

**ELECTRICAL SYSTEMS DESIGN AND GREEN POWER -  
TRAINING CENTRE**

(An Industry Recognized Training Centre)

**TRAINING PROGRAM ON  
ELECTRICAL SYSTEM DESIGN FOR BUILDING SERVICES**

**CONTENTS**

**MODULE –I**

**4 hrs**

**ELEMENTS OF ELECTRICAL POWER INFRASTRUCTURE**

- 1 Supply System
  - a) Distribution Transformer
  - b) Emergency Supply System
  - c) Alternate Power Supply
- 2 Bus Bars
- 3 Conducting Channels
- 4 Load Elements and Load Points
- 5 Switch Gear
- 6 Lightning Protection of Buildings
- 7 Earthing

**MODULE -II**

**6 hrs**

**PRELIMINARY DESIGN OF ELECTRICAL POWER INFRASTRUCTURE**

- 1 Study of construction plan
- 2 Estimation of Total Connected Load
  - a) Total flats Load
  - b) Distribution Board Service (DB-S) Load
  - c) Motor Control Centre (MCC) Load
- 3 Choosing Appropriate Supply System
- 4 Load Distribution System

**MODULE -III**

**10 hrs**

**DETAILED DESIGN OF ELECTRICAL POWER INFRASTRUCTURE**

- 1 Sizing of Transformer
- 2 Sizing of Emergency/ Alternate Power Supply
- 3 Capacitor Bank (CB) sizing
- 4 Cable Sizing

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- 5 Voltage Drop Calculations and Short Circuit Analysis
  - a) Voltage Drop Calculations
  - b) Short Circuit Analysis
  - c) Calculation of Trip Time
- 6 Selection of Switchgear
- 7 Sizing of Bus Bars
- 8 Earthing Calculations
- 9 Lightning Protection
- 10 Detailed Single Line Diagram
- 11 Bill of Quantities

### **MODULE -IV**

**10 hrs**

#### **EXERCISE**

- 1 Load Calculations
- 2 Practice on Load Distribution for Residential building
- 3 Practice on Cable Sizing
- 4 Electrical System design for their own homes

### **PROJECT WORK FOR CERIFICATION**

**10 hrs**

- 1 Detailed Electrical Systems Design for G+2 Residential Complex

### **TOTAL**

**40 hrs**