BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(An Autonomous Institution)
Amalapuram–533201,Dr. B.R.Ambedkar Konaseema DT,Andhra Pradesh.
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
(Accredited by NBA)

III Year II Semester Course Code: 23EE6L08	ELECTRICAL MEASUREMENTS AND INSTRUMENTATION LAB (PROFESSIONAL CORE)	L	T	P	C
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Course Objectives:

- To understand students how different types of meters work and their construction.
- To make the students understand how to measure resistance, inductance and capacitance by AC & DC bridges.
- To understand the testing of CT and PT.
- To Understand and the characteristics of Thermo couples, LVDT, Capacitive transducer, piezoelectric transducer and measurement of strain and choke coil parameters.
- To study the procedure for standardization and calibration of various methods.

Course Outcomes:

After the completion of the course the student should be able to: CO1: Know about the phantom loading and calibration process.

CO2: Measure the electrical parameters voltage - current - power- energy and electrical characteristics of resistance - inductance and capacitance.

CO3: Gain the skill knowledge of various brides and their applications. CO4: Learn the usage of CT's - PT's for measurement purpose.

CO5: Know the characteristics of transducers and measure the strains - frequency and phase difference.

Any 10 of the following experiments are to be conducted

1. Calibration of dynamometer wattmeter using phantom loading
2. Measurement of resistance using Kelvin's double Bridge and Determination of its tolerance.
3. Measurement of Capacitance using Schering Bridge.
4. Measurement of Inductance using Anderson Bridge.
5. Calibration of LPF Wattmeter by direct loading.
6. Measurement of 3 phase reactive power using single wattmeter method for a balanced load.
7. Testing of C.T. using mutual inductor – Measurement of % ratio error and phase angle of given C.T. by Null deflection method.
8. P.T. testing by comparison – V.G as Null detector – Measurement of % ratio error and phase angle of the given P.T.
9. Determination of the characteristics of a Thermocouple.
10. Determination of the characteristics of a LVDT.
11. Determination of the characteristics for a capacitive transducer.
12. Measurement of strain for a bridge strain gauge.
13. Measurement of Choke coil parameters and single-phase power using three

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voltmeter and three ammeter methods.

14. Calibration of single-phase Induction Type Energy Meter.
15. Calibration of DC ammeter and voltmeter using Crompton DC Potentiometer.
16. AC Potentiometer: Polar Form / Cartesian Form - Calibration of AC voltmeter - Parameters of choke.