GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

MULTISIM/NETWORKS LAB

Course Code: GR15A2038   L:0 T:0 P:2 C:2
II Year I Semester

Prerequisites: In-depth knowledge of Networks.

Objectives
- To learn how to simulate an electrical circuit using Multisim.
- To demonstrate various network theorems and other network aspects using simulation.
- To demonstrate network theorems using components on breadboard.

Outcomes
- Ability to design and conduct simulations and experiments.
- Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.
- Ability to identify, formulate and solve engineering problems with simulation.
- Ability to simulate series and parallel resonance.
- Ability to simulate R-L, L-C for current vectors.
- Measurement of Three phase voltage and currents.
- Measurement of Reactive and Active power.

Contents
1. Thevenin's Theorem
2. Norton's Theorem
3. Maximum power Transfer Theorem
4. Superposition Theorem and Reciprocity Theorem
5. Z and Y parameters.
6. Transmission and Hybrid Parameters
7. Compensation and Milliman's Theorems
8. Series Resonance
9. Parallel Resonance
10. Locus of Current Vector in an R-L Circuit
11. Locus of Current Vector in an R-C Circuit
12. Measurement of 3-phase power by two watt meter method for unbalanced loads
13. Measurement of Active and Reactive power of star and delta connected balanced loads