

STUDY GUIDE TRANSFORMER SPECIALIST 2

TEST #2669

INTRODUCTION

The 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 format and have four possible answers. All knowledge tests will be taken on the computer.

The test has a three-hour time limit. A scientific calculator will be provided for you to use during the test.

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 test contains multiple-choice questions. The purpose of this section is 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

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

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 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 test remains relevant to successful performance of the job.

There is a total of 69 items on the test and the passing score is 70%.

SAFETY AND ENVIRONMENTAL REQUIREMENTS (4 ITEMS)

Knowledge of SCE safety procedures and requirements (Accident Prevention Manual, shop procedures, Departmental Safety Policies, etc). Knowledge of the types and application of personal protective equipment. Knowledge of safe substation work practices. Knowledge of fire hazards and fire prevention. Knowledge of proper use and disposal procedures for chemical handling. Knowledge of procedures for working with heavy or hydraulic equipment.

References

- ✓ Accident Prevention Manual

TRANSFORMER THEORY (31 ITEMS)

Knowledge and understanding of the electrical properties of a transformer and overall transformer function. Knowledge and familiarity with transformer components and their functions. Knowledge and understanding of the importance of transformer insulation systems and materials.

References

- ✓ Substation Operator's Manual: Power Transformer Theory and Calculation Reference
- ✓ Substation Operator's Manual: Power Transformer
- ✓ Bureau of Reclamation (2005). *Transformers: Basic, Maintenance, and Diagnostics*.

PROCEDURES/WORK PRACTICES (18 ITEMS)

Knowledge of the procedures for repair, rewind, and new installation of transformers. Knowledge of the proper use of hand tools for repairing, rewinding, and installing transformers including box end wrenches, torque wrenches, screwdrivers, etc. Knowledge of specialty tools used in repairing, rewinding, and installing transformers, including band saw, table saw, shears, crimper, hydraulic press, winding machine, gasket cutters, gas torch, etc. Ability to take electrical and linear measurements using micrometer, caliper, ruler, measuring and test equipment (MTE), etc. Knowledge and understanding of the procedures and requirements for transformer draining, filling, and oil processing. Knowledge and use of equipment for transformer draining, filling, and oil processing, including vacuum chamber, dry-out oven, dew point meters, etc. Knowledge of the procedures for crimping, taping, and connecting leads.

References

- ✓ Substation Operator's Manual: Power Transformer Theory and Calculation Reference
- ✓ Substation Operator's Manual: Power Transformer
- ✓ Bureau of Reclamation (2005) *Transformers: Basic, Maintenance, and Diagnostics*

PRINT READING (16 ITEMS)

Ability to read, recognize, and understand blueprints, diagrams, and name plate. Knowledge of general blueprint and diagram symbols as they apply to wiring diagrams, one-line diagrams, and mechanical blueprints.

References

- ✓ Substation Training: Prints and Diagram
- ✓ Substation Operator's Manual: Prints and One Lines



STUDY GUIDE FEEDBACK

Please email Southern California Edison's Corporate Testing to notify us of any changes in policies, procedures, or materials affecting this guide.

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