

# Maintenance and Reliability Technician Core Concepts

Optional CMRT Exam

## Overview and Outline

This Maintenance and Reliability Technician Core Concepts course is designed as a fast-paced review for experienced or high level introduction for new industrial maintenance technicians. The CMRT exam is offered after the course for those choosing to validate their knowledge across all the subject areas.

### Maintenance practices from a Health and Safety, Environmental perspective

- Work and Process Permitting for safety and improved communication
- Lockout/Tagout-energy states
- Tool inspection
- Tool use
- Overview of Shop machines
- Rigging
- Housekeeping

### Precision approaches

- Measuring tools use
- Parts and materials handling
- CMMS/ EAM use to support Reliability Improvement
- Understanding of blueprints fundamentals
- Mechanical Maintenance

### Core Technician concepts

- Basic AC/DC
- Electrical circuits and schematics
- Power Transmission and distribution
- Digital Electronics
- Pneumatics
- Pumps
- Motors
- Combustion
- Hydraulics
- Welding
- Piping



### Preventive, Predictive and Condition-based Maintenance

- Performing PM and PdM to drive improved MTBF
- Apply PdM techniques using baseline and performance data
- Lubrication practices
- Alignment for rotating equipment
- Computers and process controls as PdM tools

### Troubleshooting and Analysis Approaches

- Information gathering
- Verify and test
- Technical documentation
- Investigate previous activities
- Identify cause
- Test instruments application

### Corrective Maintenance Actions

- Disassembly and Inspection
- Repair
- Monitor
- Release to service