

MAINTENANCE TECHNICIAN SKILLS

BY: **RICKY SMITH,
CMRP, CMRT, CRL**



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Elements	LEVEL 1 NOT ENGAGED	LEVEL 2 EXPERIMENTING	LEVEL 3 ENGAGED	LEVEL 4 GOOD PRACTICE	LEVEL 5 BEST PRACTICE
ANALYSIS					
BSI and Knowledge (BSI) Assessment	Self-assessment has not been completed. The criteria on hand are not being followed. The results are not being used to improve performance.	Self-assessment has been completed. The criteria on hand are being followed. The results are being used to improve performance.	Self-assessment has been completed. The criteria on hand are being followed. The results are being used to improve performance.	Self-assessment has been completed. The criteria on hand are being followed. The results are being used to improve performance.	Self-assessment has been completed. The criteria on hand are being followed. The results are being used to improve performance.
Task Procedures and "Standard Work"	The organization has not developed a standard work procedure. The results are not being used to improve performance.	The organization has developed a standard work procedure. The results are being used to improve performance.	The organization has developed a standard work procedure. The results are being used to improve performance.	The organization has developed a standard work procedure. The results are being used to improve performance.	The organization has developed a standard work procedure. The results are being used to improve performance.
Gap Analysis	There is no gap analysis. The results are not being used to improve performance.	A gap analysis has been completed. The results are being used to improve performance.	A gap analysis has been completed. The results are being used to improve performance.	A gap analysis has been completed. The results are being used to improve performance.	A gap analysis has been completed. The results are being used to improve performance.
TRAINING					
Training Objectives, Course Outlines, and Curriculum Maps	The training program does not have training objectives, course outlines, and curriculum maps. The results are not being used to improve performance.	The training program has training objectives, course outlines, and curriculum maps. The results are being used to improve performance.	The training program has training objectives, course outlines, and curriculum maps. The results are being used to improve performance.	The training program has training objectives, course outlines, and curriculum maps. The results are being used to improve performance.	The training program has training objectives, course outlines, and curriculum maps. The results are being used to improve performance.
Mentorship	There is no mentorship program. The results are not being used to improve performance.	A mentorship program has been implemented. The results are being used to improve performance.	A mentorship program has been implemented. The results are being used to improve performance.	A mentorship program has been implemented. The results are being used to improve performance.	A mentorship program has been implemented. The results are being used to improve performance.
INTEGRATION					
On-the-Job Training (OJT) and Job Performance Measures	There is no on-the-job training program. The results are not being used to improve performance.	An on-the-job training program has been implemented. The results are being used to improve performance.	An on-the-job training program has been implemented. The results are being used to improve performance.	An on-the-job training program has been implemented. The results are being used to improve performance.	An on-the-job training program has been implemented. The results are being used to improve performance.
Job Aids	There are no job aids. The results are not being used to improve performance.	Job aids have been developed. The results are being used to improve performance.	Job aids have been developed. The results are being used to improve performance.	Job aids have been developed. The results are being used to improve performance.	Job aids have been developed. The results are being used to improve performance.

A Maintenance Skills Assessment is a valuable tool in determining the strengths and weaknesses of a given group of employees to design a high impact training program which targets those documented needs. Maintenance personnel have often found it difficult to upgrade their technical skills because much that is available is redundant or does not take their current skill level into consideration. The assessment is designed to eliminate those problems by facilitating the construction of customized training paths for either individuals or the group based upon demonstrated existing knowledge and skills. When used in conjunction with a job task analysis, a gap analysis can be performed to determine both what skills are needed in order to perform the job effectively and what skills the workforce presently has. Gap analysis also ensures that training is EEOC compliant.

The Maintenance Skills Assessment consists of a series of written tests, performance exercises, and identification activities selected from a matrix of mechanical, electrical, and instrumentation topics as well as basic skills. The selection process allows a client to tailor the assessment to meet specific needs. The written tests, administered in multiple choice format, examine an employee's knowledge of the subject. Theories, principles, fundamentals, vocabulary, and calculation are among the skills tested. In the performance component, employees carry out typical maintenance tasks in accordance with generally accepted work standards. Some skill areas also include oral identification activities in which an employee is asked to name a component and state its use. Components are generally recommended and/or provided by the host organization to ensure relevance.

The written and performance portions of the assessment should be proctor by a local technical college.

The resulting data is analyzed and compiled into a series of reports which depict scores in three ways: the company summary, a composite of all personnel tested; test subject results, scores of all personnel tested by subject area; and individual test results, scores of all personnel tested by person. A representative from the Technical College reviews and explains the reports with management and also with the individuals tested.

Maintenance Technician Skills

After completion of the assessment process, the Technical College can help establish performance standards for each employee or for the group, develop a training plan to address the identified needs, develop curriculum to meet those training goals, or deliver training in the targeted skills. The assessment report becomes a benchmark study on the status of your existing maintenance workforce which is useful as the tool against which to measure progress or as the profile against which to hire new employees to round out the department to become more effective and efficient.

Increasing pressure to improve productivity and reduce cost has forced organizations to search for innovative solutions. The Maintenance Skills Assessment has a proven track record as an effective tool providing solid documentation in a quick and easy-to-read format. Targeted training is both effective and efficient regardless of whether the goal is to design a full apprentice- to-journeyman program or just identify skills for high impact brushing up.

EXAMPLE SUBJECTS COVERED A TYPICAL SKILLS

ELECTRICAL SKILLS ASSESSMENT SUBJECT MATRIX

		SUBJECT WRITTEN PERFORMANCE	IDENTIFICATION
01	Fundamentals Of Elect	YES	
02	Motors	YES YES	
03	Control Devices	YES YES	YES
04	Programmable Logic Controllers	YES YES	
05	Instrumentation	YES	
06	AC Drives	YES YES	
07	DC Drives	YES	
08	Power Distribution	YES YES	
09	Test Equipment	YES YES	
10	Electrical Devices	YES	
11	Electrical Schematics	YES	YES

GENERAL SKILLS ASSESSMENT SUBJECT MATRIX

		SUBJECT WRITTEN PERFORMANCE	IDENTIFICATION
01	Safety	YES	
02	Mathematics	YES	
03	Rigging	YES	

MECHANICAL SKILLS ASSESSMENT SUBJECT MATRIX

		SUBJECT WRITTEN PERFORMANCE	IDENTIFICATION
01	Bearings	YES YES	
02	Fasteners	YES	YES
03	Lubrication	YES	YES
04	Hydraulics	YES YES	
05	Pneumatics	YES	YES
06	Mechanical Principles	YES	
07	Blueprint Reading	YES	
08	Mechanical Drives	YES YES	
09	Torque	YES	YES
10	Benchwork	YES	
11	Welding	YES YES	
12	Oxy - Acetylene	YES	
13	Piping	YES YES	
14	Plumbing	YES YES	YES
15	Coupling/Alignment	YES YES	
16	Pumps	YES	YES

Join Ricky Smith CMRP, CMRT for this great workshop.

**BEST
MAINTENANCE
TECHNICIAN
PRACTICES**

THREE DAY WORKSHOP

DATE: **August 24-26, 2021**

PRICE: \$750USD/PERSON

RSVP OR REQUEST MORE INFO BY EMAILING
RSMITH@WORLDCLASSMAINTENANCE.ORG

“Virtual via Zoom” (Internet)

Course Objectives

- To enhance communication between Maintenance / Reliability /Production / Plant Leadership and Maintenance Technicians
- To provide the vision of Proactive and Maintenance to all Maintenance Technicians
- To increase knowledge and skills for Maintenance Technician through education and knowledge sharing
- To define Roles and Responsibilities between technicians and management
- To reduced turnover of Maintenance technicians because of lack of understanding between management and hourly technicians

Course Outline

- Benefits of the CMRT Exam and Certification
 - Review of Certified Maintenance & Reliability Technician – CMRT - Candidate Guide for Certification and Recertification
 - Definition of Maintenance of Reliability Best Practices
 - SMRP Body of Knowledge and the Relationship to
 - Definition of Maintenance and Reliability “Best Repair” Practices
 - Causes of Equipment Failures
 - Inconsistent Execution of Work
 - Lack of effective Processes
 - Lack of Knowledge
 - Lack of Repeatability
 - Lack of proper aligned Leading and Lagging KPIs
 - Preventive Maintenance / Prediction Maintenance
 - Maintenance Planning and Scheduling
- **And so much more**

If you are interested in hosting this training workshop at your site, send your request to rsmith@worldclassmaintenance.org

#1 Software for Maintenance & Reliability Teams

UpKeep is a service-first company that builds software designed to make maintenance easier for technicians and managers everywhere. Reduce downtime up to 18% by switching over to a preventative maintenance solution!

www.upkeep.com

Our Products



Mobile-first maintenance management and collaboration across all location, assets, and teams

With nearly 340 different machines in our work environment, it's an impossible task to manually assign and track PM's. **With UpKeep we can schedule regular maintenance without overlapping tasks with other critical jobs."**

★★★★★ Paul D, Health and Safety Coordinator



An end-to-end solution for remote condition-based monitoring

Connected and secure IoT sensors for real-time remote condition asset monitoring



Integrated & Centralized Data Ecosystem for World Class Asset Operations

The only purpose built Asset Data Platform. Asset Focused ELT Solution for advanced analytics and integrated, real-time asset data.

The Maintenance Community Coalition was founded on the belief that working together will benefit everyone within our community

Committed to helping each other thrive in our individual professional journeys by sharing resources and expertise, granting scholarships, hosting events, and unlocking knowledge – always at no cost.

