

Study Guide

For

Electrical Apparatus Technician Knowledge Test

TEST NUMBER: 2688

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, smoke, 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.

The test has a time limit of six hours and is broken into two parts. When you reach the end of Part I, you will have to submit your answers to reach Part II. You will not be able to change any of your answers from Part I after you submit your answers. Once you have submitted Part I, you have the option to take a 30-minute break. If you chose not to take that break, you can proceed directly to Part II by pressing Submit on the break screen.

A scientific calculator will be provided for you to use during the test. The calculator provided during the test session will be a Texas Instrument TI-36X

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.

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 on the 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 test remains relevant to successful performance of the job.

There are a total of 68 items on the test. The passing score is 62%.

Direct Current Theory (5 items)

Knowledge of electrical theoretical concepts related to direct current flow originating from batteries, generators and electronic sources.

References:

- ✓ Croft, Terrell, et al. *American Electrician's Handbook*. McGraw-Hill, 2013.
- ✓ Floyd, Thomas L., and David M. Buchla. *DC/AC Fundamentals: A Systems Approach*. Pearson, 2013.
- ✓ Fowler, Nick. *Electricians Calculations Manual*. McGraw-Hill, 2005.
- ✓ Herman, Stephen L. *Delmar's Standard Textbook of Electricity*. Sixth ed., Cengage Learning, 2016.

Alternating Current Theory (20 items)

Knowledge of electrical theoretical concepts related to alternating current flow originating from generators and system power sources.

References:

- ✓ Croft, Terrell, et al. *American Electrician's Handbook*. McGraw-Hill, 2013.
- ✓ Floyd, Thomas L., and David M. Buchla. *DC/AC Fundamentals: A Systems Approach*. Pearson, 2013.
- ✓ Herman, Stephen L. *Delmar's Standard Textbook of Electricity*. Sixth ed., Cengage Learning, 2016.
- ✓ Ugly's Electrical References. 2017 ed., Jones & Bartlett Learning, 2017

Three-Phase Power Theory (19 items)

Understanding of the generation, transmission, and distribution of electrical power.

References:

- ✓ Fowler, Nick. *Electricians Calculations Manual*. McGraw-Hill, 2005.
- ✓ Gill, Paul. *Electrical Power Equipment Maintenance and Testing*. Second ed., CRC Press, 2009.
- ✓ Herman, Stephen L. *Delmar's Standard Textbook of Electricity*. Sixth ed., Cengage Learning, 2016.

Instrument Transformer (9 items)

Knowledge of transformers and converting levels of electricity to various circuits.

References:

- ✓ Croft, Terrell, et al. *American Electrician's Handbook*. McGraw-Hill, 2013.
- ✓ Gill, Paul. *Electrical Power Equipment Maintenance and Testing*. Second ed., CRC Press, 2009.

Tools and Measurement (9 items)

Understanding of the equipment used in performing measurements and tests.

References:

- ✓ Croft, Terrell, et al. *American Electrician's Handbook*. McGraw-Hill, 2013.
- ✓ Gill, Paul. *Electrical Power Equipment Maintenance and Testing*. Second ed., CRC Press, 2009.
- ✓ Herman, Stephen L. *Delmar's Standard Textbook of Electricity*. Sixth ed., Cengage Learning, 2016.

Safety (6 items)

Knowledge of work safety, electrical safety, safety hazards.

References:

- ✓ Croft, Terrell, et al. *American Electrician's Handbook*. McGraw-Hill, 2013.
- ✓ "UNITED STATES DEPARTMENT OF LABOR." *Home | Occupational Safety and Health Administration*, <https://www.osha.gov/>.

STUDY GUIDE FEEDBACK

Please email to notify us of any changes in policies, procedures, or materials affecting this guide.

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