ELECTRICAL CIRCUIT ANALYSIS-II AND SIMULATION LAB

Course Code	23EE3351	Year	II	Semester(s)	I
Course Category	Professional Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	ECA-I Lab
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 the principles of electrical circuits for power calculations in three phase circuits. (L3)
CO2 Evaluate two port network parameters. (L3)
CO3 Simulate and analyse electrical circuits using suitable software (L4)
CO4 Conduct experiments as a **team / individual** by using equipment available in the laboratory
CO5 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	1
CO2	3												3	1
CO3		3											3	1
CO4													3	1
CO5									3					
CO6										3				

Any 10 of the following experiments are to be conducted:

Syllabus		
Exp. No.	Contents	Mapped CO
1	Measurement of Active Power and Reactive Power for balanced loads.	CO1
2	Measurement of Active Power and Reactive Power for unbalanced loads.	CO4 CO5
3	Determination of Z and Y parameters.	CO2
4	Determination of ABCD and hybrid parameters	CO4 CO5
5	Verification of Kirchhoff's current law and voltage law using simulation tools.	CO3 CO4 CO5
6	Verification of mesh and nodal analysis using simulation tools.	
7	Verification of super position and maximum power transfer theorems using simulation tools.	
8	Verification of Reciprocity and Compensation theorems using simulation tools.	

9	Verification of Thevenin's and Norton's theorems using simulation tools.
10	Verification of series and parallel resonance using simulation tools.
11	Simulation and analysis of transient response of RL, RC and RLC circuits.
12	Verification of self inductance and mutual inductance by using simulation tools.

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