

Transformer Technology: Principles, Selection & Advanced Troubleshooting

COURSE OVERVIEW

This course explains the concept of transformer design, operation and performance. It explores the fundamental principles governing transformer technology, criteria for selecting the right transformer for specific applications and advanced diagnostic methods for identifying and resolving operational issues. Participants will gain both theoretical knowledge and practical insights into condition monitoring, fault analysis and maintenance strategies that enhance reliability, safety, and efficiency in power systems.

WHO SHOULD ATTEND?

This course is designed for electrical engineers, maintenance managers, utility professionals, plant operators, technical supervisors and consultants involved in the design, operation and maintenance of transformers. It is also valuable for professionals seeking to strengthen their expertise in troubleshooting complex transformer issues and optimizing system performance.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Understand the fundamental principles of transformer design, construction, and operation.
- Select appropriate transformer types based on application requirements and specifications.
- Apply advanced diagnostic techniques for troubleshooting transformer faults and failures.
- Perform tests and evaluations including insulation resistance, voltage ratio, and oil quality analysis.
- Develop maintenance and monitoring plans to enhance transformer reliability and lifespan.
- Interpret protection schemes and safety measures to prevent transformer damage and ensure operational safety.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- A comprehensive study of transformer construction, types, and operational principles.
- Detailed examination of transformer design considerations and application-specific selection criteria.
- An extensive coverage of diagnostic and advanced troubleshooting techniques to identify and resolve faults.
- Practical guidance on routine testing methods, including insulation, winding resistance, and oil analysis.
- Strategies for implementing effective maintenance programs to extend transformer lifespan.
- Safety standards, protection schemes, and risk mitigation practices in transformer operation.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded