Electrical Equipment Testing, Inspection, Troubleshooting & Maintenance

TE349

Course Overview:

This comprehensive course equips corporate maintenance teams and electrical professionals with critical expertise to ensure the safe, reliable, and efficient operation of electrical systems. Addressing real-world maintenance and diagnostic challenges, the program delivers practical tools for reducing downtime, maximizing equipment longevity, and maintaining safety compliance in industrial and commercial environments.

Course Objective:

By the end of this course, participants will be able to:

-Identify and mitigate hazards in electrical power systems

-Conduct testing and commissioning of key electrical equipment

-Diagnose faults using modern inspection and testing tools

-Apply predictive and preventive maintenance strategies effectively

-Troubleshoot failures in generators, transformers, and control systems

Course Outline:

1. Understanding Electrical Equipment
   - -Testing and troubleshooting methodologies
   - -Use of electrical drawings and meters
   - -Circuit continuity tests
   - -Commissioning standards and procedures
2. Condition Monitoring for Electrical Equipment
   - -Condition-based and reliability-centered maintenance
   - -Insulation resistance and hi-pot testing
   - -Transformer oil diagnostics and system monitoring
   - -Grounding system evaluation
3. Generator Fundamentals, Maintenance, and Troubleshooting
   - -Principles of AC generators and voltage regulation
   - -Synchronization and load sharing in diesel generators
   - -Diagnosing voltage issues and operational faults
   - -Generator testing and maintenance protocols
4. Circuit Breaker and Transformer Maintenance and Testing
   - -Maintenance of air, vacuum, SF6, and oil breakers
   - -Transformer cooling and loss analysis
   - -Transformer oil testing and fault identification
   - -Testing protective devices
5. UPS, Rectifiers, Inverters, and Battery Maintenance
   - -Overview of UPS and inverter technologies
   - -Battery charging and discharge safety
   - -Troubleshooting rectifiers and power supply units
   - -Maintenance plans for power continuity
6. Electrical Inspection and Testing Techniques
   - -Inspection standards for electrical installations
   - -Operation of test equipment (megger, oscilloscope, etc.)
   - -Identifying common mode failures

Training Language:

English/Arabic

Training Methodology:

The course combines various teaching methods, including instructor-led presentations, group discussions, case study analyses, and assessments through quizzes and a final exam to engage participants and ensure they understand and retain the material.

Venue | Date | Fees

Riyadh | 10-08-2025 | 17,250 SAR

-Group exercises on practical inspection cases

7. Interpreting Drawings and Developing Job Plans

-Reading single-line and control schematics

-Understanding standard electrical symbols

-Safety codes and hazardous area classification

-Creating job plans based on drawings

8. Open Session and Practical Applications

-Real-world case studies on electrical issues

-Group troubleshooting exercises

-Final Q&A and wrap-up discussion

Who Should Attend:

-Electrical engineers and technicians in industrial/commercial sectors

-Maintenance staff in oil and gas processing facilities

-Plant electricians responsible for troubleshooting

-QA/QC professionals focused on electrical inspections