II Year I Semester **L T P C**

Code: 20EE3101 **0 0 3 1.5**

ELECTRICAL CIRCUITS ANALAYSIS LABORATORY

Preamble: To impart practical knowledge on the performance evaluation methods of various internal combustion engines, flow measuring equipment and hydraulic turbines and pumps.

Course Objectives

1. To verify the network theorems.
2. To study resonance characteristics
3. To determine two-port network parameters

Course Outcomes

1. Verify various circuit Laws and Theorems
2. Interpret the response of series and parallel RLC circuits under resonance
3. Determine parameters of a given two-port network

CO – PO & CO – PSO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P010	PO11	P012	PSO1	PSO2	PSO3
CO1	3					3							3		
CO2		3		3					3						
CO3		3			3								3		

*1 – Weak, 2 – Moderate and 3 – Strong

S.No List of Experiments

1. Verification of Ohm's and Kirchhoff's laws.
2. Verification of Thevenin's and Norton's Theorems
3. Verification of Superposition theorem and Reciprocity Theorems.
4. Verification of Maximum Power Transfer Theorem and Millman's Theorem
5. Measurement of active power, power factor and reactive power of a 1-Ø RLC circuit.
6. Series and parallel resonance
7. Determination of Self,Mutual inductances and coefficient of coupling
8. Determination of Z and Y parameters
9. Determination of Transmission and Hybrid parameters
10. Measurement of active and reactive power for star and delta connected loads
11. Measurement of parameters of a choke coil

Text Books:

1. Charles K. Alexander and Mathew N.O. Sadiku, "Fundamentals of Electric Circuits", 5th Edition, Tata McGrawHill Publications, 2012

Reference Books:

1. Network Analysis: Van Valkenburg; Prentice-Hall of India Private Ltd.
2. Fundamentals of Electrical Circuits by Charles K.Alexander and Mathew N.O.Sadiku, McGraw Hill Education (India)
3. Electrical Circuit Analysis-2 by A Sudhakar, Shyammohan S Palli, McGraw Hill Education (India)
4. Circuit Theory (Analysis and Synthesis) by A.Chakrabarthi, DhanpatRai&Co.
5. Electric Circuits by David A. Bell, Oxford publications
6. Electric Circuits– (Schaum's outlines) by MahmoodNahvi& Joseph Edminister, Adapted by K. Uma Rao, 5th Edition – McGraw Hill