Name of the laboratory: Electrical Measurements and Instrumentation Lab

Objectives of the lab:

- The significance of the Electrical Measurements Lab is renowned in the various fields of engineering applications. For an Electrical Engineer, it is obligatory to have the practical ideas about the Electrical Measurements. The main objectives of this lab are to expose the students to different types of electrical measuring instruments and make the students understand how to use these instruments for measuring an unknown quantity. In this lab we also calibrate & test different types of electrical measuring instruments.

List of experiments:

1. Calibration and Testing of single phase energy Meter.
2. Calibration of dynamometer power factor meter.
3. Crompton D.C. Potentiometer – Calibration of PMMC ammeter and PMMC voltmeter.
4. Kelvin's double Bridge – Measurement of resistance – Determination of Tolerance.
5. Dielectric oil testing using H.T. testing Kit.
6. Schering bridge & Anderson bridge.
7. Measurement of 3 - Phase reactive power with single-phase wattmeter.
8. Measurement of displacement with the help of LVDT.
9. Calibration LPF wattmeter – by Phantom testing.
10. Measurement of 3-phase power with single watt meter and two CTs.
11. C.T. testing using mutual Inductor – Measurement of % ratio error and phase angle of given CT by Null method.
12. PT testing by comparison – V. G. as Null detector – Measurement of % ratio error and phase angle of the given PT
13. Resistance strain gauge – strain measurements and Calibration.
14. Transformer turns ratio measurement using AC bridges.
15. Measurement of % ratio error and phase angle of given CT by comparison.

LIST OF EQUIPMENT

S.NO	DESCRIPTION
1	Phase shifting transformer
2	MI A.C Voltmeters (0-300V)
3	MI A.C Ammeters (0-10A)
4	MCTP-1 Current transformer
5	CT-2510-02 75/5A, 5VA
6	Portable ammeters M.I A.C (0-5/10A)
7	MI Ammeter (0-1A)
8	MI Ammeters (0-2A)
9	IT-5(A) LVDT module unit
10	IT-8 Study of capacitive pick up
11	IT-6(A)Strain gauge indicator with cantilever beam
12	Dynamometers 125/250/500V
13	5/10A, 150/300/600V1-PHASE Wattmeter
14	Fixed condenser
15	Fixed frequency oscillator
16	Head phones
17	Digital stop watch
18	Portable potentiometer PL52N
19	ATVD-10A, 10 P-1
20	ATVD-2A, 2 P-1
21	Energy meter
22	Portable Kelvin bridge
23	0.1 Ohms, 5 Amps
24	Anderson & Schering bridge

25	Single phase 10A tapping nductive load
26	Wattmeter 10A/600V
27	SPST 32A switch
28	Three phase resistive load 440V/10A
29	Wattmeter 5/10A-300/600V
30	Wattmeter 150/300/600V LPF
31	Three phase Variac
32	Single phase Variac
33	Dielectric oil testing kit
34	Regulated power supply
35	Transformer turns ratio measurement AC bridge
36	Measurement of 3 phase power with 1 wattmeter & 2 CT's
37	PT testing by comparison
38	Calibration of LPF wattmeter by phantam testing