
TEST INFORMATION GUIDE

This test information guide provides a summary of concepts that are tested on the written (multiple choice) examination for the **Electronic Equipment Installer / Repairer** job. This information can be reviewed in combination with the class specification and examination announcement to assist you in preparing for the examination.

I. ELECTRICAL / ELECTRONIC REPAIRS & PROCEDURES (20 Questions)

Employees in this job are responsible for the installation, maintenance and repair of radio and electronic equipment. Employees may also construct electronic and mechanical devices and fabricate equipment stands, brackets and hardware from wood and metal stock necessary to install electronic base and mobile communications equipment. These critical tasks require one to possess the ability to make repairs to electrical and electronic components. Test question topics covered in this section include:

- Common symbols used in electronic circuit schematics (i.e., symbols used to denote diodes, transmitters, transistors; amplifiers, etc.);
- Purpose of a capacitor;
- Repairing a broken or cracked foil strip on a printed circuit board;
- Measuring power loss and power output;
- Factors affecting the resonant frequency of antennas;
- Grounding exposed metal parts of a transmitter;
- Troubleshooting electronic problems in receivers and transmitters;
- Shielding a radio-frequency magnetic field.

II. ELECTRICAL / ELECTRONIC TOOLS & EQUIPMENT (20 Questions)

Employees in this job use various hand and power tools such as screwdrivers, pliers, wrenches, hammers, soldering irons, power drills and hole saws. Employees also use test bench equipment such as signal generators, VOM meters, and oscilloscopes. Test question topics in this section of the exam include:

- Using oscilloscopes;
- Use of an ohms scale on a multimeter;
- Purpose of an audio voltmeter;
- Values found on AC meters;
- Factors affecting the resistance of electrical wire;
- Use of wire-wound resistors v. carbon resistors;
- Three important ratings found on all resistors;
- Testing or calibrating meters.

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III. ELECTRICAL / ELECTRONIC ENERGY & CIRCUITRY

(20 Questions)

This job requires employees to read schematic circuit diagrams to gain an understanding of circuit operation as necessary for repairs. Employees must follow wiring diagrams and product literature in order to install and connect equipment and may need to fabricate electronic circuits and equipment from pencil layouts and schematic drawings. In order to perform these tasks effectively, the employee must be knowledgeable of electrical and electronic energy and circuitry. The questions in this section of the exam test cover topics such as:

- Definitions of electronic terms such as capacitance, impedance, current, inductance;
- Purpose of an electrical schematic;
- Use of switches in electrical circuits;
- Measuring circuit resistance and electric current;
- Changing alternating current into direct current;
- Ohm's Law;
- Definition of frequency tolerance.