

COURSE TITLE : ELECTRICAL MEASUREMENTS LAB
COURSE CODE : 3039
COURSE CATEGORY : B
PERIODS/WEEK : 6
PERIODS/SEMESTER : 90
CREDITS : 4

Course Objective:

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	1	To understand various types of electrical measuring instruments.
	2	To know the measuring procedure and compute the result.
	3	To know the verification of laws.
	4	To understand different methods of resistance measurements.
	5	To understand various methods of power measurements in single phase and three phase.
	6	To understand the methods of calibrating wattmeter and energy meter.
	7	To understand the procedure for identifying the winding terminals (transformer, alternator, Induction motors).

LIST OF EXPERIMENTS

1. To draw front panel of the following measuring instruments and document meter details.
 - a. MI type voltmeter and Ammeter.
 - b. MC type voltmeter and Ammeter.
 - c. Wattmeter –LPF
 - d. Wattmeter –UPF
 - e. Energy meter (Both electro-mechanical and Static)

2. To measure resistance of tungsten filament lamp by Voltmeter-Ammeter method to find hot and cold resistance from the VI graph.
3. To verify Kirchhoff's laws.
4. To verify superposition theorem.
5. To measure the Impedance and resistance of a coil and compute Inductance, inductive reactance. Power factor and PF angle.
6. To measure the impedance, resistance, inductance, capacitance of RLC series circuit draw vector diagram.
7. To measure the power and PF of a single phase LPF load by 3 ammeters and draw the phasor diagram.
8. To measure the power and PF of a single phase LPF load by 3 Voltmeter and draw the phasor diagram.
9. To measure the power and PF of three phase balanced load by 2 wattmeter method .
10. To calibrate a wattmeter by direct loading at UPF -plot the error curve.
11. To calibrate the wattmeter by phantom loading at UPF -plot the error curve.
12. To calibrate the Energy meter by direct loading at UPF -plot the error curve.
13. To calibrate energy meter by phantom loading at UPF.
14. To calibrate energy meter by phantom loading at 0.866pf lag and lead.
15. To calibrate energy meter by phantom loading at 0.5 pf lag and lead.
