BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LAB
(For CSE, CSE (AI & ML), CSE (DS), IT, MECHANICAL, ME (ROBOTICS)

Course Code: 22EE11D4	L	T	P	C
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Course Outcomes: At the end of the Course the student shall be able to

CO1: analyze the DC Theorems (L4)

CO2: determine the performance characteristics of DC machines and AC Machines (L3) **CO3:** determine the characteristics of Diode and LED (L3)

CO4: apply the devices such as Diode, MOSFET, OPAMP as a Rectifier, Amplifier and inverter Gate (L3)

CO5: analyze the Diode, Transistor, MOSFET, and OPAMP circuits (L4)

Conduct any 12 experiments from the following:

1. Verification of Kirchhoff's Laws.
2. Verification of Superposition Theorem.
3. Verification of Thevenin's Theorem.
4. Speed Control of DC shunt motor.
5. OC and SC Tests on a single phase transformer.
6. Brake Test on DC shunt motor.
7. Current Voltage Characteristics of a p-n Junction Diode, LED.
8. Diode Rectifier Circuit- Half wave rectifier
9. Diode Rectifier circuit- Full wave bridge rectifier
10. Voltage Regulation with Zener Diodes.
11. Observe output waveform of Inverting amplifier with Op-Amps
12. Observe output waveform of Non-inverting Amplifier with Op-amps.
13. Open Circuit characteristics of separately excited DC generators.
14. Swinburn's test on DC Shunt Machine.

Reference Books:

1. D. P. Kothari and I. J. Nagrath, *Basic Electrical Engineering*, Third edition Tata McGraw Hill, 2010.
2. D. C. Kulshreshtha, *Basic Electrical Engineering*, First edition, McGraw Hill, 2009.

Adel S. Sedra and Kenneth C. Smith, *Microelectronic Circuits*, 6th edition, Oxford University Press, 2014.