



2024-2025

Technical Skills Assessment

Agriculture Mechanics and Power Systems

Results by Standard

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

Assessment: Agriculture Mechanics and Power Systems	% Correct	% Correct	% Correct	% Correct
Number tested: 58	21-22	22-23	23-24	24-25
1) CONTENT STANDARD 1.0: Occupational Safety and Health in Ag Mechanics	85.86%	87.24%	82.87%	85.99%
Performance Standard 1.1: Safety Practices	85.86%	87.24%	82.87%	85.99%
1.1.2. Identify and differentiate between safe and unsafe work practices.	81.58%	86.11%	79.89%	79.31%
1.1.3. Describe the methods utilized to implement safe work practices.	89.47%	94.79%	89.66%	91.38%
1.1.4. Identify and explain the purpose of signals and symbols in agricultural safety.	97.37%	93.75%	75.86%	96.55%
1.1.5. Explain the importance and function of safety training.	86.84%	85.42%	87.93%	84.48%
1.1.6. Evaluate the importance of occupational safety and health in agriculture mechanics.	86.84%	79.17%	72.41%	81.03%
1.1.7. Identify and explain the role that various agencies play in regulating safety.	63.16%	62.50%	65.52%	62.07%
1.1.8. Identify and demonstrate the proper use of personal protection equipment (PPE).	96.05%	94.79%	92.24%	97.41%
1.1.9. Locate and demonstrate the proper uses of the first aid and emergency equipment.	89.47%	85.42%	89.66%	96.55%
1.1.10. Maintain a general safe working environment.	82.89%	81.25%	81.03%	81.90%
1.1.11. Demonstrate the proper disposal of hazardous waste.	84.21%	95.83%	84.48%	91.38%
1.1.12. Read and understand safety data sheets (SDS).	84.21%	93.75%	84.48%	84.48%
Program 2: CONTENT STANDARD 2.0: TOOLS AND HARDWARE	66.54%	64.29%	60.47%	65.89%
Performance Standard 2.1: Safe and Proper Use of Tools	64.91%	60.94%	57.61%	63.94%
2.1.1. Determine which hand tool, power tool and measuring and marking devices are most	75.00%	70.83%	66.95%	70.11%
2.1.2. Identify and safe use of hand and power tools utilized in agricultural mechanics.	69.74%	68.75%	53.45%	70.69%
2.1.4. Measure and apply metric to standard measurement conversions.	36.84%	34.03%	35.06%	40.80%
2.1.5. Inspect and maintain tools.	78.95%	66.67%	77.59%	82.76%
Performance Standard 2.2: Hardware and Fasteners	76.32%	84.38%	77.59%	77.59%
2.2.1. Identify and select proper common hardware and fasteners.	76.32%	84.38%	77.59%	77.59%
Program 3: CONTENT STANDARD 3.0: METAL TECHNOLOGY	62.66%	62.50%	61.13%	61.42%
Performance Standard 3.1: Welding	67.54%	68.75%	66.31%	68.53%
3.1.1. Demonstrate proper safety practices working with metal technology.	75.00%	79.17%	68.10%	62.93%

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3.1.2. Determine uses of metal.	64.47%	59.38%	50.86%	62.07%
3.1.3. Identify types of metal and the proper welding technique.	59.65%	62.50%	58.62%	58.62%
3.1.5. Properly select and use oxy-fuel equipment.	77.63%	79.17%	78.45%	67.24%
3.1.6. Properly select and use shielded metal arc welding equipment.	81.58%	85.42%	74.14%	84.48%
3.1.7. Properly select and use gas metal arc welding equipment.	42.11%	39.58%	93.33%	98.28%
3.1.10. Properly select welding consumables (i.e. wire, electrode, gas and filler rod).	73.68%	77.08%	77.59%	79.31%
Performance Standard 3.2: Cold Metal Work	48.03%	43.75%	46.55%	40.09%
3.2.2. Properly cut threads with tap and die.	52.63%	60.42%	60.34%	56.90%
3.2.3. Join metal by riveting.	57.89%	54.17%	50.00%	43.10%
3.2.4. Properly thread steel pipe.	40.79%	30.21%	37.93%	30.17%
Program 4: CONTENT STANDARD 4.0: POWER SYSTEMS	62.66%	64.48%	62.07%	62.40%
Performance Standard 4.1: Engines Technology	63.16%	63.84%	61.21%	61.08%
4.1.1. Identify the operating principles of internal combustion engines.	54.61%	55.21%	53.45%	51.72%
4.1.2. Explain the function and operating principles of the fuel, lubrication, governor, and	64.91%	63.19%	60.63%	57.47%
4.1.3. Locate technical information in electronic and print form.	82.89%	86.46%	82.76%	92.24%
4.1.4. Troubleshoot and maintain engines.	55.26%	60.42%	56.90%	59.48%
Performance Standard 4.2: Electric Motors	36.84%	35.42%	41.38%	41.38%
4.2.1. Select motors based on type of application.	36.84%	35.42%	41.38%	41.38%
Performance Standard 4.3: Agricultural Machinery	60.53%	67.08%	63.45%	64.14%
4.3.1. Identify and perform basic equipment maintenance on agricultural machinery.	54.39%	62.50%	54.60%	56.90%
4.3.2. Use mathematics to solve equipment calibration problems.	86.84%	83.33%	87.93%	86.21%
4.3.3. Demonstrate converting common units of measure found in agriculture.	52.63%	64.58%	65.52%	63.79%
Performance Standard 4.4: Hydraulics	92.11%	89.58%	87.93%	93.10%
4.4.2. Identify the applications of hydraulics in agriculture.	92.11%	89.58%	87.93%	93.10%
Program 5: CONTENT STANDARD 5.0: ELECTRICITY	61.54%	62.98%	58.36%	61.14%
Performance Standard 5.1: Basic Electrical Principles	61.54%	62.98%	58.36%	61.14%
5.1.1. Demonstrate proper safety practices when working with electricity.	84.21%	93.75%	87.93%	91.38%
5.1.2. Define basic electrical terminology; identify and explain the basic principles of electricity.	56.32%	58.75%	50.69%	58.97%
5.1.3. Recognize electrical code requirements for wiring.	71.05%	63.54%	64.66%	63.79%
5.1.4. Plan and install an electrical circuit.	61.84%	62.50%	57.76%	51.72%
5.1.5. Measure electrical circuits for voltage, current flow, resistance, and wattage.	84.21%	85.42%	84.48%	89.66%
5.1.7. Describe the relationship of volts, amps, and ohms in terms of Ohm's Law.	42.11%	46.88%	43.97%	43.97%
Program 6: CONTENT STANDARD 6.0: MATHEMATICAL APPLICATIONS	48.68%	54.17%	62.93%	61.21%
Performance Standard 6.1: Mathematical Applications in Agriculture Mechanics & Power	48.68%	54.17%	62.93%	61.21%

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6.1.2. Demonstrate converting common units of measure found in agriculture.	47.37%	56.25%	56.90%	50.00%
6.1.3. Explain the meaning of accuracy verses precision.	50.00%	52.08%	68.97%	72.41%
Program 7: CONTENT STANDARD 7.0: INSULATION	51.97%	53.13%	48.28%	52.16%
Performance Standard 7.1: Insulation	51.97%	53.13%	48.28%	52.16%
7.1.1. Explain the importance of insulation.	42.11%	50.00%	36.21%	43.10%
7.1.2. Explain the theory behind insulation.	64.47%	55.21%	56.03%	56.03%
7.1.3. Identify and select insulation materials.	36.84%	52.08%	44.83%	53.45%
Program 8: CONTENT STANDARD 8.0: EMERGING TECHNOLOGIES	83.68%	84.58%	76.90%	84.48%
Performance Standard 8.1: Emerging Technologies in Ag Systems	83.68%	84.58%	76.90%	84.48%
8.1.1. Identify uses of precision and emerging technology in agriculture.	77.63%	82.29%	70.69%	79.31%
8.1.2. Understand the potential applications of new technology in agriculture.	87.72%	86.11%	81.03%	87.93%
Program 9: CONTENT STANDARD 9.0: CAREERS	57.89%	56.25%	56.03%	58.62%
Performance Standard 9.1: Careers in Ag Mechanics	57.89%	56.25%	56.03%	58.62%
9.1.1. Research potential careers in ag mechanics.	86.84%	89.58%	84.48%	91.38%
9.1.3. Research additional industry certifications available.	28.95%	22.92%	27.59%	25.86%
Program 10: CONTENT STANDARD 10.0: LEADERSHIP TRAINING THROUGH AGRICULTURAL	59.21%	69.79%	64.66%	65.95%
Performance Standard 10.1: Effective Leadership and Leadership Training	60.53%	70.14%	65.52%	67.24%
10.1.2. Participate in a career development event at the local level or above.	42.11%	54.17%	51.72%	44.83%
10.1.3. Exhibit leadership skills by demonstrating proper parliamentary procedure.	68.42%	79.17%	72.41%	79.31%
10.1.4. Participate in a speech or presentation activity.	71.05%	77.08%	72.41%	77.59%
Performance Standard 10.2: School and Community Awareness	55.26%	68.75%	62.07%	62.07%
10.2.1. Participate in a school improvement or community development project.	55.26%	68.75%	62.07%	62.07%
Program 11: CONTENT STANDARD 11.0: SUPERVISED AGRICULTURAL EXPERIENCE	84.21%	88.19%	72.41%	75.86%
Performance Standard 11.1: Maintain a Supervised Agricultural Experience	84.21%	88.19%	72.41%	75.86%
11.1.1. Accurately maintain SAE record books.	84.21%	87.50%	72.41%	81.03%
11.1.2. Investigate the proficiency award areas related to SAE program area.	81.58%	87.50%	82.76%	77.59%
11.1.3. Actively pursue necessary steps to receive higher degrees in FFA.	86.84%	89.58%	62.07%	68.97%