

Edison Electric Institute Construction and Skilled Trades (CAST) Practice Test





Edison Electric Institute Construction and Skilled Trades (CAST) Practice Test Toolkit

The Construction and Skilled Trades (CAST) Selection System is a battery of skill and ability tests designed and validated to aid in the selection of candidates across a variety of construction and skilled trades occupations. The test battery measure skills and abilities that are critical for effective job performance. The test covers for areas: Graphic Arithmetic, Mathematical Usage, Mechanical Concepts and Reading for Information.

Practice tests were developed by EEI to help the test takers prepare for the EEI employment tests. Each practice test battery resembles the real test battery in both form and content. However, the practice tests will differ in some ways from the real tests.

To access the practice tests, go to www.eei.org/practicetests/ and log in. (This link can be found on the Duke Energy website, under careers/employment tests)

- Name: reno
- Password: tahoe

General Guidelines for Administering the Practice Tests

Two hours should be set aside to administer the practices tests. The tests should all be completed in one sitting to simulate the actual test taking experience. Each practice test should be timed and administered separately. After all four practice tests are completed, the test takers should grade their own tests, and determine if there is any area where they may need to do some additional studying before the actual test is administered.

- **Practice Test 1 – Graphic Arithmetic** -The Graphic Arithmetic test measures a candidate's ability to solve arithmetic problems by using information from prints or drawings.
Time: 15 minutes (a total of 8 questions)
- **Practice Test 2 – Mathematical Usage** - The Mathematical Usage test measures a candidate's ability to solve basic mathematical problems from information provided at the beginning of the test.
Time: 8 minutes (a total of 19 questions)
- **Practice Test 3 – Mechanical Concepts** - The Mechanical Concepts test measures a candidate's ability to understand mechanical principles.
Time: 13 minutes (a total of 26 questions)
- **Practice Test 4 – Reading for Comprehension** - The Reading for Comprehension test measures a candidate's ability to read and understand written materials.
Time: 24 minutes (a total of 23 questions)

Administering the Practice Tests

1. Make sure to have the tests printed from the EEI website (link shown above) and have enough copies of each test for each test taker.
2. Have a timer available to accurately time each test.
3. Before beginning the test, make sure that the test takers do not have anything on their desks/tables except for a pencil. Make sure there is at least 5 feet between each desk or test takers.
4. Calculators are **not** allowed.
5. Read the following instructions to the test takers:
 - Read each test question carefully before you try to answer it.
 - Work as quickly and as accurately as you can on the test. Work steadily on it until you are told to stop.
 - If there's a question you can't answer in a reasonable amount of time, skip it, and come back to it after you've answered all of the other questions on the test you're working on.
 - If you're unsure of the correct answer to a question, try to eliminate those choices which you know are incorrect. Then you might consider making your best guess from among the remaining alternatives.
 - You are to turn your test page over **only** when I tell you.
 - You are not to begin the test until I say "Begin". Once I call "Stop" you should put pencils down immediately and turn your test page over.
6. Hand out the first test, Graphic Arithmetic, face down to each test taker.
7. Get your timer ready, but do not start time yet.
8. Ask each test taker to put their name on top right corner of the page.
9. Set timer for appropriate time, tell the test takers to begin, and begin the timer.
10. Once the appropriate allotted time for that particular test has been reached, ask the test takers to put their pencils down and turn the test paper over.
11. Hand out the Mathematical Usage practice test face down to each test taker.
12. Go back and repeat instructions 7 through 10.
13. Do the same for the Mechanical Concepts practice test and the Reading for Comprehension practice test.
14. Once all 4 practice tests have been administered, ask the test takers to turn the tests over so that you they can score their answers.
15. Review the answers to each practice test question, beginning with the first practice test. Ask the students to put a \checkmark next to a correct answer and an "x" next to a wrong answer. Answers and explanations for the practice test questions are provided at the end of each practice tests. You

should have those handy and review the answer and explanation for those students who may have gotten the answer incorrect.

16. Give each student a copy of the answer sheets for their future reference.

Interpreting Results

It is very difficult to say how many correct answers the student should have for each section for a pass score. For the actual test, the four aptitude test scores are combined to form a single Index Score, ranging from 1 to 10. Candidates' index scores are then translated into expected probabilities of successful job performance.

However, for the practice test, if the test taker has 3 or 4 incorrect answers in Practice Tests 2, 3, or 4, they should do some self study in the areas where they had the most incorrect answers. In Practice Test 1 (Graphic Arithmetic), if at least 2 of the answers are incorrect, you should recommend that the test taker conduct some self study in Graphic Arithmetic.

Self Study Resources

Provide each test taker with a list of resources available in the 4 areas tested (attached).



CAST Battery Self Study Resources

The following are some books and self-study guides on different topics. In addition, many others are available which you might want to consider.

- **Strategies and Preparation**

1. Kesselman-Turkel, J., & Peterson, F. (2004). Study Smarts: How to Learn More in Less Time. Madison, WI: University of Wisconsin Press.
2. Kesselman-Turkel, J., & Peterson, F. (2004). Test-Taking Strategies. Madison, WI: University of Wisconsin Press.
3. LearningExpress Staff (2007). Test-Taking Power Strategies. New York, NY: LearningExpress.

- **Math and Science**

1. Erdsneker, H. (2004). Arco Civil Service Arithmetic & Vocabulary Review (15th Edition). Lawrenceville, NJ: Peterson's.
2. Ewen, I., Weinfeld, M., Covington, J., & Smith, D. (1999). Kaplan Essential Review: High School Mathematics I. New York, NY: Kaplan Publishing.
3. Gibilisco, S. (2006). Teach Yourself Electricity and Electronics (4th Edition). New York, NY: McGraw-Hill.
4. Gussow, M. (2002). Basic Electricity: Based on Schaum's Outline of Basic Electricity. New York, NY: McGraw-Hill.
5. Immergut, B., & Burr-Smith J. (2005). Arithmetic and Algebra Again (2nd Edition). New York, NY: McGraw-Hill.
6. LearningExpress Staff (2004). 1001 Math Problems: Fast, Focused Practice That Improves Your Math Skills (2nd Edition). New York, NY: LearningExpress.
7. Levy, J. (2004). Arco Master the Mechanical Aptitude and Spatial Relations Tests (6th Edition). Lawrenceville, NJ: Peterson's.
8. Miller, R., & Miller, M. (Eds.) (2002). Arco Electrician and Electrician's Helper (9th Edition). Lawrenceville, NJ: Peterson's.

9. Morrison, R. (2003). *Electricity: A Self-Teaching Guide*. Hoboken, NJ: John Wiley & Sons.
10. O'Malley, J. (1992). *Schaum's Outline of Basic Circuit Analysis (2nd Edition)*. New York, NY: McGraw-Hill.
11. Research & Education Association Staff (2003). *REA's Math Builder for Admission & Standardized Tests*. Piscataway, NJ: Research & Education Association.
12. Zegarelli, M. (2007). *Basic Math & Pre-Algebra for Dummies*. Hoboken, NJ: John Wiley & Sons.

- **Reading, and Writing**

1. Bonet, D. (1993). *Easy English: Basic Grammar & Usage*. Menlo Park, CA: Crisp Publications.
2. Boone, R. (1996). *Reading Comprehension: What You Need to Know About Developing Your Test-Taking Skills*. New York, NY: McGraw-Hill.
3. Brock, S. (2002). *Better Business Writing: Techniques for Improving Correspondence (4th Edition)*. Menlo Park, CA: Crisp Publications.
4. Elliott, R. (2006). *Painless Grammar (2nd Edition)*. Hauppauge, NY: Barron's Educational Services.
5. Fry, R. (2004). *Improve Your Reading (5th Edition)*. Clifton Park, NY: Delmar Cengage Learning.
6. Goodman, Y., Watson, D., & Burke, C. (1996). *Reading Strategies: Focus on Comprehension (2nd Edition)*. Katonah, NY: Richard C. Owen Publishers.
7. Heuer, C., Saronson, S., & Niesz, J. (2006). *Arco Master the Clerical Exams (5th Edition)*. Lawrenceville, NJ: Peterson's.
8. Hoyt, L. (2008). *Revisit, Reflect, and Retell: Strategies for Improving Reading Comprehension*. Portsmouth, NH: Heinemann.
9. LearningExpress Staff (2003). *1001 Vocabulary & Spelling Questions: Fast, Focused Practice that Improves Your Word Knowledge*. New York, NY: LearningExpress.
10. LearningExpress Staff (2006). *501 Reading Comprehension Questions (3rd Edition)*. New York, NY: LearningExpress.
11. Princeton Review Publishing Staff (2001). *Grammar Smart: A Guide to Perfect Usage (2nd Edition)*. New York, NY: Random House Information Group.
12. Research & Education Association Staff (2002). *REA's Reading Comprehension Builder for Admission and Standardized Tests*. Piscataway, NJ: Research & Education Association.
13. Research & Education Association Staff (2002). *REA's Verbal Builder for Admission and Standardized Tests*. Piscataway, NJ: Research & Education Association.

14. Robinson, A. (2001). The Princeton Review Word Smart: Building an Educated Vocabulary (3rd Edition). New York, NY: Random House Information Group.
15. Schaffzin, N. (1994). The Princeton Review Reading Smart: Advanced Techniques for Improved Reading. New York, NY: Random House Information Group.

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