BASIC ELECTRICAL ENGINEERING LAB

(Engineering Science Elective)

Course Code: **15EE1154**

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0	**0**	**3**	**2**

Prerequisite:

Basic Electrical Engineering

Course Outcomes:

CO 1 Analyze the properties of basic electrical elements and apply network theorems to electrical circuits.

CO 2 Analyze magnetic field circuits and solve AC networks.

CO 3 Explain the working of DC machines and transformers.

CO 4 Explain the working of synchronous and induction machines.

CO 5 Use basic measuring instruments based on their working principles.

The following experiments are required to be conducted as compulsory experiments:

1. Verification of KCL and KVL.
2. Verification of Superposition theorem.
3. Verification of Thevenin's theorem.
4. Verification of Maximum power transformer theorem.
5. Speed control of DC shunt motor.
6. OC and SC Test on a single phase transformer.
7. Brake Test on 3- Phase Induction motor.
8. Regulation of Alternator by Synchronous Impedance Method.

In addition to the above eight experiments, at least any two of the experiments from the following list are required to be conducted:

9. Verification of Norton's theorem.
10. Measurement of Impedance, power factor, and power in a 1-ph RLC series circuit.
11. Calibration of Ammeter and Voltmeter.
12. Experimental illustration of Faraday's laws (Demonstration Experiment).
13. OCC of a DC Separately excited generator.
14. Calibration of a Wattmeter in DC circuits.