

# **3M Global Advanced Manufacturing Battery (GAMB) Participant Information Guide**

## **About This Information Guide**

This information guide is designed to familiarize you with the 3M Global Advanced Manufacturing Battery (GAMB). This guide provides you with information on the following:

- I. Overview of the Battery
- II. Description of the Test Parts 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 Battery**

The GAMB was designed and validated to aid in the selection of individuals to advanced manufacturing production jobs at 3M. The GAMB consists of five multiple-choice tests, each of which measures skills and abilities important to successful job performance. The administration of the entire battery will take approximately 90 minutes.

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. Description of Exercises, Instructions, & Example Questions**

The battery consists of five tests:

- |                             |            |
|-----------------------------|------------|
| 1. Problem Solving          | 15 minutes |
| 2. Mechanical Comprehension | 15 minutes |
| 3. Applied Mathematics      | 20 minutes |
| 4. Attention to Detail      | 15 minutes |
| 5. Work Orientation         | 15 minutes |

This section will provide you with a description of each test as well as example questions to familiarize you with the testing format.

## **Test 1: Problem Solving**

This test will take about 15 minutes to complete. The detailed instructions for this test, and an example question which will be presented during the test administration, are provided below.

### **PROBLEM SOLVING INSTRUCTIONS**

This is a test of your ability to examine and interpret information, make decisions, and troubleshoot and solve problems. There will be three types of questions:

For **Type 1** questions, you will be presented with a short passage of text followed by four statements based on the information given in the passage. You will then be asked to indicate which one of the four statements can be logically concluded from the passage of text. Take a moment to review the example question.

#### **Type 1 Example Question**

All of the hydraulic lifts in the plant will be upgraded to A-class machines.  
From the information above, it can be concluded that:

- A. after the upgrade, there will be no more B-class hydraulic lifts.
- B. none of the hydraulic lifts in the plant are currently A-class machines.
- C. some hydraulic lifts in the plant are currently B-class machines.
- D. some of the hydraulic lifts in the plant do not need to be upgraded.

#### **Type 1 Example Question Answer**

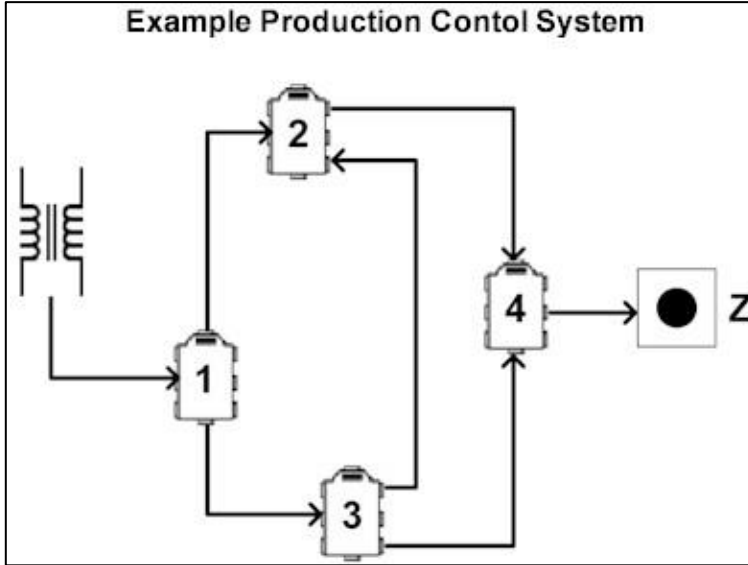
The correct answer to the example question is "A". According to the text, all hydraulic lifts will be upgraded to A-class machines and therefore, there will not be any other type of machines. Option B is *not necessarily true* because the text does not mention the number of A-class machines currently in the plant, so we do not know if there are A-class machines. Option C is *not necessarily true* because the text does not mention B-class machines, so we do not know if there are B-class machines. Option D is *not necessarily true* because the text does not mention if there are already A-class machines, so we do not know if any machines are already upgraded.

For **Type 2** questions, you will be asked to solve problems related to a diagram by following and applying several written rules.

Each question has a diagram that shows a production control system with various interconnected sensors or openings. The sensors or openings transmit information from one sensor or opening to the next and ultimately connect to an indicator light. There are rules that describe how information in this control system is transmitted between the sensors or openings.

Take a moment to review the example question below.

### Type 2 Example Question



*Rule 1:* If a sensor fails, it will not send information to any other sensor.

*Rule 2:* An even-numbered sensor will fail unless it receives information from all other sensors that send it information.

*Rule 3:* An odd-numbered sensor will fail unless it receives information from at least one sensor that sends it information.

*Rule 4:* An indicator light will turn off if it does not receive information from at least one sensor that sends it information.

If sensor 3 fails, how many other sensors will also fail?

- A. 0
- B. 1
- C. 2
- D. 3

### Type 2 Example Question Answer

The correct answer to the example question is "C". If sensor 3 fails, both sensor 2 and sensor 4 will necessarily fail since Rule 2 states that an even-numbered sensor will fail unless it receives information from all other sensors that send it information.

For **Type 3** questions, you will be presented with rows of numbers or text. You will then be asked to indicate which one of the answer options would be next in the series of numbers or text. Take a moment to review the example question.

**Type 3 Example Question**

Which number should come next in this series? 1, 2, 3, 4

- A. 0
- B. 5
- C. 10
- D. 15

**Type 3 Example Question Answer**

The correct answer to the example question is "B". The next logical number after 1,2,3,4 is 5.

## **Test 2: Mechanical Comprehension**

This test will take about 15 minutes to complete. The detailed instructions for this test, and an example question which will be presented during the test administration, are provided below.

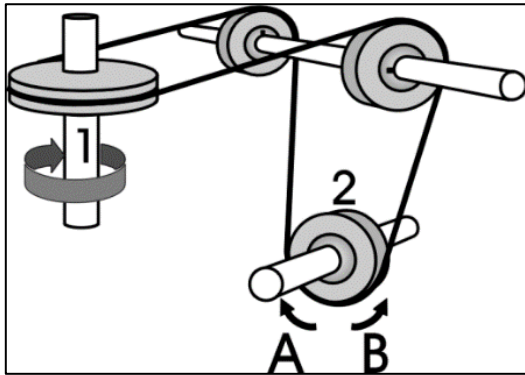
### **MECHANICAL COMPREHENSION INSTRUCTIONS**

This is a test of your ability to apply mechanical principles.

Each question asks you to evaluate which option best represents the mechanical principle represented in the picture.

Take a moment to review the example question.

### **Example Question**



If pulley 1 turns in the direction shown, in which direction will pulley 2 turn?

- A. A
- B. B
- C. Neither

### **Example Question Answer**

The correct answer is B. As pulley 1 is turned clockwise, pulley 2 will turn counterclockwise in the direction of B.

### **Test 3: Applied Mathematics**

This test will take about 20 minutes to complete. The detailed instructions for this test, and an example question which will be presented during the test administration, are provided below.

#### **APPLIED MATHEMATICS INSTRUCTIONS**

This is a test of your ability to solve arithmetic problems using information presented in short, job-related paragraphs or tables. The questions require you to calculate the correct answer. Scratch paper and a calculator are provided for your calculations.

Take a few moments to review the example question.

#### **Example Question**

Jerry produced 1300 candy bars during week one, 1350 candy bars during week two, 1210 candy bars during week three, and 1160 candy bars during week four. How many candy bars did Jerry produce?

- A. 1,300
- B. 1,350
- C. 3,860
- D. 5,020

#### **Example Question Answer**

For the example question, you should have chosen "D". The question asks for a sum. The number of candy bars produced during weeks 1-4 is added together ( $1300+1350+1210+1160$ ) to equal 5,020 candy bars.

### **Test 4: Attention to Detail**

This test will take about 15 minutes to complete. The detailed instructions for this test, and an example question which will be presented during the test administration, are provided below.

#### **ATTENTION TO DETAIL INSTRUCTIONS**

This is a test of your ability to verify information in text, tables, forms, and lists for accuracy and completeness, including the ability to make quick and accurate comparisons of information in order to detect errors. There are four types of questions:

For **Type 1** questions, you will compare the “copy” information to the “original”, and determine how many errors, if any, are present in the “copy”. When determining the number of errors, make sure you do not group any numbers or letters together, but instead think of each letter, number, or symbol as a free-standing piece of information.

Switched numbers, digits, or symbols result in two errors. For example, if you were presented with original information “123” and copy information “132”, this represents a total of 2 errors. The “1” is in the correct spot, however, the “2” and “3” have been switched. Therefore, there are two errors; the “2” is where the “3” should be and the “3” is where the “2” should be.

Take a moment to review the example question.

#### **Type 1 Example Question**

Compare the "Original" information with the "Copy" information and determine the number of errors, if any, present in the "Copy".

<b>Original</b>	<b>Copy</b>
96.31-TAR	693.1-TAP

- A. 2 errors
- B. 3 errors
- C. 4 errors
- D. 5 errors

#### **Type 1 Example Question Answer**

The correct answer to the example question is “D” because 1) The number 6 should be a 9 and the number 9 should be a 6; these switched numbers equal 2 errors, 2) The decimal point should be a 3 and the number 3 should be a decimal point; these switched characters equal the **3rd and 4th errors**. 3) Finally, the P is in the place of the R, which is the **5th error**.

For **Type 2** questions, you will be presented with two pieces of information and will need to determine whether the two pieces of information are exactly the same or different in any way.



For **Type 3** questions, you will be presented with a piece of information and will need to choose the alternative (A, B, C, or D) that is identical to this piece of information.

For **Type 4** questions, you will need to look up specific information in a table. Your task is to choose the alternative (A, B, C, or D) that references the correct information within the table.

## **Test 5: Work Orientation**

This test will take about 15 minutes to complete. The detailed instructions for this test, and an example question which will be presented during the test administration, are provided below.

### **WORK ORIENTATION INSTRUCTIONS**

In this test, you will be asked a series of questions about your experiences, interests, and preferences. Each question provides a list of response options from which to choose. Please think about each question carefully and select the one response option that is MOST true for you. While answering these questions, it is important that you respond thoughtfully and honestly.

Take a moment to review the example question.

### **Example Question**

In your work and school experiences, how did you solve a difficult work assignment?

- A. I carefully thought about the problem and solved it myself.
- B. I talked it over with my co-workers, classmates, or friends to help solve the problem.
- C. I talked it over with my supervisor, teacher, or other advisor to help solve the problem.
- D. I did not think about the problem for a couple of days so that I was able to solve it with a new outlook.

### **Answer to Example Question**

You should have chosen the option that is MOST true for you. It is important and expected that you respond honestly and as accurately as possible to each question.

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

This section contains a number of 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, and that different people may find some of the suggestions more or less helpful than others.

#### **Advanced 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 may find it helpful if you wear a watch to the testing session. This will help you monitor the time. 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**

Each test within the battery has different instructions. You will read these at your own pace as you proceed through the battery. The instructions will clarify any conditions that are specific to the test you are taking. Be sure that you understand what to do for each test.

### Know the Time Limits

The test instructions for each test list the amount of time allowed for that test. Make a note of your start time. 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 a test, you may go back and review any question within that test. You cannot return to previous tests within the battery. Stay focused and complete as many of the questions as you can in the time provided.

### Answering Problem Solving, Mechanical Comprehension, Arithmetic Reasoning and Attention to Detail Questions

During the Problem Solving, Mechanical Comprehension, Arithmetic Reasoning and Attention to Detail tests, 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.

### Answering Work Orientation Questions

The Work Orientation test asks you questions about your experiences, background, opinions, and/or feelings. When completing this exercise, you should consider the following helpful hints:

Read each question carefully to ensure that you understand exactly what it is asking.

Some of the questions may not apply exactly to you. Consider the general sense of the question and pick the choice that comes closest to describing your situation.

Respond accurately and honestly to each question. Truthfulness is critical in this process.

Remember to choose only one answer to every question.

Review your answers if there is time; resist the urge to stop working as soon as you complete all the questions. Go back and make sure that you have answered all the questions.

### Additional Resources on Test Taking Strategies

It is your responsibility to be well prepared for the testing session. We have described some basic steps that will help you feel more positive and confident about test taking.

## **IV. Frequently Asked Questions**

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

The tests themselves require a maximum of one hour and 20 minutes, although most test takers will finish in less time. You should expect to be at the test location for up to 2 hours for check-in, instructions, and test administration.

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

No. Since the entire test battery can be completed within two hours, there are no breaks. Please plan ahead and visit the restroom if needed before the start of the 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, 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 test has been scored. 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, their instructions, 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.