

## FUNDAMENTALS OF **ELECTRICAL WIRING STANDARDS**



### What You **Will Learn...**

- Up to date information and training on the current edition of BS7671:2008+A1:2011, requirements for electrical installations
- In depth teaching on all aspects of the regulations and their application with many practical examples and sample design calculations
- References to safety, maintenance, inspection and testing
- The course also provides a summary of some of the basic principles necessary for a good understanding of electrical installation technology

# Course

# STRUCTURE



“I would like to thank T&P Team of Smartbrains who helped me to get skill set on Electrical System Design. The learning experience was good and placement is excellent”

**Zeeshan Ahmad**

Ankit Electrotech Engineers Pvt Ltd, Noida

## INTRODUCTION TO REGULATIONS

- Structure of international and UK wiring regulations
- Foundation electrical principles and terminology
- Scope of regulations
- Requirements for safety

## PROTECTION FOR SAFETY

- Shock
- Basic and fault protection
- Effects of shock on the human body and livestock (IEC 60479)
- Electrical hazards
- Calculation of disconnection times
- Voltage disturbances and protection against overvoltage
- Operating gangways
- Measures against electromagnetic disturbances

## CABLE PROTECTION

- Over-current
  - Cable sizing
  - Neutral conductors
- Selecting protective devices
- Calculation of adiabatic heating effect
- Effect of harmonic currents – thermal effects
- Parallel cables

## SELECTION AND ERECTION OF EQUIPMENT

- Wiring systems
- Switchgear
- Characteristics and limitations of fuses and circuit breakers
- Breaking capacity
- Co-ordination and discrimination between devices
- Calculation of fault levels

## EARTHING ARRANGEMENTS

- Calculation of protective conductor sizes
- Bonding requirements
- Supplies for safety services

## SPECIAL INSTALLATIONS OR LOCATIONS

- Locations of increased shock risk, including:
  - Medical locations
  - Bathrooms
  - Swimming pools and fountains
  - Saunas
  - Confined spaces

## INSPECTION AND TESTING

- Test Instruments
- Certification including reference to new documentation

## MAINTENANCE CONSIDERATIONS SAMPLE DESIGN CALCULATIONS

**SmartBrains** Oil and Energy Institute provides premium training courses for energy industry executives and fresh engineering graduates. Our success and distinguished reputation is thanks to our commitment to provide first-class programmes to our clients. Combining leading professionals from across the industry as lecturers and an interactive, practical format, the lessons learnt in a SmartBrains for Energy course are directly transferable back to the work place.

## Our Strategic Objectives

To be recognized by industry and employers as a highly reputable training organization. Provide dynamic leadership, sound management and excellence in training. Continue to improve our services through quality management processes. Invest in and value our people through professional development activities. Grow our business through innovation and to continue to be financially secure. Be influential in the economic development of the industries we serve nation wise

### Admission

## Requirements

- ▶ Duly Filled Application Form
- ▶ 2 Photographs
- ▶ Photo State of Qualifying Examination
- ▶ Address Proof
- ▶ I.D. Proof
- ▶ Latest Resume



## Our Mission

“To provide quality training and assessment services and to prepare our students for a fulfilling professional career in their chosen industry. We are committed to upholding our values of providing excellence in training”

## Declaration

- ▶ This training program is on AUTONOMOUS basis conducted by SmartBrains.
- ▶ SmartBrains has right to expel any student at any time for misbehavior, poor attendance without refunding the fees.
- ▶ Certification will be issued only after completion of course, submission of all assignments and passing all the examinations.
- ▶ SmartBrains has its own rules and regulations about conducting examinations and assessment of examinations

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