ELECTRICAL TECHNOLOGY LAB

(Engineering Science Elective)

Course Code: **15EE1156**

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Course Outcomes:

At the end of the lab course, student will be able to**:**

CO 1 Solve the Network problems using Network Theorems.

CO 2 Analyze the Networks using Periodic and Non Periodic inputs.

CO 3 Evaluate the performance of DC Machines.

CO 4 Evaluate the Performance of Transformers.

CO 5 Evaluate the performance AC Machines.

PART – A

1. Verification of Kirchhoff's laws.
2. Verification of Superposition and Reciprocity Theorems.
3. Experimental determination of Thevenin's Equivalent circuits and verification by Direct Test.
4. Verification of Maximum Power Transfer Theorem
5. Series Resonance – Resonant frequency, Bandwidth and Q-factor determination for RLC Network.
6. Time response of first order R-L and R-C network for periodic Non-sinusoidal inputs – time constant and steady state error determination.

PART – B

1. Magnetization characteristics of D.C. Shunt generator. Determination of Critical Field Resistance and Critical Speed.

2. Swinburne's Test on DC Shunt Machine.
3. Brake test on DC Shunt Motor.
4. OC & SC tests on Single-phase transformer.
5. Brake test on 3-Phase Induction Motor.

Regulation of Alternator by Synchronous Impedance Method.