**17EE31P1-ELECTRICAL MEASUREMENTS LAB**

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| **Course Category:** | Professional core | **Credits:** | 2 |
| **Course Type:** | Laboratory | **Lecture-Tutorial-Practical:** | 0-0-3 |
| **Pre-requisite:** | Electrical measurements & Electronic measurements | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Objectives:** | To make the student learn about: | |
| 1. To analyze the meters and its working. 2. The calibration of different meters. 3. The different types of electrical measuring instruments. 4. Measuring unknown quantity using various instruments. 5. Test different types of electrical measuring instruments. 6. Measurement of non-electrical quantities | |
| **Course Outcomes:** | After completing the course the student will be able to: | |
| **CO1** | Analyze the meters and its working. |
| **CO2** | Analyze the calibration techniques for wattmeter, power factor meter, voltmeter, energy meter and current transformer etc. |
| **CO3** | Measure the parameters of choke coil. |
| **CO4** | Measure unknown parameters using different bridges. |
| **CO5** | Verify the characteristics of transducers like RTD, Thermistor, Thermocouple and capacitive transducers. |
| **CO6** | Measure the quantity using the transducers. |
| **Course Content:** | Minimum of 10 experiments to be conducted out of the following:  **List of Experiments**   1. Calibration of power factor meter. 2. Calibration of dynamometer type wattmeter by phantom loading. 3. Measurement of power by using three voltmeter and three ammeter methods. 4. DC Crompton’s potentiometer. 5. Measurement of capacitance using CRO. 6. Measurement of parameters of a choke coil using three voltmeter and three ammeter methods. 7. Calibration of single phase energy meter. 8. Calibration of current transformer. 9. Measurement of capacitance using Schering bridge. 10. Measurement of capacitance using Desauty’s bridge. 11. Measurement of inductance using Hay’s bridge. 12. Measurement of inductance using Anderson’s bridge. 13. Measurement of resistance using Wheatstone’s bridge. 14. Measurement of resistance using Kelvin’s double bridge. 15. Characteristics of RTD. 16. Characteristics of thermocouple. 17. Characteristics of thermistor. 18. Characteristics of capacitance transducer. | |