

Course No.	Course Name	L-T-P-Credits	Year of Introduction
EE110	<b>ELECTRICAL ENGINEERING WORKSHOP</b>	0-0-2-1	2016

### Course Objectives

The objective of this course is to familiarize the students with commonly used components, accessories and measuring equipment in Electrical installations. The course also provides hands on experience in setting up of simple wiring circuits.

### List of Exercises / Experiments (Minimum of 8 mandatory)

1. Identify different types of cables/wires and switches and their uses.
2. Identify different types of fuses & fuse carriers, MCB and ELCB, MCCB with ratings and usage.
3. Wiring of simple light circuit for controlling light/fan point (PVC conduit wiring).
4. Wiring of light/fan circuit using Two way switches (Staircase wiring)
5. Wiring of fluorescent lamps and light sockets (6 A)
6. Wiring of Power circuit for controlling power device (16A socket)
7. Godown wiring / Tunnel wiring
8. Wiring of power distribution arrangement using single phase MCB distribution board with ELCB, Main switch and Energy meter.
9. Measurement of voltage, current and power in single phase circuit using voltmeter, ammeter and wattmeter. Calculate the power factor of the circuit.
10. Wiring of backup power supply including inverter, battery and load for domestic installations.
11. Demonstration and measurement of power consumption of electric iron, mixer grinder, single phase pump, exhaust fan, etc.
12. Energy meter reading and tariff calculation

### Expected outcome

1. Familiarity with supply arrangements and their limitations, knowledge of standard voltages and their tolerances, safety aspects of electrical systems and importance of protective measures in wiring systems.
2. Knowledge about the types of wires, cables and other accessories used in wiring. Creating awareness of energy conservation in electrical systems.
3. Students should be able to wire simple lighting circuits for domestic buildings, distinguish between light and power circuits.
4. To measure electrical circuit parameters and current, voltage and power in a circuit.
5. Familiarity with backup power supply in domestic installation.