### II B.Tech – I Semester (20EE3101) ELECTRICAL CIRCUITS ANALAYSIS LABORATORY

Int. M	larks Ext. Marks T	otal Marks L	4	Т	Р	С			
15	35	50 -		-	3	1.5			
Pre-R	equisites: Electrical C	ircuit Analysis							
Cours	se Objectives								
• T	o verify the network theo	rems.							
• T	o study resonance charac	teristics							
• T	o determine two-port net	work parameters							
S.No	List of Experiments								
1.	Verification of Ohm'	s and Kirchhoff's laws.							
2.	Verification of Theve	nin's and Norton's Theorems							
3.	Verification of Super	position theorem and Reciprocity Theorems.							
4.	Verification of Maxin	num 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 re	sonance							
7.	Determination of Self, Mutual inductances and coefficient of coupling								
8.	Determination of Z a	nd Y parameters							
9.	Determination of Tra	nsmission and Hybrid parameters							

- 10. Measurement of active and reactive power for star and delta connected loads
- 11. Measurement of parameters of a choke coil

#### **Course Outcomes:**

After successful completion of the course, the students will be able to:

S.No	Course Outcome				
1.	Verify various circuit Laws and Theorems	L6			
2.	Interpret the response of series and parallel RLC circuits under resonance	L6			
3.	Determine parameters of a given two-port network	L3			

#### **Correlation of COs with POs& PSOs:**

CO	<b>PO1</b>	PO2	PO3	<b>PO4</b>	PO5	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	PO10	PO11	PO12	PSO1	PSO2
CO1	3					3							3	
CO2		3		3					3					
<b>CO3</b>		3			3								3	

# **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