

**3M Tech Lead Mechanical  
Knowledge Assessments  
Participant Information Guide**

## **About This Information Guide**

This information guide is designed to familiarize you with the Tech Lead Mechanical Knowledge Assessments. This guide provides you with information on the following:

- I. Overview of the Tech Lead Mechanical Knowledge Assessments
- II. Topics and Example Questions
- III. Test Preparation Strategies
- IV. Frequently Asked Questions

Please carefully read this guide prior to your testing date.

## **I. Overview of the Tech Lead Mechanical Knowledge Assessments**

The Tech Lead Mechanical Knowledge Assessments were designed to aid in the selection of individuals to maintenance positions at 3M. They measure general mechanical knowledge. The Tech Lead Mechanical Knowledge Quiz (TLKQ) consists of 60 questions, and you will be given 60 minutes to complete it. The Tech Lead Advanced Mechanical Knowledge Test (TLAKT) consists of 128 questions, and you will be given three (3) hours to complete it. If you are unsure, check with your test administrator to know which test you will be taking.

The 3M Code of Conduct requires honesty and accuracy. You should take the test without help from others, and you should not share test information with others.

## **II. Topics and Example Questions**

The Tech Lead Mechanical Knowledge Quiz (TLKQ) and the Tech Lead Advanced Mechanical Knowledge Test (TLAKT) consist of the following topics:

Topics
Bearings and Shaft Seals
Drive Components and Maintenance of Mechanical Drives
Elements of Mechanics
Hydraulics
Lubrication
Maintenance of Mechanical Drives
Mechanical and Fluid Drive Systems
Pneumatics
Protection of Valves and Piping Systems
Pumps, Pump Installation and Maintenance
Rigging
Welding and Welding Practices

**This section will provide you with some sample problems similar to those on the Tech Lead Mechanical Knowledge Assessments.**

1. What is the function of a check valve?
  - a. To control the volume of flow
  - b. To control the amount of flow
  - c. To control system pressure
  - d. To control direction of flow

The correct answer is d. To control direction of flow

2. At what point in the orifice plate does the flow velocity reach a maximum point?
  - a. Trailing edge of orifice
  - b. Leading edge of orifice
  - c. Semi-radial point
  - d. Vena contracta

The correct answer is d. Vena contracta

3. Needle valve applications are primarily used for:
  - a. Fixed flow applications
  - b. High flow applications
  - c. High volume liquid service
  - d. Instrumentation applications

The correct answer is d. Instrumentation applications

4. What is cavitation in a pump?
  - a. Air leakage into the pump
  - b. Liquid leaking out of the pump
  - c. Liquid momentarily boiling in the pump
  - d. Excessive leakage past the wear rings

The correct answer is c. Liquid momentarily boiling in the pump

### **III. Test Preparation Strategies**

This section contains different suggestions that may help you prepare for and take the test. As you read these suggestions, try to determine which ones will be most helpful to you. **Please keep in mind that these are only suggestions. Different people may find some of the suggestions more or less helpful than others.**

#### **Preparation for the Testing Session**

##### *Familiarize Yourself with Instructions and Type of Test Questions*

Carefully read and become familiar with the instructions and the type of test questions that are described in this Information Guide. You may feel more comfortable during the test if you are familiar with the instructions and types of questions prior to the actual test administration.

##### *Take Care of Your Well-Being Before the Test*

Being well-rested can help enhance your memory, mood, and overall wellbeing, allowing you to perform your best. Take the test when you're well rested, and not hungry.

##### *Manage Your Anxiety*

If you feel anxious before or during the test, take several slow, deep breaths to relax. Also, please realize that it is normal to be somewhat nervous even if you are well prepared.

#### **Day of the Testing Session**

##### *Arriving at the Testing Location*

During the testing session, you might be in a room with several other test takers. Below are some general tips to help you be successful when you arrive at the testing location.

Arrive at the test site at least 20 minutes prior to the start of the session to allow sufficient time for check-in. The testing room will be closed 5 minutes prior to the start of the session.

**Do NOT bring your cell phone into the testing room.** If your watch beeps "on the hour," be sure to disable that feature.

Remain detached from others who might distract you.

##### *Stay Relaxed and Focused on the Test*

During the testing session, it is important to stay relaxed and focused on the test. Work quickly, but accurately. You should try to complete all questions on the test, but if you find yourself working a little slowly, do not sacrifice accuracy for speed.

##### *Listen to and Read the Instructions/Questions Carefully*

The test administrator will read the overall instructions aloud. If you have any questions, be sure to ask them before you begin the test.

### Know the Time Limits

There will be a timer on the screen while taking the test. It is important to use the time limits to pace yourself. Occasionally check your testing progress against the time limit. If you are having difficulty answering a question, go on to the next question. If you have time left when you get to the end of the test, you may go back and review any question within that test. Stay focused and complete as many of the questions as you can in the time provided.

### Answering the Questions

While taking the test, it is important to try to answer all the questions. If you are unsure of the correct response, try to eliminate the responses that you know are wrong. It is generally better to eliminate the responses and take an educated guess from the remaining responses than to leave a question blank. You will not be penalized for incorrect answers - all questions are scored as either correct or incorrect.

## **IV. Frequently Asked Questions**

### **How long will the test take?**

It will depend on which test you are taking and if you are taking more than one test. When scheduling your testing session, the test administrator will let you know how much time is needed.

### **Will breaks be provided during the examination?**

If you are only taking one Tech Lead Knowledge Quiz, you will not be given a break during the test. If you are taking the Tech Lead Advanced Knowledge Test or multiple tests, you may be given a break. To be safe, please plan ahead and visit the restroom if needed before the start of the test session.

### **What should I bring to the test?**

Test takers must bring photo identification (e.g., 3M ID Badge, driver's license, government ID, passport). Test takers will not be granted access to the testing site without proper identification. You should avoid bringing other belongings into the test room as other belongings are not permitted during testing.

### **What should I NOT bring to the test?**

Please do **NOT** bring any electronic devices, such as cell phones, MP3 players, or tablets, into the test location. The use of such devices during the test is strictly prohibited. If your device makes any noise, or you are seen accessing it at any time (including breaks), you will be dismissed immediately from the examination and selection process, and your scores may be cancelled. You should not bring any other belongings. 3M will provide you with all the materials you need for the test, including a calculator and scratch paper.

### **Who will be administering the test?**

A test administrator chosen by 3M will be administering the test.

**When will I find out my results?**

Following the test, you will be notified whether you have been selected to move forward in the selection process once the results have been tabulated. This may take up to several days from the test date.

**Can I reschedule the test?**

Please contact the Test Administrator for options regarding rescheduling a test.

**Can I do anything to prepare for the test?**

Yes. Please review the information in this guide to help you become familiar with the tests and the type of questions that will be asked. In addition, there are numerous books on test taking strategies that you may find helpful in preparing for the test.