

STUDY GUIDE

DISTRIBUTION APPARATUS

TECHNICIAN TEST

TEST #2393

INTRODUCTION

The **2393 Distribution Apparatus Technician 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.

All cellular/mobile phones, pagers or other electronic equipment will NOT be allowed in the interviewing 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 computer based testing, follow the link: www.edison.com/studyguides and click on Computer Based Testing Information.

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

INFORMATION GUIDE FEEDBACK

At the end of this Guide you have been provided with an Information 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 **2393 Distribution Apparatus Technician 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 use before the test begins.

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 TIMES

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 when testing on a 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 MATH CALCULATIONS

Use scratch paper to double check your mathematical calculations.

REVIEW

If time permits, review your answers. Do the questions you skipped previously. When testing on a computer, make sure each multiple choice question has a 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 AND STUDY REFERENCES

Below are the major job knowledge areas (topics) covered on the **2393 Distribution Apparatus Technician 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 **2393 Distribution Apparatus Technician Test** remains relevant to successful performance of the job.

There are a total of 89 items on the **2393 Distribution Apparatus Technician Test** and the passing score is 70%.

ELECTRICAL KNOWLEDGE (43 ITEMS)

Understanding of electrical principles and theory, Alternating Current (A.C.), Direct Current (D.C.), Ohm's law, electrical terminology, circuitry, resonance, basic batteries, ability to read circuit diagrams, schematics, blueprints, electrical symbols, and ability to trace circuits.

References for Electrical Knowledge:

Herman, Stephen. Delmar's Standard Textbook of Electricity 6th ed. Cengage Learning, 2016.

Shoemaker, Thomas. Lineman's and Cableman's Handbook 12th ed. McGraw-Hill Professional, 2011.

TEST EQUIPMENT AND PROCEDURES (6 ITEMS)

Understanding of standard test procedures and accuracy requirements, switching procedures test equipment, meters and tools, knowledge of grounding and tagging procedures, knowledge of the layout, function, and characteristics of electrical distribution systems.

References for Test Equipment and Procedures:

Herman, Stephen. Delmar's Standard Textbook of Electricity 6th ed. Cengage Learning, 2016.

EQUIPMENT KNOWLEDGE AND NOMENCLATURE (23 ITEMS)

Knowledge of the types and functions of transformers, knowledge of the types and functions of capacitor banks, knowledge of the types and functions of voltage regulators, knowledge of remote automatic reclosers, preferred emergency gear, and remote controlled switches.

References for Equipment Knowledge and Nomenclature:

Herman, Stephen. Delmar's Standard Textbook of Electricity 6th ed. Cengage Learning, 2016.

Shoemaker, Thomas. Lineman's and Cableman's Handbook 12th ed. McGraw-Hill Professional, 2011.

MATH (5 ITEMS)

Understanding of basic math, algebra, and trigonometry.

References for Math:

Prindle, Anthony. Math the Easy Way. Barron's Educational Series, 2003.

Downing, Douglas. Trigonometry the Easy Way. Barron's Education Series, 2001.

SAFETY (12 ITEMS)

Understanding of safety procedures, electrical hazards, and safe operation procedures related to distribution apparatus repairs and maintenance.

References for Safety:

California Code of Regulations, Title 8, Section 2940.2 Clearances.

Fed OSHA Standards 29 CFR, section 1910.269, 1910.120, 1910.137.

Shoemaker, Thomas. Lineman's and Cableman's Handbook 12th ed. McGraw-Hill Professional, 2011.

SAMPLE QUESTIONS

The following sample questions should give you some idea of the form the test will take.

1. If phase to phase voltage is 25,000 volts, what is the phase to neutral voltage?

- a. 43,250.
- b. 25,000.
- c. 14,450.
- d. None of the above.

2. Each time another load is connected in parallel:

- a. There is more opposition to the flow of current through the entire circuit.
- b. There is less opposition to the flow of current through the entire circuit.
- c. The overall resistance to flow is increased.
- d. The electrons have a harder time flowing.

3. How are the transformers connected in a delta connection?

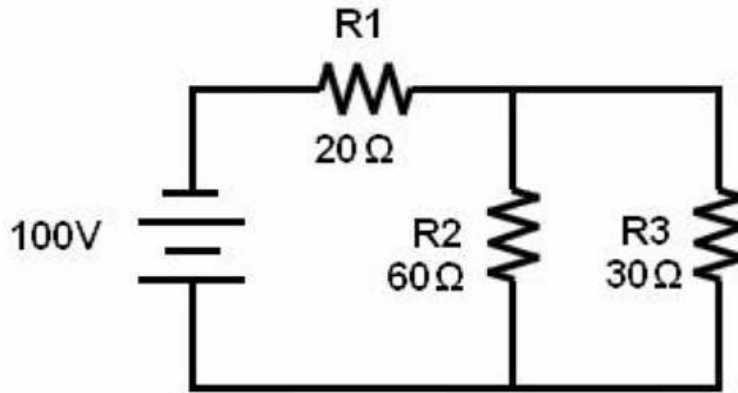
- a. Phase to phase.
- b. Phase to ground.
- c. It varies depending on transformer ratio.
- d. None of the above.

4. In parallel circuits, the current flow XX ?.

- a. is the same
- b. and voltage are proportional
- c. and resistance are proportional
- d. divides through each of the circuit branches

5. What is the total resistance in this circuit?

- a. 110 ohms
- b. 50 ohms
- c. 40 ohms
- d. 10 ohms



SAMPLE QUESTION ANSWERS

1. C
2. B
3. A
4. D
5. C



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 - Human Resources – Assessment Programs G.O. 5, 1st Floor, 1515 Walnut Grove Ave., Rosemead, CA 91770

TEST NAME: **2393 Distribution Apparatus Technician Test**

If you have encountered any discrepancies in the test, please provide an explanation and the page number below.

COMMENTS