

**Study Guide
for
Building Mechanic
Job Code # 9640**

Test No. 2454

**Human Resources
Performance Assessment Services
Southern California Edison
An Edison International Company**

Rev03.2009

INTRODUCTION

The Building Mechanic test is a job knowledge test designed to cover the major knowledge areas to perform the job. This *Guide* contains strategies to use for taking tests and a study outline, which includes knowledge categories, and study references.

Test Scheduling

Employees who apply for positions, bids, and transfers requiring testing before March 9, 2009, will be scheduled for testing by their Supervisor through Human Resources. For those who apply after March 9, 2009, both the employee and their Supervisor will be notified of a scheduled test date by Human Resources. Test times and dates for positions requiring testing will be specified in the bid/transfer/requisition/job posting. Employees should be prepared to test on the specified dates. Only employees who apply for positions requiring testing, and who meet basic qualifications, will be invited to test. Applicants will be scheduled through the recruiter. If you have any questions, please call 626-302-9830.

Test Session

All questions on this test are multiple-choice with four possible answers. Prior to March 9, 2009, your answers to the questions are indicated by filling in a circle on an answer sheet with a special mark-sense pencil. For your answers to be read accurately by the scanner, you must fill in the circles completely and erase completely any answer you wish to change. After March 9, 2009 you will take the exam on a computer. For more information on this, please see the next section of this study guide, Computer Based Testing.

The test has a 3 hour time limit and testing aides are not allowed.

Study Guide Feedback

At the end of this *Guide* you have been provided with a Study Guide Feedback page. If a procedure or policy has changed, making any part of this *Guide* incorrect, your feedback would be appreciated so that corrections can be made.

Computer Based Testing

Effective **March 9, 2009**, all knowledge tests will be administered on the computer. This information will help prepare you for a knowledge test taken on or after **March 9, 2009**.

Taking an SCE knowledge test on the computer is simple. You do not need any computer experience or typing skills. You will only use the keyboard to enter your candidate ID and password. You'll answer all questions by pressing a single button on the mouse.

Log in Screen

You will be seated at a testing station. When you are seated, the computer will prompt you to enter the candidate ID and password you received in your invitation e-mail. You **MUST** have your candidate ID and password or you will be unable to take the test. Once you have confirmed your identity by entering this information, you will see a list of tests available to you.

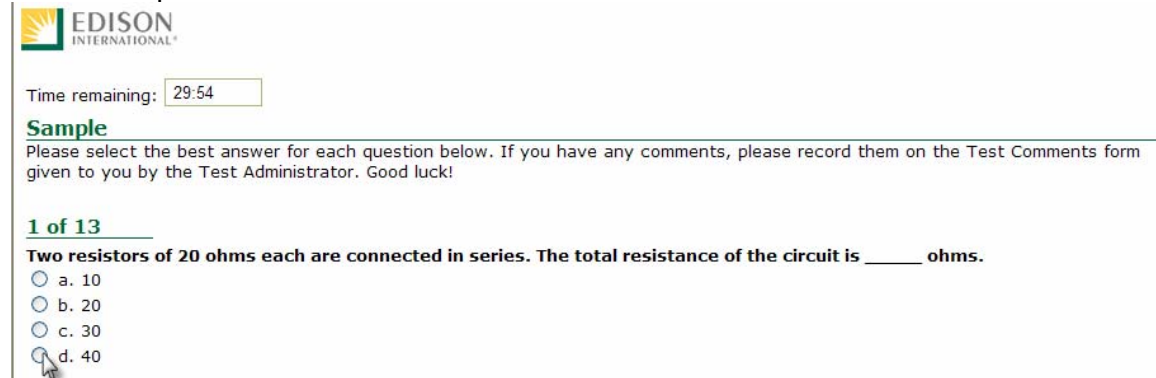
Sample/Tutorial

Before you start your actual test, a Sample/Tutorial Test is provided to help you become familiar with the computer and the mouse. From the list of exams that appear when you complete the log in, you will select Sample/Tutorial. You will have up to 10 minutes to take the Sample/Tutorial Test. The time you spend on this Sample Test DOES NOT count toward your examination time. Sample questions are included so that you may practice answering questions. In the Sample/Tutorial Test, you will get feedback on your answers. You will not receive feedback on your actual test.

Example

During the test, to answer each question, you should move the mouse pointer over the circle (radio button) next to the answer of your choice, and click the left mouse button. The amount of time you have remaining to take the test will always be shown in the top left corner of the screen. A sample is show below:

1. When you begin the test, you can see the total time allowed for completion displayed at the top of the screen. You can scroll up to see that information at any time during the test.
2. In order to answer each question, first read the question and determine the response that best answers the question. Put the mouse pointer directly over the circle corresponding to that response.



The screenshot shows the Edison International logo at the top left. Below it is a timer showing "Time remaining: 29:54". A section titled "Sample" contains the instruction: "Please select the best answer for each question below. If you have any comments, please record them on the Test Comments form given to you by the Test Administrator. Good luck!". Below this is a question: "1 of 13 Two resistors of 20 ohms each are connected in series. The total resistance of the circuit is ____ ohms." followed by four radio button options: a. 10, b. 20, c. 30, and d. 40. A mouse cursor is positioned over the radio button for option d.

3. While the pointer is over the circle corresponding to the best answer, click the left mouse button.



Click the left button when the pointer icon is over your answer choice.

4. The answer you selected should now have a green dot in the circle. If you need to select an alternate answer, simply move the pointer over that circle, and click again.



Time remaining:

Sample

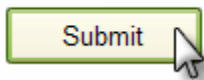
Please select the best answer for each question below. If you have any comments, please record them on the Test Comments form given to you by the Test Administrator. Good luck!

1 of 13

Two resistors of 20 ohms each are connected in series. The total resistance of the circuit is _____ ohms.

- a. 10
- b. 20
- c. 30
- d. 40

5. You can change your answers at any time during the test until the time runs out, or you click the "Submit" button.



TEST TAKING STRATEGIES

The Building Mechanic test contains multiple-choice questions. The purpose of this section is to help you to identify some special features of a multiple-choice test and to suggest techniques for you to use when taking one.

Your emotional and physical state during the test may determine whether you are prepared to do your best. The following list provides common sense techniques you can use before the test begins.

Technique	Remarks
<i>Be confident</i>	<ul style="list-style-type: none">• If you feel confident about passing the test, you may lose some of your anxiety.• Think of the test as a way of demonstrating how much you know, the skills you can apply, the problems you can solve, and your good judgment capabilities.
<i>Be punctual</i>	<ul style="list-style-type: none">• Arrive early enough to feel relaxed and comfortable before the test begins.
<i>Concentrate</i>	<ul style="list-style-type: none">• Try to block out all distractions and concentrate only on the test. You will not only finish faster but you will reduce your chances of making careless mistakes.• If possible, select a seat away from others who might be distracting.• If lighting in the room is poor, sit under a light fixture.• If the test room becomes noisy or there are other distractions or irregularities, mention them to the Test Administrator <i>immediately</i>.
<i>Budget your time</i>	<ul style="list-style-type: none">• Pace yourself carefully to ensure that you will have enough time to complete all items and review your answers.

Read critically

- Read all directions and questions carefully.
- Even though the first or second answer choice looks good, be sure to read all the choices before selecting your answer.

Make educated guesses

- Make an educated guess if you do not know the answer or if you are unsure of it.

Changing answers

- If you need to change an answer, be sure to erase your previous answer completely. On the computer, be sure that the new answer is selected instead of the old one.

Return to difficult questions

- If particular questions seem difficult to understand, make a note of them, continue with the test and return to them later.

Double check mathematical calculations

- Use scratch paper to double check your mathematical calculations.

Review

- If time permits, review your answers.
- Do the questions you skipped previously.
- Make sure each answer bubble is *completely* filled in. Erase any stray marks on your answer sheet. When testing on the computer, make sure each question has a green dot next to the correct answer.

Remember the techniques described in this section are only suggestions. You should follow the test taking methods that work best for you.

JOB KNOWLEDGE CATEGORIES

Below are the major job knowledge categories that are covered on the test.

A. Safety Procedures

Knowledge of safe work procedures as applied to Building Maintenance Mechanics and as outlined in the Accident Prevention Manual and General Office Emergency Fire Procedures. Knowledge of procedures necessary for the safe repair and maintenance of Edison equipment and safe use of tools.

B. Tools and Materials

Includes knowledge of various types of tools and equipment (e.g., power tools, arc or gas welders, various hand tools, etc.) and their functions; knowledge of materials and basic terminology used in describing various types of fittings, connections, building drains, plumbing fixtures, etc.

C. Welding & Soldering

Safe work procedures related to Oxy / Acetylene work including proper respiratory protection. Knowledge of soldering, including proper materials to use.

D. Mechanical Knowledge

Knowledge of maintaining, repairing, and adjusting air conditioning, heating, and appliances. Knowledge of basic principles of electricity, eg., voltage, amperage, A.C. vs. D.C etc.

E. Plumbing Knowledge

Includes the basic principles of plumbing such as fluid movement and pressures, valving systems, pipefitting, etc.

F. Math Knowledge

Includes basic math knowledge, such as adding, subtracting, determining area, amount of materials needed, etc.

Job Activities for the Knowledge Test

Below are the major job activities that must be completed successfully without supervision and are covered on the Building Mechanic Knowledge Test.

1. Installs, maintains, and repairs plumbing facilities for Company houses, structures, and buildings. Includes modification or alteration to existing plumbing in all Company structures.
2. Installs, maintains, and repairs various kinds and sizes of gas, water, and waste disposal systems. Basic understanding of fluid dynamics; Includes journeyman level knowledge of pipe fitting and construction techniques.
3. Cuts, threads, and bends pipes to make proper fits. Installation and repairs
4. Performs soldering operations and makes up lead joints as required. Understands Safe work procedures related to Oxy / Acetylene work including proper respiratory protection
5. Inspects, tests, installs, and repairs pipe lines, fittings, joints, and connections. Insures repairs and new installations comply with the Uniform building code Uses correct methods to test
6. Installs gas, water, and sanitary fixtures and auxiliary equipment. Understands the significance of Environment compliance and safe work practices related to potable water systems as well as waste systems.
7. Estimates materials and selects appropriate tools for various jobs. Ability to work unassisted without supervision through project completion
8. Interprets and works from construction sketches and blueprints. Ability to estimate material and labor cost for budgeting purposes. Make revisions to drawings and blueprints for new construction and repairs.
9. Installs, maintains, and repairs heating and cooling facilities for Company houses, structures, and buildings.
10. Cuts, shapes, and fits sheet metal installations.
11. Transports materials and equipment and maintains tools.

STUDY REFERENCES

Below is a list of study references that can be used in preparation for successful completion of the test. Most references are available at public/university libraries, general bookstores, university/technical bookstores, and the Internet.

- Modern Welding, by Althouse, Turnquist, Bowditch, Bowditch, & Bowditch. Tenth Edition, published 2003. Published by Goodheart-Wilcox. ISBN: 1566379873.
- The Pipefitter's Handbook, by Lindsey. Third edition, published 1967. Published by Industrial Press. ISBN: 0831130199
- Arithmetic The Easy Way, by Prindle and Prindle. Third Edition, published 2005. Published by Barron's Educational Series, Inc. ISBN: 0764129139
- Southern California Edison's Accident Prevention Manual.
- Plumbing Design and Install, by L.V. Ripka. Second Ed, published 2002. Published by ATP Publications, ISBN 0-8269-0615-X.
- Apprentice Mechanic Training Program TPC Course reference materials.

