

STUDY GUIDE
FOR
METER TECHNICIAN 4
KNOWLEDGE TEST

TEST NUMBER: 2684

INTRODUCTION

The 2684 Meter Technician 4 Test is a job knowledge test designed to cover the major knowledge areas 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 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, eat, or drink. Since some tests take several hours, you should consider these factors before the test begins.

Mobile phones or other electronic equipment will NOT be allowed in the testing area.

All questions on this test are multiple-choice or hot spot questions. Multiple choice questions have four possible answers. Hot spot questions have a picture, and you must click the correct spot on the picture to answer the question. All knowledge tests will be taken on the computer. For more information on this, please see the next section of this study guide on *Computer Based Testing*.

The test has a three hour time limit. A scientific calculator will be provided for you to use during the test. The calculator provided during the test session will be one of these models:

- Casio fx-250HC
- Texas Instruments TI-30XA
- Texas Instruments TI-36X

You will NOT be able to bring or use your own calculator during testing.

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.

ASSESSMENT TAKING STRATEGIES

The 2684 Meter Technician 4 Test contains multiple-choice questions and may also contain hot spot 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

CONFIDENCE

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.

PUNCTUALITY

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CONCENTRATION

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 tasks/functions.

READ CRITICALLY

Read all directions and questions carefully.

Remember that the techniques described in this section are only suggestions. You should follow the test taking methods that work best for you. If particular questions seem difficult to understand, make a note of them, continue with the test and return to them later.

MAKE EDUCATED GUESSES

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

DOUBLE-CHECK MATH 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 multiple-choice question has your correct answer selected.

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 AND STUDY REFERENCES

Below are the major job knowledge areas (topics) covered on the 2684 Meter Technician 4 Test and the associated study references. Listed next to each knowledge category is the number of items on the exam that will measure that topic. You can use this information to guide your studying. Some exams also contain additional pretest items. Pretest items will appear just like all of the other items on your exam, but they will not affect your score. They are an essential part of ensuring the 2684 Meter Technician 4 Test remains relevant to successful performance of the job.

There are a total of 80 items on the 2684 Meter Technician 4 Test and the passing score is 76%. This score was determined during the test validation process.

Advanced Metering Theory and Calculations (22 items)

Knowledge of advanced metering theory including: single-phase and basic poly-phase application and theory; the principles of power, current, and voltage transformers and how to interconnect them; single-phase and poly-phase circuits and how to meter them; metering principles as they related to electromechanical and digital/electrical meters; and metering calculations and formulas (for example, consumption, load, etc...).

References:

- ✓ EEI Meter and Service Committee, Handbook for Electricity Metering. 11th Ed. Washington, D.C.: Edison Electric Institute, 2014.
- ✓ EMS Meter Shop & Field Training: Single-phase and Poly-phase course materials and references (2013).
- ✓ SCE Accident Prevention Manual:*
- 1. General Rules100
- ✓ Electrical Service Requirement Manual*

Meter Troubleshooting and Servicing (47 items)

Knowledge how to troubleshoot and service a meter including: how to read all meter types; how to read nameplates on all meter types; metering prefixes for all meter types and forms; how to read meter wiring diagrams; tools used for metering; current and potential transformers; voltage limitations and standards; how to detect metering errors including tampering; procedures and related standards for verifying the accuracy and functionality of meters and metering equipment; and metering problems that lead to irregularities.

References:

- ✓ EMS Meter Shop & Field Training: Single-phase and Poly-phase course materials and references (2013).
- ✓ Landis + Gyr Meters Catalog. Landis + Gyr Manufacturer. Revised 8-12-07.
- ✓ EEI Meter and Service Committee, Handbook for Electricity Metering. 11th Ed. Washington, D.C.: Edison Electric Institute, 2014.
- ✓ SmartConnect Itron Meters Catalog. Itron Manufacturer. Revised 10-12-11.
- ✓ Field Bulletin No.98. New Meter Prefix System. MFO Engineering. Revised 1/14/2013. Can be found on Portal MFO Information Center General Information.*
- ✓ Field Bulletin No.101. NEW Accounts- Replacement of Meters. MFO Engineering. Revised 2/10/2009. Can be found on Portal MFO Information Center General Information.*
- ✓ SCE Meter Catalogs. Grand Version. 2008. Can be found on Portal MFO Information Center General Information.*

- ✓ OpenWay CENTRON Meter Technical Reference Guide. January 2010. Washington: Itron Inc.
- ✓ SCE Accident Prevention Manual:*
 1. Policy Section
- ✓ Electrical Service Requirement Manual*
- ✓ TD Distribution Overhead Construction Standards *

Safety and Field Procedures (11 items)

Knowledge of safety and operating procedures, standards, and policies: personal protective equipment; general safety behaviors (for example, maintaining a safe workspace, ladder use, etc...); policies and practices for operating Company vehicles; insect/animal interaction policy; and the detection of safety hazards as well as tailboard procedures.

References:

- ✓ SCE Accident Prevention Manual:*
 1. Policy Section
 2. General Rules100
- ✓ MFO Standards of Performance (SOP) Policies and Procedures & Electrical Metering Services (EMS) Addendum *
- ✓ CS S&EH-PL- 001 Animal/Insect Interaction Policy*
- ✓ MFO Field Operations Safety Policy*

* Can be found on the SCE portal

STUDY GUIDE FEEDBACK

Please use this page to notify us of any changes in policies, procedures, or materials affecting this guide. Once completed, return to:

Southern California Edison, Corporate Testing

EdisonTesting@sce.com