

Course Overview:

The course content will give you a very good understanding of what is involved in the testing of main Equipment in electrical distribution systems.

- Transformer Testing
- Circuit Breaker Testing
- Cable Testing
- Meters Testing

Course Objective:

The training course covers all aspects of testing in main equipment used in electrical systems. It considers understanding of variety of tests and prescribes how to carefully plan and perform them.

At the end of this training course, participants will learn to:

- Understand the testing process
- Plan and prepare for testing
- Plan and carry out inspections
- Perform phasing tests
- Consider safety aspects during testing

Course Outline:

ELECTRIC HAZARDS AND SAFETY

- Goals and Discussion
- The Smart Grid Architecture
- Maintenance of Electrical Equipment
- Managing Maintenance
- Safety Culture
- Safety Integrity Level (SIL)
- Electrical Safety Rules
- Electrical Hazards and Emergencies

TRANSFORMER TESTING

- Theory of transformer testing
- Winding resistance measurement
- Tap changer analysis
- Turns ratio testing
- Excitation current measurement
- Results analysis with real case studies
- Practical tips for field testing
- Hands-on operation of TWA, TRT and RMO-T instruments
- Power transformer demagnetization – theory and application
- Magnetic Balance test for TRT Diagnoses

CIRCUIT BREAKER TESTING

- Theory of the circuit breaker testing
- Timing and Motion Measurements
- Contact Resistance measurement
- Dynamic Resistance measurement

Training Language:

English-Arabic

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation

- Minimum trip voltage test
- Creating a Test Plan
- On-Line / Off-Line Testing
- Results analysis

CABLE TESTING

- Identify cable components and causes of failure.
- Utilize safe work practices for cable testing
- Cable testing standards and procedures.
- Insulation Resistance Tests (DAR and PI).
- Withstand Tests (DC, AC & VLF).
- Diagnostic Field Tests (Tan Delta & PD).

ELECTRIC METERS TESTING

- The Need for an Electronic Electric Meters
- Standards for Testing Electric Meters
- The Electromagnetic Compatibility Test The Emission TestThe Immunity Test
- Use Appropriate Meter Testing Equipment

Who Should Attend:

This training course is suitable to a wide range of professionals but will greatly benefit:

- Electrical Professionals
- Electrical Engineers
- Technicians
- Professionals responsible for the operation and maintenance of distribution equipment, who will benefit from sharing experiences in the planning, organisation, and implementation of maintenance activities