Course Name Electrical & Electronics Measurements Laboratory

Course Code EE392

Course Credit 2

Contact Hour 3P

Prerequisite

Course Objective

The objectives of this course are

1. The ability to conduct testing and experimental procedures on various measuring Instruments.
2. To give a chance to students to understand difference between Theoretical and Practical Value.
3. The capability to analyze the Error in Instrument.
4. To prepare the students to have a basic constructional knowledge of various type ammeter, voltmeter, wattmeter also with other various measuring Instrument.

Course Outcome

On completion of the course students will be able to

1. Understand basic working Principle of various Instrument.
2. Select a suitable measuring instrument for a given electrical Quantity.
3. Conduct experimental investigation and gain knowledge on practical and theoretical value.
4. Solve practical error of various Instrument.
5. Analyze error and application of measuring instrument which will be most suitable one to measure an electrical quantity.

CO Mapping with departmental POs

H: High, M: Medium, L: Low

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	H	H	M								L	
CO 2	H	H		M					M		H	
CO 3	H				H			M			M	
CO 4		H	H				M			L		
CO 5	H					L					M	

Course Content

Ex. 1. Instrument workshop- Observe the construction of PMMC, Dynamometer, Electro-thermal and Rectifier type of instruments, Oscilloscope and Digital multimeter.

Ex. 2. Calibrate moving iron and electrodynamometer type ammeter/voltmeter by potentiometer.

Ex. 3. Calibrate dynamometer type wattmeter by potentiometer.

Ex. 4. Calibrate AC energy meter.

Ex. 5. Measurement of resistance using Kelvin double bridge.

Ex. 6. Measurement of power using Instrument transformer

Ex. 7. Measurement of power in Polyphase circuits.

Ex. 8. Measurement of frequency by Wien Bridge.

Ex. 9. Measurement of Inductance by Anderson bridge.

Ex. 10. Measurement of capacitance by De' Sauty Bridge.

Ex. 11. Measurement of capacitance by Schering Bridge