BOOST
THE LEADING TRAINING PROVIDER

Maintenance & Reliability Management

Certified Maintenance & Reliability Technician (CMRT)

Course Introduction

This comprehensive 5-day training has been specifically designed for maintenance professionals who are seeking to enhance their expertise and prepare for the Certified Maintenance & Reliability Technician (CMRT) certification exam.

Whether you're looking to improve your career prospects, gain in-depth knowledge of maintenance practices, or master advanced techniques in troubleshooting and equipment reliability, this program will equip you with the tools you need to succeed.

Why is this Training Important?

Maintenance and reliability play a critical role in the efficiency, safety, and longevity of equipment in any industrial or manufacturing environment. As organizations strive to minimize downtime, increase productivity, and reduce costs, the demand for skilled technicians who can effectively manage, maintain, and troubleshoot machinery is greater than ever. The CMRT certification recognizes professionals who have demonstrated their ability to ensure equipment reliability through sound maintenance practices and troubleshooting techniques.

This training program is designed to provide participants with the skills and knowledge required to become an effective maintenance and reliability technician. You will learn not only how to prevent failures through preventive and predictive maintenance but also how to respond quickly and effectively when failures do occur. The program focuses on practical, real-world techniques that can be immediately applied in the field, empowering you to make valuable contributions to your team and organization.

Target Audience

- Maintenance Technicians – Developing technical skills in reliability.
- Reliability & Maintenance Engineers – Enhancing equipment performance.
- Plant & Facility Technicians – Ensuring asset uptime and efficiency.
- Operations & Production Technicians – Supporting maintenance processes.
- Supervisors & Team Leads – Managing maintenance teams effectively

Learning Objectives

- Understand the role of a CMRT and the fundamentals of maintenance practices.
- Learn how to plan and execute preventive maintenance tasks to ensure optimal equipment performance.
- Understand predictive maintenance concepts and techniques for identifying equipment failures before they happen.
- Learn the steps to identify and diagnose faults and failures in equipment.
- Understand the importance of corrective maintenance and how it fits into the overall maintenance strategy.
- Learn the fundamentals of managing maintenance activities and developing an effective maintenance plan.
- Explore how RCM methodology is used to determine the optimal maintenance approach for critical assets.
- Learn how to manage the full life cycle of assets to optimize maintenance costs and reliability.
- Understand the safety and environmental impacts of maintenance work and how to mitigate risks.
- Prepare participants for the CMRT exam through a comprehensive review and practice test.

Course Outline

- **01 DAY ONE**

Introduction to Maintenance Practices

  - Overview of CMRT Certification: Purpose, benefits, and career progression.
  - Importance of Maintenance and Reliability in Operations.
  - Types of Maintenance: Preventive, Predictive, Corrective, and Reactive.
  - Maintenance Strategies: Corrective vs. Preventive vs. Predictive.
  - Maintenance Documentation: Logs, work orders, and tracking tools.

- Case study: Understanding the failure of equipment due to improper maintenance.

Preventative Maintenance (PM)

- What is Preventative Maintenance?
- Key Components of PM: Scheduling, Task Lists, and Inspections.
- How to Develop a PM Plan for Equipment.
- Benefits and Challenges of Preventive Maintenance.
- Maintenance Metrics: MTBF (Mean Time Between Failure), MTTR (Mean Time To Repair).
- Group Exercise: Create a basic PM schedule for a specific piece of equipment.
- Role-playing: Assigning and tracking PM tasks.

• 02 DAY TWO

Predictive Maintenance (PdM)

- Introduction to Predictive Maintenance (PdM).
- Types of Predictive Techniques: Vibration Analysis, Infrared Thermography, Ultrasonic Testing, Oil Analysis.
- Condition Monitoring vs. Time-Based Maintenance.
- Data Analysis and Decision Making in PdM.
- PdM Tools and Technologies.
- Hands-on demonstration of basic vibration monitoring equipment.
- Case study: Predictive maintenance application in a real-world scenario.

Troubleshooting and Analysis Techniques

- The Troubleshooting Process: Systematic vs. Guesswork.

- Root Cause Analysis (RCA) Techniques: Fishbone Diagram, 5 Whys, Fault Tree Analysis.
- Tools for Troubleshooting: Multimeter, Pressure Gauges, Software.
- Common Equipment Failures and Diagnostic Methods.
- Failure Modes and Effects Analysis (FMEA).
- **Group Work:** Use RCA tools to analyze a maintenance failure case.
- Hands-on Troubleshooting: Diagnosing faults in mechanical or electrical equipment.

• **03 DAY THREE**

Corrective Maintenance (CM)

- What is Corrective Maintenance?
- The Corrective Maintenance Process: Identification, Diagnosis, Repair, and Documentation.
- Benefits and Limitations of Corrective Maintenance.
- Managing Spare Parts and Resources for Corrective Actions.
- Planning and Scheduling Corrective Maintenance.
- Role-playing: Perform corrective actions after diagnosing equipment failures.

Maintenance Management and Planning

- Overview of Maintenance Planning and Scheduling.
- Maintenance Work Orders: Creation, Documentation, and Execution.
- Resource Allocation: Personnel, Tools, and Equipment.
- Setting Up and Managing a Maintenance Database.
- Key Performance Indicators (KPIs) for Maintenance Efficiency.
- **Group Exercise:** Plan and schedule a week's worth of maintenance tasks for a plant.

• **04 DAY FOUR**

Reliability-Centered Maintenance (RCM)

- What is Reliability-Centered Maintenance?
- Key Principles of RCM: Risk-based approach to maintenance.
- **The RCM Process:** Functional Failure, Failure Modes, Failure Consequences.
- Application of RCM in Asset Criticality and Maintenance Decision-making.
- The Role of the CMRT in RCM Implementation.
- **Case Study:** Applying RCM to a critical piece of equipment.
- **Group Work:** Conduct a failure modes analysis for a piece of equipment.

Asset Life Cycle Management

- The Concept of Asset Life Cycle: From Acquisition to Disposal.
- Strategies for Maximizing Asset Performance Over Time.
- Predictive and Preventative Maintenance for Extending Asset Life.
- Asset Replacement vs. Repair Decisions.
- Cost-Benefit Analysis for Maintenance Strategies.
- **Group Discussion:** Pros and cons of repairing vs. replacing aging equipment.
- **Practical application:** Create an asset management plan for a sample production line.

• **05 DAY FIVE**

Safety and Environmental Considerations in Maintenance

- Safety Protocols and Procedures in Maintenance Work.
- Personal Protective Equipment (PPE) and Safe Work Practices.
- Environmental Impact of Maintenance Activities.
- Legal and Regulatory Considerations.
- How to Prevent Maintenance-Related Accidents.
- Case Study: Identifying safety hazards in a maintenance environment.
- Hands-on practice: Proper use of safety equipment and tools.

- Overview of the CMRT Exam Format and Structure.
- Tips and Strategies for Passing the CMRT Exam.
- Common Pitfalls and Mistakes to Avoid.
- Practice Exam: Timed CMRT-style multiple-choice questions.
- Q&A Session and Group Discussion.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 28, 2025	May 2, 2025	5 days	4250.00 $	UAE - Dubai
May 5, 2025	May 9, 2025	5 days	4250.00 $	UAE - Dubai
Aug. 11, 2025	Aug. 15, 2025	5 days	4250.00 $	UAE - Abu Dhabi
Oct. 6, 2025	Oct. 10, 2025	5 days	4250.00 $	UAE - Dubai