



2020-2021

Technical Skills Assessment

Electronics Technology

Results by Standard

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Electronics Technology Number tested: 28	% Correct 17-18	% Correct 18-19	% Correct 20-21
CONTENT STANDARD 1.0: SAFETY AND TOOLS	88.29%	84.76%	89.76%
Performance Standard 1.1: Demonstrate general lab safety rules and procedures	89.81%	84.84%	90.66%
1.1.3 Identify and use proper lifting procedures and proper use of support equipment	98.65%	94.29%	98.21%
1.1.4 Utilize proper ventilation procedures for working within the lab/shop area	87.84%	91.43%	91.07%
1.1.5 Identify marked safety areas	94.59%	85.71%	91.07%
1.1.6 Describe the type and usage of the fire extinguishers	89.19%	94.29%	96.43%
1.1.7 Identify the location of the posted evacuation routes	83.78%	75.71%	80.36%
1.1.8 Explain eye and ear protection needed by technicians, and appropriate clothing for lab/shop activities	90.54%	84.29%	92.86%
1.1.11 Explain how electrostatic discharge (ESD) damages sensitive electronic components	83.78%	72.86%	87.50%
Performance Standard 1.2: Identify and safely utilize tools and equipment	78.38%	84.29%	83.93%
1.2.2 Demonstrate the proper techniques when using tools and equipment	78.38%	84.29%	83.93%
CONTENT STANDARD 2.0: ELECTRONIC THEORY	69.31%	72.24%	66.84%
Performance Standard 2.1: Explain the principles of electronic theory	78.83%	80.95%	80.95%
2.1.2 Explain the characteristics of voltage, current, and resistance (unit of measure, letter/symbol)	81.08%	82.86%	85.71%
2.1.10 List Ohms law formulas for current, voltage, resistance and power. Solve math problems utilizing each	76.58%	79.05%	76.19%
Performance Standard 2.2: Utilize schematics and block diagrams	60.14%	64.29%	54.46%
2.2.1 Draw and interpret common electrical/electronic symbols	39.19%	45.71%	26.79%
2.2.5 Explain how schematics are used to locate component and wiring failures in electronics products	81.08%	82.86%	82.14%
Performance Standards 2.3: Identify basic wiring principles	64.19%	67.14%	58.04%
2.3.3 Explain the effects of proper and improper termination	66.22%	65.71%	58.93%
2.3.4 Explain the purposes of grounding and common conventions used in electrical systems and electronics	62.16%	68.57%	57.14%
CONTENT STANDARD 3.0: ELECTRONIC COMPONENTS	71.17%	76.19%	76.19%
Performance Standard 3.2: Analyze quantities utilized in electronics	71.17%	76.19%	76.19%

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3.2.1 Identify and utilize the basic units of electronic measurements	71.17%	76.19%	76.19%
CONTENT STANDARD 4.0: DC AND AC CIRCUIT CONFIGURATION	65.27%	69.79%	72.68%
Performance Standard 4.1: Analyze series circuit configuration	79.12%	83.12%	82.14%
4.1.1 Identify series circuit configuration	83.78%	80.00%	83.93%
4.1.2 Calculate voltage drops in a series circuit	82.43%	90.00%	80.36%
4.1.4 Recognize polarity in a series circuit	73.87%	80.00%	85.71%
4.1.5 Calculate voltage, current, resistance, and power in a series circuit	90.54%	88.57%	87.50%
4.1.6 Construct, measure, and analyze simple series circuits	67.57%	78.57%	71.43%
Performance Standard 4.2: Analyze parallel circuit configuration	67.27%	78.41%	76.98%
4.2.1 Identify parallel circuit configuration	58.11%	78.57%	76.79%
4.2.2 Calculate voltage drops in a parallel circuit	82.43%	81.43%	83.93%
4.2.4 Recognize polarity in a parallel circuit	82.43%	90.00%	94.64%
4.2.5 Calculate voltage, current, resistance, and power in a parallel circuit	53.15%	68.57%	60.71%
Performance Standard 4.3: Analyze series-parallel circuit configuration	61.35%	68.57%	69.64%
4.3.1 Identify series-parallel circuit configuration	59.46%	68.57%	64.29%
4.3.2 Calculate voltage drops in a series-parallel circuit	54.95%	69.52%	71.43%
4.3.4 Recognize polarity in a series-parallel circuit	79.73%	77.14%	80.36%
4.3.5 Calculate voltage, current, resistance, and power in a series-parallel circuit	56.76%	61.90%	64.29%
Performance Standard 4.4: Analyze alternating circuits (AC)	52.16%	48.57%	61.43%
4.4.1 Construct and test AC circuits	37.84%	32.86%	46.43%
4.4.2 Identify AC wave form characteristics: effective voltage (RMS), average voltage, negative alternation, positive alternation, wavelength, amplitude, period, and frequency	49.55%	37.14%	54.76%
4.4.3 Calculate peak, peak-to-peak, RMS, and average voltage values for an AC waveform	44.59%	48.57%	58.93%
4.4.4 Explain cycle, hertz, phase, and frequency	69.37%	70.48%	79.76%
CONTENT STANDARD 5.0: DIGITAL ELECTRONIC PRINCIPLES	51.89%	50.86%	56.43%
Performance Standard 5.1: Analyze digital concepts design and circuitry	44.59%	49.29%	51.79%
5.1.2 Compare and contrast between 1 (high) and 0 (low or ground)	51.35%	54.29%	64.29%
5.1.4 Identify and describe basic logic operations (AND, OR, buffer, inverter, NAND)	43.24%	42.86%	42.86%
5.1.7 Interpret data sheet information	32.43%	45.71%	35.71%
Performance Standard 5.2: Utilize microcontroller devices	81.08%	57.14%	75.00%
5.2.1 Describe basic principles of microcontrollers	81.08%	57.14%	75.00%
CONTENT STANDARD 6.0: SOLDERING AND DESOLDERING TECHNIQUES	76.58%	77.14%	77.38%
Performance Standard 6.1: Apply soldering techniques	93.24%	94.29%	91.07%

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6.1.1 Describe solder safety as it pertains to burns and potential fires, damage to facilities or customer products	91.89%	91.43%	89.29%
6.1.2 Explain the causes of solder fumes and the effects of lead poisoning	94.59%	97.14%	92.86%
Performance Standard 6.2: Apply desoldering techniques	43.24%	42.86%	50.00%
6.2.2 Describe various types of desoldering equipment and how it is used	43.24%	42.86%	50.00%
CONTENT STANDARD 7.0: TROUBLESHOOTING AND MAINTENANCE TECHNIQUES	75.27%	75.29%	80.89%
Performance Standard 7.1: Apply troubleshooting techniques	72.07%	73.52%	79.52%
7.1.1 Explain troubleshooting techniques	81.08%	80.95%	91.67%
7.1.3 Utilize all safety procedures necessary while troubleshooting (lock-out tag-out, etc.)	80.18%	74.29%	83.33%
7.1.4 Select and utilize appropriate tools for electronics troubleshooting	71.62%	72.86%	87.50%
7.1.5 Research various sources of repair/maintenance/troubleshooting documentation (print media, electronic media, tech support, local expert, and manufacturer)	55.41%	70.00%	55.36%
7.1.6 Interpret electronic schematic diagrams	72.97%	69.52%	76.19%
7.1.7 Measure electrical characteristics of voltage, current, and resistance in basic electronic circuits using multimeters, oscilloscopes, logic probes, etc.	62.16%	71.43%	76.79%
Performance Standard 7.2: Demonstrate repair documentation techniques	84.86%	80.57%	85.00%
7.2.4 Isolate common faults in wiring and equipment	87.39%	85.71%	79.76%
7.2.6 Explain the purposes and requirements for proper recordkeeping	81.08%	72.86%	92.86%