

**Study Guide  
for  
Apprentice Structural Mechanic**

**Test No. 2812  
Form X**

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**Performance Assessment Services  
Southern California Edison Company**

## **Introduction**

The Apprentice Structural Mechanic Test is a job knowledge test designed to cover the major knowledge's necessary to perform the job. This *Guide* contains strategies to use for taking tests and a study outline, which includes knowledge categories, major job activities, and study references.

## **Test Scheduling**

Your supervisor will schedule you for testing through Staffing and Assessment Services. After you pass the test, your results are valid for a period of three years unless the testing requirements are revised.

## **Test Session**

It is important that you follow the directions of the Test Administrator *exactly*. If you have any questions about the testing session, be sure to ask the Test Administrator before the testing begins. During testing, you may not leave the room, talk, smoke, eat, or drink. Since some tests take several hours, you should consider these factors before the test begins.

All questions on this test are multiple-choice with four possible answers. 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.

The test has a three hour time limit (180 minutes). You may **not** use a calculator or any other aids for this test.

You will receive a Test Comment form so that you can make comments about test questions. Write any comments you have and turn it in with your test when you are done.

## **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.

# Test Taking Strategies

## Introduction

The Apprentice Structural 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

*Be confident*

- 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.

*Be punctual*

- Arrive early enough to feel relaxed and comfortable before the test begins.

*Concentrate*

- 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 *immediately*

Budget your time

- 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.
- 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.

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

# **Study Guide Outline**

## **Job Knowledge Categories**

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

**A. Tools**

Includes names of various tools used on the construction site and their functions.

**B. Job Knowledge and Procedures**

Refers to rough carpentry techniques, rigging, concrete finishing, excavation, mechanical knowledge; techniques of measuring, centering, and concepts of square and cubic space. Also, includes construction terminology and jargon.

**C. Materials**

Refers to names of various materials used in construction, and standard sizes.

**D. Safety**

Safety requirements, potential hazards, and lifting techniques.

## **Job Activity Groups**

Below are the major job activity groups that are covered on the test.

### **ACTIVITY GROUP 1 - PERFORMS ROUGH CARPENTRY**

Performs rough carpentry for building forms for concrete placement.

### **ACTIVITY GROUP 2- PLACES AND FINISHES CONCRETE**

Places and finishes concrete foundations for substations and tower footings.

### **ACTIVITY GROUP 3- ASSISTS IN GENERAL CONSTRUCTION WORK**

Works closely with journeyman carpenter, learning techniques for building substations.

### **ACTIVITY GROUP 4- PERFORMS AND OVERSEES EXCAVATION WORK**

Works closely with laborers and helpers. Uses backhoe to excavate for substation foundations.

### **ACTIVITY GROUP 5- ASSISTS IN RIGGING**

Works with crane operators.

### **ACTIVITY GROUP 6- ASSISTS WITH LAYOUT OF NEW JOBS**

Works closely with journeyman carpenters laying out foundation locations.

### **ACTIVITY GROUP 7- FABRICATES AND INSTALLS REINFORCING STEEL**

Fabricates and installs reinforcing steel for substation foundation.

### **ACTIVITY GROUP 8- INSTALLS CONDUIT IN SUBSTATIONS FOR POWER AND CONTROL CONDUCTOR**

### **ACTIVITY GROUP 9- CLEANS CONSTRUCTION SITE**

Performs general housekeeping activities.

# Study References

Below is a combined listing of the study references for material covered on the test. The materials listed in this Guide are available from general company references (e.g. Edison System Manual, Accident Prevention Manual, etc.), public/university libraries, general bookstores, university or technical bookstores. Department reference material (e.g., Operating letters, on-line computer systems, etc.) again will depend on project.

## **KNOWLEDGE CATEGORY A - TOOLS**

Tool Guide located on crew vehicle

## **KNOWLEDGE CATEGORY B - JOB KNOWLEDGE AND PROCEDURES**

Accident Prevention Manual

Carpentry materials

## **KNOWLEDGE CATEGORY C - MATERIALS**

Found in most carpentry manuals

## **KNOWLEDGE CATEGORY D - SAFETY**

"Standard First Aid", American Red Cross, Available through college bookstore or the American Red Cross, and at libraries.

Accident Prevention Manual

# Sample Questions

The following are samples of the type of questions, arranged by knowledge area, that you will encounter in this test. They include a reference for each question to show you the appropriate section to study. An answer page follows the questions.

## **Knowledge Category A: Tools**

- 1.
- 2.

## **Knowledge Category B: Job Knowledge and Procedures**

- 3.
- 4.

## **Knowledge Category C: Materials**

- 5.
- 6.

## **Knowledge Category D: Safety**

- 7.
- 8.

## **Answers to Sample Questions**

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

## **Study Guide Feedback**

