





Course: Electrical Switchgear for Engineers

| Code | City | hotel | Start | End | price | Hours |
|------|---------------------|--------------------|------------|------------|--------|-------|
| 753 | Beirut (Lebanon) | Hotel Meeting Room | 2024-08-11 | 2024-08-15 | 3050 € | 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:

- General information about switchgear.
- Switchgear use.
- Switchgear requirements.
- o Codes and Standards.

• Types of Switchgear:

- Classification of switchgear.
- Switchgear construction:
- The switchgear assembly.
- Switchgear enclosures.
- Mechanical degree of protection.
- o Busbars.

• Switchgear Earthing System

- Switchgear Earthing Requirements
- Components Earthing

Medium Voltage Circuit Breakers, Fused Contactors and Load Break Switch

- Description for Each Item
- Differences

Switchgear Arc Extinction Media and Theory

o Types of Arc Extinction Media



- Advantages
- o Differences

• Switchgear Protection and Control

- Switchgear Protection Scheme
- Control requirements

• Switchgear Metering

- Metering specifications
- Metering requirements

• Current Transformers

- o Types
- Accuracy

• Potential Transformers

- Types
- \circ Requirements.

• Factory Acceptance Test (FAT)

- Type test
- Routine tests

• Handling and Storage

- Handling procedures
- Storage requirements

• Erection

- o Safety
- $\circ \ \ Erection \ Preparations$

• Site Acceptance Test (SAT)

- Description
- Requirements

• Commissioning and Start-up.

- Procedures
- Hand over system

• Trouble Shooting

- 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:

• 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:

• 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:

• We provide both printed and digital scientific and practical materials to participants.

• Attendance and Final Result Reports:

• We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.

• Professionals and Experts:

• The programs scientific content is prepared by the best professors and trainers in various fields.

• Professional Completion Certificate:

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.