Evaluation:	15	Semester End Evaluation:	35	Total Marks:	50

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Analyze response in a given network by using theorems. (L4)
CO2	Determine two port network parameters of electrical network and self & mutual inductance of coupled circuits. (L3)
CO3	Calculate resonance frequency of RLC circuits, three phase power drawn by balanced circuits. (L3)
CO4	**Simulate** electrical circuits to verify network theorems and obtain their transient behaviour using PSPICE tools. (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	PO12	PSO1	PSO2
CO1		3		3									3	1
CO2	3			3									3	1
CO3	3			3									3	1
CO4		3		3	3								3	1
CO5					3				3				3	1
CO6										3			3	1

Syllabus		
Expt. No.	Contents	Mapped CO
PART-A(AnyEightExperiments)		
1	Verification of Maximum Power Transfer Theorem	CO1 CO5 CO6
2	Verification of Reciprocity Theorem	
3	Verification of Millman's Theorem	
4	Verification of Compensation Theorem	
5	Series and Parallel Resonance with frequency variations	CO3 CO5

		CO6
6	Determination of Self, Mutual Inductances and Coefficient of coupling	CO2
7	Determination of impedance and admittance Parameters	CO5
8	Determination of Transmission and hybrid parameters	CO6
9	Measurement of Active& Reactive Power using two wattmeter method	CO3
10	Measurement of Reactive Power using one wattmeter method	CO5
		CO6

PART-B:PSPICESIMULATIONOFELECTRICCIRCUITS(AnyTwoExperiments)		
11	Mesh and Nodal Analysis using PSpice	CO 4
12	Verification of Thevenin's and Norton's Theorem using PSpice	CO 5
13	Verification of Superposition theorem using PSpice	CO 6
14	DC Transient response using PSpice	
15	AC Transient response using PSpice	
LearningResources		
TextBooks		
1. Charles K.Alexander, Mathew N.O.Sadiku,"Fundamentals of Electric Circuits"(SixthEdition), Tata McGraw-Hill.		
2. Sudhakar and Shyammohan S Palli, Circuits and Networks: Analysis and Synthesis, FifthEdition,McGraw-HillEducation.		