

Electricity Power Transmission and Distribution

COURSE OVERVIEW

This course offers a comprehensive understanding of the principles, technologies, and best practices in electrical power transmission and distribution. Participants will delve into the design, operation, and maintenance of power grids, covering the infrastructure, equipment, and systems that ensure reliable electricity delivery from generation sources to end-users. The course combines theoretical knowledge with practical insights, equipping participants to tackle real-world challenges in the power transmission and distribution industry.

WHO SHOULD ATTEND?

For the purpose of value, this course has been designed for a variety of professionals in the power sector including electrical engineers, technicians, and operators working in power generation, transmission, and distribution. It is beneficial for power system engineers, grid planners, and maintenance personnel responsible for ensuring the efficient and reliable delivery of electricity. Professionals in utility companies, energy sector organizations, and infrastructure development teams will also find value, as well as those involved in power system design, operation, and regulatory compliance.

COURSE OUTCOMES

Delegates will gain knowledge and skills to:

- Explain the fundamental concepts of electricity generation, transmission, and distribution.
- Design high-voltage transmission systems for efficiency, reliability, and safety.
- Implement operation and maintenance strategies for reliable distribution networks.
- Conduct performance assessments using load flow analysis and identify improvement opportunities.
- Implement techniques for voltage regulation, load balancing, and fault management to enhance grid stability.
- Adhere to industry standards and safety protocols to ensure safe operations.
- Address challenges in integrating renewable energy and explore smart grid and energy storage solutions.
- Apply concepts to real-world transmission and distribution challenges through case studies and practical exercises.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand:

- Fundamentals of Electricity Generation, Transmission, and Distribution
- Design of High-Voltage Transmission Systems for Efficiency and Reliability
- Operation and Maintenance of Low and Medium-Voltage Distribution Networks
- Performance Assessment and Load Flow Analysis
- Grid Stability Techniques: Voltage Regulation, Load Balancing, and Fault Management
- Adherence to Industry Safety Standards and Protocols
- Integration of Renewable Energy and Smart Grid Technologies
- Practical Application through Case Studies and Exercises

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