



Diesel Equipment Technology I (Proc 17)

PRE-TEST/POST-TEST TEKS BLUEPRINT

Pre-Test/Post-Test Development Overview

TEKS Addressed Selection Process

The Texas Essential Knowledge & Skills (TEKS) included in the course pre-test and post-test were selected for their direct relevance to the course content. This selection process was guided by the goal of assessing learners' understanding of specific topics and skills that are integral to the course. As a result, TEKS related to general employability skills or broader topics were often excluded. This focus ensures that the assessments accurately measure students' mastery of the subject matter, allowing educators to gain a clear insight into areas where students excel or may need additional support. By concentrating on content-specific TEKS, the tests provide a more precise evaluation of the students' knowledge and understanding of the core material.

Test Question Development Process

The questions created for the pre-test and post-test were designed using psychometric principles to ensure they are of high quality and fairness. This approach helps to accurately assess student understanding. These principles guide the development of questions to be reliable, valid, and free from bias, ensuring that they effectively measure the knowledge and skills the students are expected to acquire in the course.

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Knowledge & Skills Statement	Student Expectation	iCEV Lesson Title
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	(A) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the field of diesel technology	Virtual Job Descriptions for Diesel Technology
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	(A) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the field of diesel technology	Virtual Job Descriptions for Diesel Technology
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	(D) identify the competencies related to resources, information systems, and technology as it pertains to diesel equipment technology	Basic Shop Safety: Mechanical Hazards
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:	(E) demonstrate knowledge and skills related to health and safety in the workplace	Basic Shop Safety: Non-Mechanical Hazards Basic Shop Safety: Mechanical Hazards Basic Shop Safety: Elevated Work and Fall Protection Basic Shop Safety: Personal Protective Equipment
(2) The student demonstrates academic skills related to the requirements of transportation technology. The student is expected to:	(C) demonstrate mathematical skills and precision measurements using the metric and U.S. standard systems	Math and Measurement in Engine Technology
(3) The student demonstrates technical knowledge and skills of diesel equipment technology. The student is expected to:	(A) describe the function of the major components of diesel powered vehicles such as engines, fuel injection systems, lubrication, cooling, electrical, air-conditioning systems, air induction, exhaust, and emissions	Diesel Engines: Cooling System Diesel Engines: Fuel System Diesel Engines: Lubrication System Diesel Engines: Air Intake System & Battery
(3) The student demonstrates technical knowledge and skills of diesel equipment technology. The student is expected to:	(B) describe the function of the chassis components such as braking, steering, transmission, drivetrain, suspension systems, pneumatics, and hydraulics	Diesel Technology: Systems Maintenance
(3) The student demonstrates technical knowledge and skills of diesel equipment technology. The student is expected to:	(C) locate, read, and interpret documents such as schematics, charts, diagrams, graphs, parts catalogs, and service-repair information and technical bulletins	Engine Industry Documents
(3) The student demonstrates technical knowledge and skills of diesel equipment technology. The student is expected to:	(D) demonstrate precision measurement procedures to diagnose component wear, compare measurements to published specifications, and determine necessary repairs	Diesel Technology: Tools and Equipment Identification, Safety and Operation
(4) The student learns the functions and applications of the tools, equipment, technologies, and materials used in diesel equipment service. The student is expected to:	(A) describe and demonstrate the safe use of hand and power tools and equipment commonly used in the diesel equipment field	Diesel Technology: Tools and Equipment Identification, Safety and Operation
(4) The student learns the functions and applications of the tools, equipment, technologies, and materials used in diesel equipment service. The student is expected to:	(B) discuss the proper handling and disposal of environmentally hazardous materials generated in the service of diesel equipment	Diesel Technology: Equipment Maintenance
(4) The student learns the functions and applications of the tools, equipment, technologies, and materials used in diesel equipment service. The student is expected to:	(C) describe new and emerging diesel technologies	Emerging Technologies in the Engine Service Industry
(4) The student learns the functions and applications of the tools, equipment, technologies, and materials used in diesel equipment service. The student is expected to:	(D) identify and perform the use of diagnostic tools and equipment	Diesel Technology: Tools and Equipment Identification, Safety and Operation
(4) The student learns the functions and applications of the tools, equipment, technologies, and materials used in diesel equipment service. The student is expected to:	(E) describe hydraulic/pneumatic properties, controls, and safety	Diesel Technology: Systems Maintenance
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	A) describe the parts management procedures such as ordering, stocking, and locating parts	Diesel Technology: Tools and Equipment Identification, Safety and Operation
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(B) demonstrate procedures for removal, inspection, and replacement of engine components	Diesel Technology: Systems Maintenance

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(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(C) describe procedures for inspection and maintenance of ancillary systems such as braking, steering, suspension , and hydraulic/pneumatic systems	Diesel Technology: Systems Maintenance
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(F) discuss the proper procedures to inspect and maintain auxillary systems such as air-conditioning, heating, and accessory systems	Diesel Technology: Systems Maintenance
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(G) demonstrate and apply the procedures to inspect and maintain chassis and power train systems	Diesel Technology: Systems Maintenance
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(H) demonstrate and apply the procedures to inspect and maintain cooling and lubrication systems	Diesel Technology: Systems Maintenance
(5) The student applies the technical knowledge and skills of diesel equipment technology to simulated or actual work situations. The student is expected to:	(I) demonstrate an understanding of the process to perform regular audits and inspections to maintain compliance with appropriate regulations in areas such as safety, health, emissions, and environmental protection	Diesel Technology: Systems Maintenance