Automotive Service Technology

I. Perform vehicle HVAC system diagnosis and testing to related tasks in the NATEF Automobile Program Standards — Automobile Heating and Air Conditioning Task

Tasks Instructions:

Each number to the right refers to a single student/candidate (1-10). Place a check (√) in the respective column for the appropriate student/candidate number (1-10) if the skills listed below are observed as stated. Leave blank if not observed. Student/candidate will only get credit for the skills they have demonstrated.	1	2	3	4	5	6	7	8	9	10
Diagnose and repair an inoperative HVAC system on a current model vehicle										
Read DTC with scan tool										
Read data with scan tool										
Perform actuator test with scan tool										
Identify and follow correct test procedures using factory service information provided										
Identify connector pin-outs and component locations										
Read and interpret wiring schematics										
Demonstrate the correct use of a DVOM and/or DMM										
Demonstrate the proper use of a test light and A/C service guages										
Use a repair order to verify complaint and repair vehicle										
Verify repair was successful										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (13)										

II. Perform vehicle engine performance diagnosis and testing to related tasks in the NATEF Automobile Program Standards — Automobile Engine Repair Task List (ASE Test A1)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Use a provided factory scan tool for the current model vehicle.										
Read DTC and data with scan tool										
Perform actuator test with scan tool										
Use factory service information provided to Identify correct test procedures										
Follow the correct test procedure to identify connector pin-outs and component locations										
Demonstrate the use of wiring schematics										
Demonstrate the correct use of a DVOM and/or DMM										
Demonstrate the proper use of a test light and a fuel pressure guage										
Use a repair order to verify complaint and repair vehicle										
Verify repair was successful										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (12)										

III. Perform vehicle body electrical diagnosis and testing to related tasks identified in the NATEF Automobile Program Standards — Automobile Electrical/Electronic Systems Task List (ASE Test A6)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Diagnose and repair a body electrical issue on a current model vehicle										

Use a provided factory scan tool for the current model vehicle										
Read DTC and data with a scan tool										
Perform actuator test with a scan tool										
Use factory service information provided identify correct test procedures										
Follow the correct test procedure to identify connector pin-outs and component locations										
Demonstrate the use of wiring schematics										
Demonstrate the correct use of a DVOM and/or DMM										
Demonstrate the use of a test light, battery and/or charging system tester										
Use a repair order to verify complaint and repair vehicle										
Verify repair was successful										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (13)										

IV. Demonstrate application of environment, health and safety knowledge in auto service situations to related OSHA section 1910 standards and EPA standards

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Identify and explain the use of personal protective equipment										
Recall information about related EPA and OSHA requirements										
Identify blood borne pathogens kits and explain their use										
Answer questions from a provided MSDS sheet										
Describe the proper use of a fire extinguisher										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (7)										

V. Complete a job interview for an automotive service technology related position

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Conduct a job interview with appropriate professional behavior										
Communicate clearly and effectively										
Provide a printed copy of résumé										
Complete a job application										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (6)										

VI. Perform electronic circuit diagnosis, testing and wire repair to related tasks identified in the NATEF Automobile Program Standards — Automobile Electrical/Electronic Systems Task List (ASE Test A6)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Construct an electrical circuit from supplied material and a wiring diagram										
Check electrical readings on the circuit with a DVOM										
Diagnose and repair the circuit										
Diagnose electrical/electronic integrity of series, parallel and series-parallel circuits										
Check electrical circuits with a test light and determine necessary action										
Repair connectors and terminal ends										
Repair wiring harness										

Demonstrate solder repair or electrical wiring										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (10)										

VII. Perform steering, suspension and wheel alignment to related tasks identified in the NATEF Automobile Program Standards — Automobile Suspension and Steering Task List (ASE Test A4)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Identify wheel alignment tools										
Explain practical application of tools										
Identify OEM alignment products										
Identify practical application or use of EOM products										
Identify aftermarket alignment products and their practical application										
Identify steering suspension components										
Explain diagnosis of alignment conditions										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (9)										

VIII. Perform manual drive train service, testing and diagnosis to related tasks identified in the NATEF Automobile Program Standards — Automobile Manual Drive Train and Axles Task List (ASE Test A3)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10

Identify components of manual drive trains, axles, drivelines and transfer cases										
Inspect clutch operating components for wear/damage and determine necessary action										
Measure flywheel run-out and crankshaft endplay and determine necessary action										
Inspect transmission/transaxle components for wear/damage and determine necessary action										
Measure endplay/preloads on transmission/transaxle shafts and determine necessary action										
Inspect, measure, reassemble and/or reinstall synchronizer assemblies										
Inspect, measure, adjust and/or reassemble transaxle final drive assemblies										
Check driveshaft run-out and measure driveshaft operating angles										
Measure companion flange run-out and determine necessary action										
Inspect ring gear and measure run-out and determine necessary action										
Measure and adjust drive pinion depth and drive pinion bearing preload										
Measure and adjust side bearing preload, ring and pinion gear backlash and backlash variation										
Check ring and pinion gear contract patterns and determine necessary action										
Measure rotating torque on a limited slip differential and determine necessary action										
Inspect and reinstall limited slip clutch components										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (17)										

IX. Perform brake service, testing and diagnosis to related tasks identified in the NATEF Automobile Program Standards–Automobile Brakes Task List (ASE Test A5)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Identify different brake components										
Diagnose pressure concerns in the brake system using hydraulic principles										
Fabricate brake lines (double flare and ISO types)										

Inspect and measure brake drums and determine necessary action										
Remove, inspect and install brake shoes, springs, pins, clips, levers, adjusters and other brake hardware										
Remove, inspect and install wheel cylinders										
Pre-adjust brake shoes and parking brake before installing brake drums										
Remove, inspect and install caliper, pads and related hardware and determine necessary action										
Clean, inspect and measure rotor with a dial indicator and a micrometer and determine necessary action										
Adjust calipers equipped with an integrated parking brake system										
Inspect brake booster and determine necessary action										
Remove, clean, inspect, repack and install wheel bearings; install hub and adjust wheel bearings										
Identify and inspect ABS components and determine necessary action										
Diagnose ABS electronic controls and components										
Test, diagnose and service ABS speed sensors, toothed ting and circuits using an oscilloscope										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (17)										

X. Perform automatic transmission service, testing and diagnosis to related tasks identified in the NATEF Automobile Program Standards — Automobile Automatic Transmission/Transaxle Task List (ASE Test A2

Tasks Instructions:

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Identify components on a transmission										

Diagnose and inspect a transmission										
Check input or output shaft endplay										
Check clutch clearances										
Perform air checks on the clutches										
Measure pump clearances										
Diagnose electrical components on a transmission										
Perform valve body adjustments										
Perform input or output shaft adjustments										
Perform clutch pack adjustments										
Perform range sensor adjustments										
Disassemble and assemble the planetary gear train										
Disassemble and assemble the front pump										
Disassemble and assemble the valve body										
Disassemble and assemble clutch packs										
Adjust components of an automatic transmission										
Safety and infection control are adhered to during all aspects of this task.										
The student completed task within the time limited.										
Points earned										
Total possible points (18)										

XI. Perform engine measuring, inspecting, service and diagnosis on the head or block of an engine to related tasks in the NATEF Automobile Program Standards — Automobile Engine Repair Task List (ASE Test A1)

Tasks Instructions:

	1	2	3	4	5	6	7	8	9	10
Measure and inspect the pistons and connecting rods										
Measure and inspect cylinder diameter										
Measure and inspect cylinder taper and bore with a dial bore gauge										
Measure and inspect the cylinder head										

Measure and inspect valve guides										
Measure and inspect the valves										
Measure and inspect valve stem to guide clearance										
Measure and inspect the camshaft of crankshaft										
Measure and inspect the valve springs										
Measure and inspect valve or ignition timing										
Measure and inspect the timing chain										
Identify the clearance specifications for any item requiring measuring and inspecting										
Determine which components need to be replaced or repaired on a given engine head or block										
Safety and infection control are adhered to during all aspects of this task										
The student completed task within the time limited										
Points earned										
Total possible points (15)										
Total points earned for all sections (A)										
Total possible points for all sections (B) 137										
Student/candidate score (divide A/B)										