Course code	Course Name	L-T-P-C	Year of Introduction
IC234	Electrical and Electronics Measurements Lab	0-0-3-1	2016

Prerequisite : Nil

Objective

- To learn the calibration of various electrical measuring instruments
- To learn the measurement of different Electrical Parameters

List of Experiments: (A minimum of 12 experiments are to be done)

1. Determination of B-H curve of an iron ring specimen
2. Measurement of resistance using Wheat stone's bridge
3. Measurement of self/mutual inductance and coupling coefficient of iron cored coil and air cored coil
4. Calibration of dynamometer type wattmeter, using precision type vernier potentiometer
5. Extension of range of ammeter and calibration of the extended meters using standard ammeter
6. Extension of range of voltmeter and calibration of the extended meters using standard voltmeter
7. Extension of range of a dynamometer type wattmeter using CT/PT and calibration of the extended meter using a standard wattmeter
8. Calibration of single-phase energy meter by direct loading and phantom loading at UPF
9. Calibration of single phase energy meter using standard wattmeter
10. Measurement of capacitance using Schering bridge
11. Measurement of branch voltages in a series RLC circuit using A.C potentiometer
12. Calibration of static Single Phase Energy Meter
13. Calibration of static Three Phase Energy Meter
14. Measurement of unknown voltage using Vernier potentiometer and voltmeter calibration.
15. Draw the V - I characteristics of linear and non-linear resistance
16. Calibrate the given single phase energy meter by phantom loading at 0.5 and 0.866 PF lag
17. Calibrate the given single phase energy meter by phantom loading at 0.5 and 0.866 PF lead.
18. Measurement of resistance using Kelvin's double bridge

Expected outcome

At the end of this course, the student will be able to measure various electrical quantities, extent meter ranges and calibrate instruments.

Text Books

1. E.W. Golding and F.C. Widdis, Electrical Measurements and Measuring Instruments, Reem Publishers
2. A.K. Sawhney, *A course in Electrical and Electronics Measurements and Instrumentation*, Dhanpat Rai and sons
3. Joseph J Carr, *Elements of electronic Instrumentation and Measurement*, Pearson Education