

ELECTRICAL MEASUREMENTS AND INSTRUMENTATION LAB

CourseCode	23EE3651	Year	III	Semester(s)	II
Course Category	Professional Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisite	E&EEW Lab
Continuous Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Measure the electrical parameters and Know the usage of CT & PT for measurement purpose. (L3)
CO2	Identify the characteristics of transducers. (L3)
CO3	Measure the electrical parameters using digital meter. (L3)
CO4	Conduct experiments as a team / individual by using equipment available in the laboratory
CO5	Summarize, tabulate and make an effective report on the conducted experiments.

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3			3								2	3	1
CO2	3			3								2	3	1
CO3	3			3								2	3	1
CO4									3				3	1
CO5										3			3	1

Any 10 of the following experiments are to be conducted:

Syllabus		
Exp. No.	Contents	Mapped CO
1	Calibration of dynamometer wattmeter using phantom loading	CO1 CO4 CO5
2	Calibration of LPF Wattmeter by direct loading.	
3	Measurement of 3 phase reactive power using single wattmeter method for a balanced load.	
4	Testing of C.T. using Silsbee's method – Measurement of % ratio error and phase angle of given C.T.	
5	P.T. testing by comparison – V.G as Null detector – Measurement of % ratio error and phase angle of the given P.T.	
6	Determination of the characteristics of a Thermocouple.	CO2 CO4 CO5
7	Determination of the characteristics of a LVDT.	
8	Determination of the characteristics for a capacitive transducer.	
9	Measurement of strain for a bridge strain gauge.	

Learning Resources	
Text Books	
1.	A course in Electrical and Electronic Measurements and Instrumentation by A.K. Sawhney, 9 th Edition, Dhanpat Rai & Co. Publications.
2.	Electrical Measurements and Measuring Instruments, E.W. Golding and F.C. Widdis, 5 th Edition, Wheeler Publishing company.
E- Resources	
	https://nptel.ac.in/courses/108/105/108105153/