Course Name: ELECTRICAL & ELECTRONIC MEASUREMENT LABORATORY
Course Code: EE492
Credit: 2

Prerequisites:

Sl. No.	Subject	Description	Level of Study
01	Mathematics	General Mathematics	Class XII
02	Physics	Electricity.	Class XII

Course Objective:

- To develop the skill to perform the experiments individually on various electrical systems under different variable situations.
- To analyze and evaluate the results from the experiments.

Course Outcomes:

1. **Develop** the fundamental knowledge and **demonstrate** various electrical measuring instruments which operated by different electrical, chemical, mechanical, optical and other physical properties.
2. **Relate** the mathematical and theoretical knowledge with the practical electrical measuring system and **realize** the importance of further improvement of the measuring instrument for more improved performance, efficiency, cost effectiveness, safety and environmental aspects.
3. **Design** the measuring circuit and **perform** the real life experiment to find out various electrical parameters which are important to design the electrical system considering safety, economic and environmental constrains.
4. Able to **standardize** various measuring instrument with the help of standard absolute meters.
5. Capable to **analyze** the effect on the electrical system with different types of changing electrical loads and supply.
6. **Develop** themselves as a good team member and leader to perform the experiments with co-operation and communication with other team members. Also able to **invent** themselves the capability of decision making which leads a good performance and able to **perform** the documentation of experimental data.

CO- PO mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	3	-	-	-	-	-	-	-	-	3	-	2
2	3	-	2	3	-	-	2	1	-	3	-	2
3	3	3	3	2	-	3	3	3	3	3	2	3
4	3	-	-	-	-	-	-	-	3	-	-	-
5	3	3	3	-	-	3	3	2	2	2	-	3
6	-	2	-	-	-	2	2	2	3	3	-	3

Correlation levels 1, 2 or 3 as defined above: 1: Slight (Low) 2: Moderate (Medium)3: Substantial (High) and "-" if there is no correlation.

Syllabus Indicating CO:

Sl No.	Content	Relevant CO's
1	Instrument workshop- Observe the construction of PMMC, Dynamometer, Electrothermal and Rectifier type of instruments, Oscilloscope and Digital multimeter.	CO1
2	Calibrate moving iron and electrodynamometer type ammeter/voltmeter by potentiometer.	CO2, CO4,CO6
3	Calibrate dynamometer type wattmeter by potentiometer.	CO2, CO4,CO6
4	Calibrate AC energy meter.	CO2, CO4,CO6
5	Measurement of resistance using Kelvin double bridge.	CO2,CO6
6	Measurement of power using Instrument transformer.	CO2,CO6
7	Measurement of power in Polyphase circuits.	CO2,CO6
8	Measurement of frequency by Wien Bridge.	CO2,CO6

9	Measurement of Inductance by Anderson bridge	CO2,CO6
10	Measurement of capacitance by De Sauty Bridge.	CO2,CO6
11	Measurement of capacitance by Schering Bridge.	CO2,CO6