



# SANTHIRAM ENGINEERING COLLEGE, NANDYAL

*Department of Electrical and Electronics Engineering*

**Name of the Laboratory:** Electrical & Electronics Engineering Workshop

**Regulation:** R19

**Branch:** Electrical and Electronics Engineering

**Year & Sem:** I-I

### Course Objective

- To know about different tools, abbreviations and symbols in Electrical Engineering
- To learn about types of measuring instruments to measure electrical quantities
- To gain knowledge on different types of earthing and earth resistance
- To study different types of wiring.

### Course Outcomes

- Able to demonstrate knowledge on different tools, abbreviations and symbols used in Electrical Engineering
- Able to measure different electrical quantities using measuring instruments
- Able to demonstrate how to trouble shoot the electrical equipments (like fan, grinder, motor, etc.)
- Able to do wiring and earthing for residential houses.

### List of Experiments

1. Study of Introduction to Electrical tools, symbols and abbreviations
2. Study of types of sizes of wires and making “T” joint and straight joint for wires
3. Measurements of Electrical quantities (like Voltage, Current, Power, Power factor in RLC circuits)
4. Study of measurements of Energy (using Single phase and Three phase Energy meter) by connecting different loads
5. Study of earthing and measurement of earth resistance
6. Study and performance of residential wiring (using Energy meter, Fuses, Switches, Indicator, Lamps, etc.)
7. Study of Fluorescent lamp wiring
8. Study of various electrical gadgets (CFL and LED)
9. Study of PV Cell
10. Study of Induction motor and Transformer
11. Assembly of choke or small transformer
12. Study of trouble shooting of electrical equipments (fan, iron box, mixer-grinder, etc.)
13. Introduction to basics of Electronic components: Solder practice, Multi meter, Power supply
14. Measurement of wire gauges using gauge meter
15. Identification of color code, resistors, ICs, Transistors, capacitors, diodes, SCRs, IGBTs etc.



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