



2022-2023

Technical Skills Assessment

Electronics Technology

Results by Standard

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

Assessment: Electronics Technology	% Correct	% Correct	% Correct
Number tested: 49	20-21	21-22	22-23
CONTENT STANDARD 1.0: SAFETY AND TOOLS	89.76%	87.52%	88.40%
Performance Standard 1.1: Demonstrate general lab safety rules and procedures	90.66%	88.95%	89.17%
1.1.3 Identify and use proper lifting procedures and proper use of support equipment	98.21%	96.15%	93.52%
1.1.4 Utilize proper ventilation procedures for working within the lab/shop area	91.07%	97.44%	94.44%
1.1.5 Identify marked safety areas	91.07%	87.18%	92.59%
1.1.6 Describe the type and usage of the fire extinguishers	96.43%	92.31%	87.04%
1.1.7 Identify the location of the posted evacuation routes	80.36%	76.92%	77.78%
1.1.8 Explain eye and ear protection needed by technicians, and appropriate clothing for lab/shop activities	92.86%	93.59%	89.81%
1.1.11 Explain how electrostatic discharge (ESD) damages sensitive electronic components	87.50%	80.77%	87.96%
Performance Standard 1.2: Identify and safely utilize tools and equipment	83.93%	78.21%	83.33%
1.2.2 Demonstrate the proper techniques when using tools and equipment	83.93%	78.21%	83.33%
CONTENT STANDARD 2.0: ELECTRONIC THEORY	66.84%	70.33%	71.30%
Performance Standard 2.1: Explain the principles of electronic theory	80.95%	78.21%	72.22%
2.1.2 Explain the characteristics of voltage, current, and resistance (unit of measure, letter/symbol)	85.71%	85.47%	82.10%
2.1.10 List Ohms law formulas for current, voltage, resistance and power. Solve math problems utilizing each	76.19%	70.94%	62.35%
Performance Standard 2.2: Utilize schematics and block diagrams	54.46%	63.46%	72.22%
2.2.1 Draw and interpret common electrical/electronic symbols	26.79%	50.00%	56.48%
2.2.5 Explain how schematics are used to locate component and wiring failures in electronics products	82.14%	76.92%	87.96%
Performance Standards 2.3: Identify basic wiring principles	58.04%	65.38%	68.98%
2.3.3 Explain the effects of proper and improper termination	58.93%	64.10%	65.74%
2.3.4 Explain the purposes of grounding and common conventions used in electrical systems and electronics	57.14%	66.67%	72.22%

Assessment: Electronics Technology	% Correct	% Correct	% Correct
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CONTENT STANDARD 3.0: ELECTRONIC COMPONENTS	76.19%	76.07%	76.54%
Performance Standard 3.2: Analyze quantities utilized in electronics	76.19%	76.07%	76.54%
3.2.1 Identify and utilize the basic units of electronic measurements	76.19%	76.07%	76.54%
CONTENT STANDARD 4.0: DC AND AC CIRCUIT CONFIGURATION	72.68%	68.72%	72.13%
Performance Standard 4.1: Analyze series circuit configuration	82.14%	80.89%	84.51%
4.1.1 Identify series circuit configuration	83.93%	82.05%	89.81%
4.1.2 Calculate voltage drops in a series circuit	80.36%	73.08%	86.11%
4.1.4 Recognize polarity in a series circuit	85.71%	83.76%	82.72%
4.1.5 Calculate voltage, current, resistance, and power in a series circuit	87.50%	88.46%	88.89%
4.1.6 Construct, measure, and analyze simple series circuits	71.43%	75.64%	75.93%
Performance Standard 4.2: Analyze parallel circuit configuration	76.98%	68.95%	71.40%
4.2.1 Identify parallel circuit configuration	76.79%	65.38%	63.89%
4.2.2 Calculate voltage drops in a parallel circuit	83.93%	78.21%	82.41%
4.2.4 Recognize polarity in a parallel circuit	94.64%	87.18%	87.04%
4.2.5 Calculate voltage, current, resistance, and power in a parallel circuit	60.71%	52.99%	58.64%
Performance Standard 4.3: Analyze series-parallel circuit configuration	69.64%	65.38%	68.70%
4.3.1 Identify series-parallel circuit configuration	64.29%	60.26%	71.30%
4.3.2 Calculate voltage drops in a series-parallel circuit	71.43%	70.09%	67.28%
4.3.4 Recognize polarity in a series-parallel circuit	80.36%	79.49%	85.19%
4.3.5 Calculate voltage, current, resistance, and power in a series-parallel circuit	64.29%	54.70%	57.41%
Performance Standard 4.4: Analyze alternating circuits (AC)	61.43%	58.46%	62.59%
4.4.1 Construct and test AC circuits	46.43%	34.62%	48.15%
4.4.2 Identify AC wave form characteristics: effective voltage (RMS), average voltage, negative alternation, positive alternation, wavelength, amplitude, period, and frequency	54.76%	54.70%	61.73%
4.4.3 Calculate peak, peak-to-peak, RMS, and average voltage values for an AC waveform	58.93%	50.00%	50.93%
4.4.4 Explain cycle, hertz, phase, and frequency	79.76%	83.76%	80.86%
CONTENT STANDARD 5.0: DIGITAL ELECTRONIC PRINCIPLES	56.43%	67.18%	62.59%
Performance Standard 5.1: Analyze digital concepts design and circuitry	51.79%	64.10%	62.50%
5.1.2 Compare and contrast between 1 (high) and 0 (low or ground)	64.29%	65.38%	72.22%
5.1.4 Identify and describe basic logic operations (AND, OR, buffer, inverter, NAND)	42.86%	56.41%	66.67%
5.1.7 Interpret data sheet information	35.71%	69.23%	38.89%
Performance Standard 5.2: Utilize microcontroller devices	75.00%	79.49%	62.96%
5.2.1 Describe basic principles of microcontrollers	75.00%	79.49%	62.96%

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CONTENT STANDARD 6.0: SOLDERING AND DESOLDERING TECHNIQUES	77.38%	77.78%	82.72%
Performance Standard 6.1: Apply soldering techniques	91.07%	88.46%	96.30%
6.1.1 Describe solder safety as it pertains to burns and potential fires, damage to facilities or customer products	89.29%	89.74%	98.15%
6.1.2 Explain the causes of solder fumes and the effects of lead poisoning	92.86%	87.18%	94.44%
Performance Standard 6.2: Apply desoldering techniques	50.00%	56.41%	55.56%
6.2.2 Describe various types of desoldering equipment and how it is used	50.00%	56.41%	55.56%
CONTENT STANDARD 7.0: TROUBLESHOOTING AND MAINTENANCE TECHNIQUES	80.89%	82.56%	79.26%
Performance Standard 7.1: Apply troubleshooting techniques	79.52%	81.71%	78.15%
7.1.1 Explain troubleshooting techniques	91.67%	93.16%	85.80%
7.1.3 Utilize all safety procedures necessary while troubleshooting (lock-out tag-out, etc.)	83.33%	88.03%	77.78%
7.1.4 Select and utilize appropriate tools for electronics troubleshooting	87.50%	83.33%	81.48%
7.1.5 Research various sources of repair/maintenance/troubleshooting documentation (print media, electronic media, tech support, local expert, and manufacturer)	55.36%	62.82%	67.59%
7.1.6 Interpret electronic schematic diagrams	76.19%	76.92%	77.78%
7.1.7 Measure electrical characteristics of voltage, current, and resistance in basic electronic circuits using multimeters, oscilloscopes, logic probes, etc.	76.79%	79.49%	75.00%
Performance Standard 7.2: Demonstrate repair documentation techniques	85.00%	85.13%	82.59%
7.2.4 Isolate common faults in wiring and equipment	79.76%	84.62%	84.57%
7.2.6 Explain the purposes and requirements for proper recordkeeping	92.86%	85.90%	79.63%