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Training and Development

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Course: High Voltage Test Techniques

Code	City	Hotel	Start	End	Price	Language - Hours
425	Cairo (Egypt)	Hotel Meeting Room	2025-09-14	2025-09-18	3050 €	En - 25

Introduction:

The High Voltage Test Techniques course provides an in-depth understanding of high voltage testing techniques and equipment for electrical power systems. Participants will learn about different types of high voltage tests, including power frequency withstand, partial discharge, and impulse tests, as well as the standards and regulations that govern high voltage testing. The course will cover the principles of high voltage testing, including the measurement and interpretation of test results, and the methods for ensuring safe and reliable testing practices. The course is designed for engineers, technicians, and other professionals involved in the design, commissioning, and maintenance of high voltage power systems. Through a combination of lectures, case studies, and hands-on exercises, participants will gain practical knowledge and skills for high voltage testing, as well as the safe and reliable operation of high voltage power systems.

Course Objectives:

- Understand the principles of high voltage testing and its importance in ensuring safe and reliable operation of power systems.
- Gain knowledge of the different types of high voltage tests and their applications in electrical power systems.
- Learn about the standards and regulations that govern high voltage testing, including safety regulations and international standards.
- Acquire practical skills for conducting high voltage tests, including power



- frequency withstand, partial discharge, and impulse tests.
- Learn about the measurement and interpretation of test results, and the methods for ensuring accurate and reliable test data.
 - Understand the importance of safety in high voltage testing and acquire practical skills for ensuring safe and reliable testing practices.
 - Gain an understanding of the latest trends and innovations in high voltage testing techniques and equipment.

Course Outline:

Introduction to High Voltage Test Techniques

- Overview of high voltage testing
- Importance of high voltage testing
- Types of high voltage tests

Testing Equipment

- High voltage testing equipment
- Calibration and maintenance of high voltage testing equipment
- Safety considerations in using high voltage testing equipment.

High Voltage Testing Standards

- Overview of high voltage testing standards
- IEC, IEEE, and other relevant standards
- Interpretation of standards

AC High Voltage Testing

- AC high voltage testing techniques
- Power frequency testing



- Very low frequency testing
- Partial discharge testing
- Cable testing

DC High Voltage Testing

- DC high voltage testing techniques
- DC voltage testing
- DC insulation testing
- DC cable testing

High Voltage Testing of Gas-Insulated Switchgear (GIS)

- Overview of GIS systems
- Importance of high voltage testing in GIS systems
- GIS testing techniques
- Partial discharge testing in GIS systems

High Voltage Testing of Power Transformers

- Overview of power transformers
- Importance of high voltage testing in power transformers
- Transformer testing techniques
- Insulation resistance testing
- Applied voltage testing.

Safety in High Voltage Testing

- Safety procedures for high voltage testing
- Personal protective equipment (PPE)
- Emergency procedures

Case Studies and Best Practices



- Real-world examples of high voltage testing
- Best practices for high voltage testing
- Lessons learned and future trends.



The Scandinavian Academy for Training and Development 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:**

- 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 coffee break sessions during lectures.