

# ELECTRICAL INSTALLATION WORKSHOP

ENEE 152

**Lecture** : 0  
**Tutorial** : 0  
**Practical** : 3

**Year : I**  
**Part : II**

## **Course Objectives:**

To equip students with the practical knowledge and skills necessary for a career in electrical installation including comprehensive understanding of electrical installation principles, practices, and safety standards.

- 1 Introduction to Electrical Workshop (6 hours)**
  - 1.1 Familiarization of tools and accessories
  - 1.2 Safety measures, control and protection devices in electrical works
  - 1.3 Understanding symbols, wiring layout and connection diagrams
  - 1.4 Identification of phase, neutral and earth wire
  
- 2 Tinning and Wire Connection (3 hours)**
  - 2.1 Preparation of wires
  - 2.2 Wire and cable termination technique
  - 2.3 Tinning joint
  
- 3 Light and Power Circuit Wiring (18 hours)**
  - 3.1 Lamps controlled by simple switch, alternate switch (Two-way switching), Intermediate switch and dimmers, bell control wire push button switch including safety devices, DB and energy meter, testing (Continuity test, polarity test, insulation test, installation test, earth resistance test)
  
- 4 Repair and Maintenance (6 hours)**
  - 4.1 Repair and maintenance of common household appliances
  
- 5 Industrial Wiring (12 hours)**
  - 5.1 Single-phase and three-phase motor controlled by DOL starter
  - 5.2 Forward and reverse of three-phase motor using contactor
  - 5.3 Starting of three-phase motor by star/delta starter

## References

1. Gupta, J.B. (2013). A Course in Electrical Installation: Estimating & Costing. S. K. Kataria & Sons.
2. Johri, H.M. (2010). Electrical Installations in Building. KW Publishers.
3. Uppal, S.L., Garg, G.C. (1987). Electrical Wiring: Estimating & Costing (Latest Edition). Khanna Publishers.
4. Raina, K.B., Bhattacharya, S.K. (2024). Electrical Design: Estimating & Costing. New Age International.
5. Singh, T. (2013). Installation, Commissioning & Maintenance of Electrical Equipment. S. K. Kataria & Sons.