

## **Name of the laboratory: Electrical Circuits**

### **Objectives of the lab:**

- To design electrical systems
- To analyze a given network by applying various Network Theorems
- To measure three phase Active and Reactive power
- .To understand the locus diagrams

### **List of experiments:**

1. Verification of Thevenin's and Norton's Theorems
2. Verification of Superposition, Reciprocity and Maximum Power Transfer theorems
3. Locus Diagrams of RL and RC Series Circuits
4. Series and Parallel Resonance
5. Time response of first order RC / RL network for periodic non – sinusoidal inputs – Time constant and Steady state error determination.
6. Two port network parameters – Z – Y parameters, Analytical verification.
7. Two port network parameters – A, B, C, D & Hybrid parameters, Analytical verification
8. Separation of Self and Mutual inductance in a Coupled Circuit. Determination of Coefficient of Coupling.
9. Verification of compensation & Milliman's theorems
10. Harmonic Analysis of non-sinusoidal waveform signals using Harmonic Analyzer and plotting frequency spectrum.
11. Determination of form factor for non-sinusoidal waveform
12. Measurement of Active Power for Star and Delta connected balanced loads
13. Measurement of Reactive Power for Star and Delta connected balanced load

**LIST OF EQUIPMENT**

<b>S.NO</b>	<b>DESCRIPTION</b>
1	Thevenins ,Norton's & maximum power transfer theorem
2	Super position theorem
3	Verification of compensation theorem
4	Reciprocity & Millimans theorem
5	Locus diagram of RL & RC series circuit
6	Series and Parallel Resonance
7	Z & Y parameters
8	Transmission and Hybrid parameters
9	Regulated power supply
10	Determination of self and mutual inductances and coefficient of coupling kit
11	Verification of RMS Value of complex wave kit
12	UPF Wattmeter
13	LPF Wattmeter
14	3 PH Inductive load
15	3 PH Resistive load
16	Electronic Components(breadboard)

17	Three phase variac
18	Digital meters
19	Decade resistance box
20	Decade capacitance
21	Decade inductance
22	Function generator
23	CRO
24	A low rating transformer
25	Portable meters
	3-phase wattmeter
26	3-phase wattmeter
27	CHOKE : RATING 80W/230V/0.5A

