SANTHIRAM ENGINEERING COLLEGE, NANDYAL

Department of Electrical and Electronics Engineering

Name of the Laboratory: **BASIC ELECTRICAL CIRCUITS** ***Regulation:*** **R19**

Branch: **Electrical and Electronics Engineering** ***Year & Sem:*** **II- I**

Course Objectives

To make the student learn about

- Network Synthesis, Network theorems and their applications
- Single Phase and Three Phase AC circuits and concepts of real power, reactive power, complex power and power factor.

Course Outcomes

At the end of the course, students will be able to

- Remember, understand and apply various theorems and verify practically.
- Understand and analyze active, reactive power measurements in three phase balanced & un balanced circuits.

List of Experiments

1. Verification of Thevenin's and Norton's Theorems
2. Verification of Superposition Theorem for average and rms values
3. Maximum Power Transfer Theorem for DC and AC circuits
4. Verification of Compensation Theorem for DC circuits
5. Verification of Reciprocity, Millmann's Theorems for DC circuits
6. Determination of Self, Mutual Inductances and Coefficient of Coupling
7. Measurement of Active Power for Star Connected Balanced Loads
8. Measurement of Reactive Power for Star Connected Balanced Loads
9. Measurement of 3-Phase Power by Two Wattmeter Method for Unbalanced Loads
10. Measurement of Active Power for Delta Connected Balanced Loads
11. Measurement of Reactive Power for Delta Connected Balanced Loads

List of Equipments

1. Regulated Power Supply
2. Rheostats, Ammeters (MI & MC), Voltmeters (MI & MC), Wattmeter (UPF & LPF)
3. Decade Resistance Box, Decade Inductance Box, Decade Capacitance Box
4. Cathode Ray Oscilloscope (CRO's), Function Generators
5. Breadboard, Digital Multimeters

Lab Instructor:

Dr. Seetha Chaithanya,
Asst. Professor,
Dept. of EEE,
SREC.

Lab Assistant:

Mr. S. Shahinsha,
Dept. of EEE,
SREC.