



CTs and VTs Maintenance

Course Introduction:

This course provides an in-depth understanding of Current Transformers (CTs) and Voltage Transformers (VTs), focusing on their maintenance and testing procedures to ensure reliable operation in electrical system.

Course Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Understand the principles of operation for CTs and VTs.
- Learn maintenance best practices for both CTs and VTs.
- Develop skills in testing and troubleshooting techniques.
- Familiarize with safety protocols and industry standards.
- Explore common issues and solutions in CT and VT maintenance

Who Should Attend?

- Electrical engineers and technicians
- Maintenance personnel in power generation and distribution
- Safety officers and compliance professionals
- Anyone involved in electrical equipment maintenance

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Course Outline:

Day 1: Introduction to CTs and VTs

- **Morning Session**
 - Overview of transformer principles: electromagnetic induction
 - Definition and purpose of CTs and VTs in electrical systems
- **Afternoon Session**
 - Types of CTs and VTs: wound, toroidal, and inductive types
 - Applications of CTs and VTs in metering and protection

Day 2: Maintenance Best Practices

- **Morning Session**

- Routine maintenance tasks: inspection, cleaning, and testing
- Importance of maintaining accuracy and reliability
- **Afternoon Session**
 - Hands-on exercise: performing visual inspections and basic maintenance
 - Discussion on maintenance schedules and documentation

Day 3: Testing Procedures

- **Morning Session**
 - Overview of testing methods: ratio testing, insulation resistance testing, and burden testing
 - Understanding test equipment and tools
- **Afternoon Session**
 - Hands-on training: conducting tests on CTs and VTs
 - Interpreting test results and identifying potential issues

Day 4: Troubleshooting Techniques

- **Morning Session**
 - Common problems with CTs and VTs: saturation, overheating, and insulation failure
 - Diagnostic techniques for identifying faults
- **Afternoon Session**
 - Case studies: analyzing real-world maintenance scenarios
 - Group activity: developing troubleshooting plans for specific issues

Day 5: Safety and Compliance

- **Morning Session**
 - Safety protocols when working with high-voltage equipment
 - Overview of industry standards and regulations (e.g., IEEE, IEC)
- **Afternoon Session**
 - Final discussion: lessons learned and best practices in CT and VT maintenance
 - Conclusion and distribution of certificates of completion

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play

- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session