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# **Emerging Technician - Maintenance Mechanic**

## General Assessment Information

### Blueprint Contents

General Assessment Information  
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**Test Type:** The Emerging Technician credential in Maintenance Mechanic is just one more piece of the comprehensive credentialing solution offered by AMTEC. It provides a credible means of verifying the knowledge and skills expected by industry from an entry-level industrial maintenance mechanic. This certification is awarded for successfully attaining the national cut-score established by subject matter experts in the field of industrial maintenance/mechatronics. These credentials were developed by NOCTI which also serves as the third-party delivery partner for AMTEC.

**Revision Team:** This credential was developed by NOCTI for the Advanced Manufacturing Technical Education Collaborative (AMTEC). Subject matter experts were recruited by AMTEC from its education and industry connections.



CIP: 47.0303 - Industrial  
Mechanics and Maintenance  
Technology



Career Cluster - Architecture  
and Construction



49-9041.00 - Industrial  
Machinery Mechanics

## Written Assessment

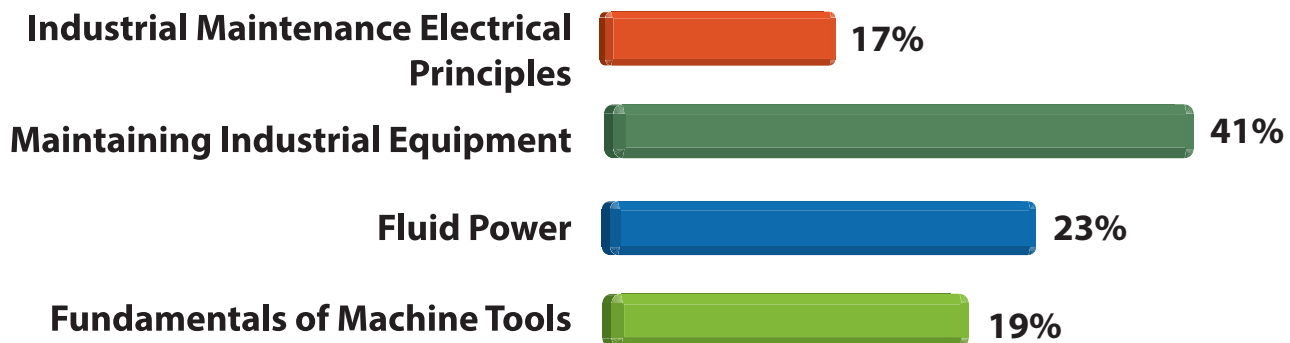
This written assessment consists of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 2 hours

**Number of Questions:** 118

**Number of Sessions:** This assessment may be administered in one, two or three sessions.

### Areas Covered



## Specific Competencies and Skills Tested in This Assessment

### Industrial Maintenance Electrical Principles

- Demonstrate knowledge of basic electrical safety principles
- Demonstrate basic knowledge of electricity
- Analyze and install electrical components and circuits
- Install/replace wire
- Operate electrical/electronic test equipment

### Maintaining Industrial Equipment

- Demonstrate knowledge of mechanical principles
- Demonstrate basic safety related to industrial equipment
- Interpret mechanical drawings
- Perform preventative maintenance tasks
- Interpret and take action on oil analysis
- Maintain couplings
- Maintain oil and grease levels
- Change filters
- Collect oil samples for analysis
- Monitor floor management development system (5S)
- Perform alignment and balancing
- Perform equipment checks
- Perform infrared thermography
- Perform online motor current analysis
- Perform route-based vibration analysis
- Perform ultrasonic maintenance
- Troubleshoot/maintain chains and sprockets
- Troubleshoot/repair/replace bearings and bushings
- Troubleshoot/repair/replace brakes and clutches

## Specific Competencies and Skills Tested in This Assessment

### **Maintaining Industrial Equipment (continued)**

- Troubleshoot/repair/replace cams
- Troubleshoot/repair/replace gears
- Troubleshoot/repair/replace seals and o-rings
- Troubleshoot/repair/replace shafts
- Troubleshoot/repair/replace belts, sheaves/pulley
- Use Maintenance Database System (LMS, MAXIMO, PeopleSoft, etc.)

### **Fluid Power**

- Demonstrate knowledge of basic fluid power principles
- Demonstrate safety related to hydraulic systems
- Maintain actuators, pumps, and accumulators
- Install/maintain valves
- Maintain fluid levels
- Replace filters on hydraulic/pneumatic systems
- Perform basic troubleshooting

### **Fundamentals of Machine Tools**

- Demonstrate knowledge of basic machine tools, metal cutting, and safety
- Operate a drill press
- Operate various types of saws
- Use common hand and power tools
- Use measuring and layout tools
- Demonstrate knowledge of hazardous material handling and storage

## Sample Questions

**What is the lethal range of electrical current in the human body?**

- A. less than 8mA
- B. from 8 to 20mA
- C. greater than 30mA
- D. greater than 200mA

The letter \_\_\_\_\_ is used to represent current flow in a circuit.

- A. I
- B. C
- C. R
- D. P

**Which would be checked with an ohmmeter?**

- A. voltage
- B. current
- C. continuity
- D. power factor

**Flow rate is equal to volume divided by**

- A. force
- B. gallons
- C. time
- D. pressure

**File handles are used to**

- A. protect the file
- B. extend the file life
- C. protect the file user
- D. extend the file

