SANTHIRAM ENGINEERING COLLEGE, NANDYAL

Department of Electrical and Electronics Engineering

Name of the Laboratory: **ELECTRICAL CIRCUITS** ***Regulation:*** **R15**

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

Course Objective

- Experimental verification of theorems
- Experimental verification of Resonance phenomenon
- Drawing current locus diagrams
- Practical determination of two port network parameters
- Practical implementation of active and reactive power measurement techniques

Course Outcomes

- Apply suitable theorems for circuit analysis and verify the results theoretically
- Experimental determination of two port network parameters and theoretical verification
- Measure active and reactive power experimentally and verify the theoretical values
- Experimentally determine self inductance, mutual inductance and coefficient of coupling
- Practically determine band width, Q-factor and verify with theoretical values.

List of Experiments

1. Verification of Thevenin's and Norton's Theorems
2. Verification of Superposition Theorem and Maximum Power Transfer Theorem
3. Verification of Compensation Theorem
4. Verification of Reciprocity , Millmann's Theorems
5. Locus Diagrams of RL and RC Series Circuits
6. Series and Parallel Resonance
7. Determination of Self, Mutual Inductances and Coefficient of Coupling
8. Z and Y Parameters
9. Transmission and Hybrid Parameters
10. Measurement of Active Power for Star and Delta Connected Balanced Loads
11. Measurement of Reactive Power for Star and Delta Connected Balanced Loads
12. Measurement of 3-Phase Power by Two Wattmeter Method for Unbalanced 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:
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