





# **Course: Electrical Switchgear for Engineers**

Code	City	hotel	Start	End	price	Hours
753	Casablanca (Morocco)	Hotel Meeting Room	2024-09-01	2024-09-05	3950 €	25

#### Objective

This scope includes material that enables attendees to have in-depth understanding of theory of operation of electrical switchgear and essential issues relevant to daily operation and maintenance of motor control centers and low-voltage, medium-voltage and high-voltage switchgear

#### Who should Attend

- Electrical Engineers.
- Senior technicians who work in the electrical control and power utilities.
- Technicians who would like to refresh their knowledge.
- Mechanical and chemical Engineers who are interested in control subjects.

#### Outline

#### • Introduction to Electrical Switchgear:

- $\circ\,$  General information about switch gear.
- Switchgear use.
- Switchgear requirements.
- Codes and Standards.
- Types of Switchgear:
  - Classification of switchgear.
  - Switchgear construction:
  - The switchgear assembly.
  - Switchgear enclosures.
  - Mechanical degree of protection.
  - Busbars.
- Switchgear Earthing System
  - Switchgear Earthing Requirements
  - Components Earthing

#### • Medium Voltage Circuit Breakers, Fused Contactors and Load Break Switch

- Description for Each Item
- $\circ$  Differences

#### • Switchgear Arc Extinction Media and Theory

• Types of Arc Extinction Media



- Advantages
- Differences
- Switchgear Protection and Control
  - Switchgear Protection Scheme
  - Control requirements
- Switchgear Metering
  - Metering specifications
  - Metering requirements

## • Current Transformers

- Types
- Accuracy
- Potential Transformers
  - $\circ$  Types
  - $\circ~$  Requirements.
- Factory Acceptance Test (FAT)
  - $\circ$  Type test
  - $\circ~$  Routine tests

# • Handling and Storage

- Handling procedures
- Storage requirements
- Erection
  - Safety
  - Erection Preparations

## • Site Acceptance Test (SAT)

- $\circ$  Description
- Requirements
- Commissioning and Start-up.
  - $\circ$  Procedures
  - $\circ$  Hand over system
- Trouble Shooting
  - $\,\circ\,$  How to deal with
  - Requirements



The Scandinavian Academy employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

- Theoretical Lectures:
  - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- Scientific Assessment:
  - $\circ\,$  We evaluate trainees skills before and after the course to ensure their progress.
- Brainstorming and Interaction:
  - We encourage active participation through brainstorming sessions and applying concepts through role play.
- Practical Cases:
  - $\circ\,$  We provide practical cases that align with the scientific content and the participants specific needs.
- Examinations:
  - $\circ\,$  Tests are conducted at the end of the program to assess knowledge retention.
- Educational Materials:
  - $\circ\,$  We provide both printed and digital scientific and practical materials to participants.
- Attendance and Final Result Reports:
  - $\circ\,$  We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- Professionals and Experts:
  - $\circ\,$  The programs scientific content is prepared by the best professors and trainers in various fields.
- Professional Completion Certificate:
  - $\circ\,$  Participants receive a professional completion certificate issued by the Scandinavian Academy for
    - Training and Development in the Kingdom of Sweden, with the option for international authentication.
- Program Timings:
  - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.