

PRACTICE EXAM 6: AUTOMOTIVE SERVICE TECHNICIAN (125 QUESTIONS)

Allow four hours. Select one answer, A, B, C or D, for each question. Use the data and assumptions supplied. Complete the paper before reading its answer key. At least 88 correct answers meet a 70% practice threshold; these independent questions are not official examination items.

1. A stated network diagnostic log spans 200 ms and includes five evenly spaced message periods. What period results?

- A. 5 ms
- B. 200 ms
- C. 1000 ms
- D. 40 ms

2. A clutch slip test must reproduce a stated load condition without exceeding the vehicle's procedure. What should diagnosis follow?

- A. Only the clutch pedal's parked movement.
- B. The applicable controlled test and defined stop conditions.
- C. Only the vehicle's unloaded idle speed.
- D. A harder load chosen solely to force the symptom.

3. After wheel-end repair, runout still fails its specified test. Inspection finds debris between the required clean mating surfaces, while the individual components pass inspection. What should be corrected?

- A. Replacement of every acceptable component.
- B. A tyre-pressure adjustment as proof of corrected runout.
- C. The demonstrated mounting-interface contamination.
- D. Acceptance from separate component checks alone.

4. A suspension repair replaces a damaged protective boot specified to exclude contamination from a joint. What should installation restore?

- A. Only the boot's visible outside shape.
- B. Only the component's inventory number.
- C. Only a record that the package was new.
- D. The required sealing, retention, and joint-condition checks.

5. A transmission's lockup is commanded, but verified speed data continues to show a mismatch outside the stated engaged criterion. Its command circuit meets the test. What remains to be assessed?

- A. Actual lockup application and its mechanical or hydraulic path.
- B. An engine timing fault proven by commanded lockup.
- C. Speed-sensor replacement despite verified data.
- D. Acceptance from the command alone.

6. What does a hydraulic brake piston principally do during application?

- A. Supply the rotor's friction surface directly.
- B. Convert the supplied hydraulic pressure into mechanical force.
- C. Regulate pressure directly from an electronic command.
- D. Generate the wheel-speed sensor signal.

7. A required message is visible at the sending module but absent at its disconnected destination branch. Restoring the approved branch connection restores the message there. What did the comparison demonstrate?

- A. A sender failure despite its visible output.
- B. A sensor mechanical defect proven by reconnection.
- C. A universal destination software defect.
- D. The message-path interruption at that connection.

8. A brake test records 120 degrees C at one location and 80 degrees C at the paired location under the stated conditions. What difference results?

- A. 40 degrees C
- B. 200 degrees C
- C. 100 degrees C
- D. 20 degrees C

9. A restraint-related nonpyrotechnic position input reports an impossible value after its bracket is bent. The required independent position check confirms the mechanism itself moves normally. What path deserves diagnosis?

- A. A fixed mechanism despite independently verified movement.
- B. Deployment-unit replacement solely from the input value.
- C. The input mounting and measurement relationship.
- D. Acceptance because the actuator still moves.

10. An ABS intervention complaint occurs at low speed. One wheel's reported speed drops intermittently at a corroded target area while independently measured wheel motion remains steady. What is supported?

- A. Normal sensing proven by correct wheel motion alone.
- B. Actual wheel locking proven by the reported drop.
- C. A universal hydraulic modulator failure.
- D. A localized wheel-speed sensing-target fault.

11. A stated valve adjustment requires 0.25 mm clearance and currently measures 0.40 mm. What reduction is needed?

- A. 0.65 mm
- B. 0.15 mm
- C. 0.25 mm
- D. 0.40 mm

12. A tyre loses pressure repeatedly. The approved leak test identifies bubbles at its valve-seat connection, while tread and bead paths pass that test. What should be corrected?

- A. Wheel-bearing replacement as proof of pressure retention.
- B. Replacement solely from tread appearance.
- C. The demonstrated valve connection leak.
- D. Acceptance because no tread puncture is found.

13. Atmospheric pressure is stated as 100 kPa absolute and intake pressure as 35 kPa absolute. What atmospheric-minus-intake difference results?

- A. 65 kPa
- B. 100 kPa
- C. 35 kPa
- D. 135 kPa

14. What does a tyre's specified load designation help establish?

- A. Its applicable load capability under the stated conditions.
- B. Its rim diameter alone regardless of loading.
- C. Its speed category alone regardless of loading.
- D. Its nominal section width alone regardless of loading.

15. A vehicle's selector display indicates reverse, but the transmission lever remains at neutral because the cable's end is detached. What does inspection establish?

- A. A normal selected position proven by the display.
- B. A reverse clutch failure proven by the display.
- C. An incomplete mechanical selection path.
- D. A differential failure proven by cable detachment.

16. A vehicle wanders despite matching tyre pressures. Inspection reveals a steering-joint fastener below its required retention and actual movement across that connection; alignment readings are otherwise acceptable. What merits correction?

- A. Alignment adjustment despite compliant readings.
- B. The loose mechanical steering connection.
- C. Tyre inflation change despite matching requirement.
- D. Acceptance because static geometry is correct.

17. A replacement HVAC hose is correctly sealed but routed against a hot moving assembly contrary to its detail. What remains unresolved?

- A. Acceptance from its leak test alone.
- B. Acceptance from a correct controller display alone.
- C. Acceptance from matching hose diameter alone.
- D. The installed clearance and service exposure.

18. A lamp's supply path passes its loaded check, but moving its ground connector changes brightness and the specified retention test fails. What merits repair?

- A. The lamp bulb solely from brightness change.
- B. A normal ground proven by supply voltage.
- C. The ground connector's actual contact and retention.
- D. The alternator solely from local connector movement.

19. Why must a replacement wheel-fastener seat suit the actual wheel?

- A. The seat replaces the wheel's required torque method.
- B. The seat defines the brake fluid's service interval.
- C. Thread diameter alone establishes every seating relationship.
- D. It transmits retention load through the specified contact geometry.

20. An accessory draws excessive current compared with its supplied test specification. Its motor shaft is mechanically bound, while control voltage and circuit routing are correct. What should be investigated?

- A. The demonstrated mechanical load and motor condition.
- B. A normal motor proven by the correct supply.
- C. A ground-open fault proven by high current alone.
- D. A missing control command disproved by measurement.

21. Why must a high-voltage test instrument satisfy the actual vehicle procedure?

- A. A powered display alone proves suitability.
- B. Its suitability and verification are part of the defined safe measurement method.
- C. A familiar brand replaces all required ratings.
- D. An unused instrument needs no functional check.

22. A battery repeatedly discharges parked. Current meets the prescribed sleep value until a stuck input requests a load continuously; correcting that input restores stable sleep. What does the test support?

- A. Battery failure proven solely by parked discharge.
- B. A normal control input despite continuous request.
- C. An input-driven load fault affecting shutdown.
- D. Alternator failure proven solely by sleep restoration.

23. A scan tool reports a temperature in Fahrenheit, while the service limit is in Celsius. The technician compares the two numbers directly and records a failure. What must be corrected?

- A. The sensor solely because the numerical values differ.
- B. The unit relationship before assessing the result.
- C. The vehicle specification changed to match the unconverted number.
- D. The control module solely because Fahrenheit is displayed.

24. A tailgate harness repair must preserve a flexing section identified by the service procedure. What should be restored?

- A. The required route, protection, and movement allowance.
- B. Only static continuity at one position.
- C. Only stationary voltage without movement verification.
- D. Only the connector's electrical identity.

25. A stated circuit has ideal series resistances of 3 ohms and 5 ohms. What combined resistance results?

- A. 15 ohms
- B. 1.875 ohms
- C. 2 ohms
- D. 8 ohms

26. Before operating powered equipment near another technician's open repair area, what should be coordinated?

- A. Only the original appointment time.
- B. Only the operator's preferred work pace.
- C. The affected work, exposure, and permitted equipment state.
- D. Only the equipment's nominal motor power.

27. A replacement EV thermal pump has the correct part identity, but its procedure requires a circuit air-removal routine. What should be completed?

- A. The specified preparation and actual thermal-function verification.
- B. Only confirmation that the reservoir contains fluid.
- C. Only connection of the pump's wiring.
- D. Only confirmation that the old fault was erased.

28. A qualified hybrid repair requires restoring a high-voltage component's protective cover after the prescribed checks. What should final assembly preserve?

- A. Only successful low-voltage radio operation.
- B. The specified protection, retention, and complete restoration procedure.
- C. Only the cover's approximate external shape.
- D. Only a cleared warning display.

29. A replacement refrigerant seal is specified for a particular lubricant and service. What should installation use?

- A. Extra exterior compound as a substitute.
- B. The removed seal's appearance as proof of compatibility.
- C. Any same-size seal from general stock.
- D. The compatible component and stated preparation method.

30. After replacing a body-position sensor, what should service include when a reference learn is required?

- A. Only clearing its former code.
- B. The specified initialization and actual position-response checks.
- C. Only matching the old sensor's supply voltage.
- D. Only mounting the sensor securely.

31. A vehicle reports its charging connector unlatched even though approved inspection verifies full physical engagement. The latch-signal circuit is open at a damaged non-high-voltage connector. What should be assessed?

- A. Battery-cell replacement solely from the charge refusal.
- B. The physical latch as necessarily unseated despite inspection.
- C. Acceptance because the plug looks attached.
- D. The latch-status measurement path.

32. What does absolute manifold pressure reference?

- A. Pressure relative only to outside atmosphere.
- B. The intake duct's temperature without pressure sensing.
- C. Pressure relative to absolute vacuum.
- D. The sum of fuel and oil pressures.

33. A network repair restores communication, but the mandatory final configuration check identifies an unsupported equipment selection. What remains outstanding?

- A. The correct configuration and required functional verification.
- B. Acceptance from communication alone.
- C. Acceptance from a cleared-code report alone.
- D. Acceptance from a new connector alone.

34. A hybrid's low-voltage output is absent downstream of its converter, although the specified source-side test meets requirement. Inspection finds the output distribution connection open. What should be corrected?

- A. Traction-motor replacement solely from low-voltage loss.
- B. Acceptance from the converter's correct source-side result alone.
- C. The demonstrated downstream electrical path.
- D. Converter replacement solely from an absent remote value.

35. A seat motor operates from the approved output test but not from its switch. The switch receives supply, yet its commanded output stays absent through an open internal contact. What is indicated?

- A. The seat-switch command fault.
- B. A mechanical seat jam disproved by motion.
- C. A missing switch supply disproved by measurement.
- D. Motor replacement despite its successful test.

36. What is a torque-converter lockup clutch intended to provide when engaged as designed?

- A. A replacement for every transmission gear ratio.
- B. An increase in tyre rolling circumference.
- C. A permanent disconnect between engine and transmission.
- D. A mechanical coupling that reduces converter slip.

37. What does a network message identifier help distinguish?

- A. The physical wire colour at every connector.
- B. The message according to the applicable communication design.
- C. A universal module replacement part number.
- D. The universal ground potential at every network node.

38. A replacement module uses a valid software package for another vehicle equipment variant. Communication works, but required messages for this vehicle are not provided. What should be reconciled?

- A. The low-voltage supply as necessarily absent.
- B. Acceptance because the package is valid somewhere.
- C. The actual module software and equipment applicability.
- D. The bus as completely open despite communication.

39. A rear accessory fails only when the tailgate closes. Its feed has correct voltage open, but becomes interrupted where the moving harness is pinched; the load passes its separate test. What should be corrected?

- A. The load solely because it is not operating closed.
- B. The moving harness's demonstrated supply interruption.
- C. The battery solely because the gate changes position.
- D. Acceptance from the open-position voltage alone.

40. A diesel fuel connection was opened for an approved repair. What should reassembly maintain?

- A. Only the engine's original idle speed.
- B. Only the exterior length of the removed line.
- C. Only the old seal's apparent shape.
- D. The specified cleanliness, sealing, and connection method.

41. A differential repair requires checking the completed adjustment after changing shims. What should be verified?

- A. The final prescribed clearance and contact relationships.
- B. Only the adjuster's apparent position.
- C. Only the new shims' delivery label.
- D. Only the calculated shim difference.

42. A door-state display changes when the connector moves although the physical latch stays stationary. Its local signal connection fails the specified inspection. What should be assessed?

- A. The latch-state input connection.
- B. The door hinge as proven damaged.
- C. The latch's mechanical movement as proven unstable.
- D. A normal signal proven by the stationary latch.

43. After a brake-assist supply hose is replaced, what verification is appropriate?

- A. Only supply pressure without verifying assist response.
- B. The restored assist input and affected braking function.
- C. Only confirmation that the reservoir is full.
- D. Only a check that the hose is flexible.

44. What must a seal replacement's mating surface provide under its specification?

- A. Only diameter agreement without surface inspection.
- B. Only a matching external part number.
- C. Only lubricant presence without evaluating surface wear.
- D. An acceptable contact condition for the installed seal.

45. A differential diagnostic procedure specifies measuring backlash at a defined location. What should be established?

- A. Only a clearance estimated from gear noise.
- B. Only the gear tooth count.
- C. The prescribed reference, restraint, and measurement setup.
- D. Only the housing's external dimensions.

46. A repaired brake-sensor harness has a defined route outside tyre and suspension movement. What should be verified?

- A. Only its parked slack.
- B. Clearance through the required full movement range.
- C. Only the connector's nominal size.
- D. Only a stationary diagnostic display.

47. A diesel boost complaint starts after service. Its actuator moves normally, but the compressor outlet hose is detached and the pressure test cannot retain the specified condition. What is supported?

- A. A glow-control fault proven by the detached hose.
- B. Actuator replacement despite correct movement.
- C. A breached charge-air delivery path.
- D. A normal air circuit proven by actuator command.

48. A gateway replacement procedure specifies preserving vehicle configuration data. What should service follow?

- A. The exact backup, applicability, and configuration method.
- B. Only the replacement's connector shape.
- C. Any similar model's stored file.
- D. Only the removed gateway's case dimensions.

49. An engine-cover repair involves a specified sealant pattern and curing condition. What should assembly follow?

- A. Immediate full-load operation as the curing method.
- B. The former visible sealant pattern without verification.
- C. A thicker bead chosen to cover every irregularity.
- D. The complete prescribed material, application, and preparation method.

50. What does a tool's stated measuring resolution describe?

- A. Proof that every indicated reading is accurate.
- B. The instrument's permitted mechanical load.
- C. Proof that no calibration check is needed.
- D. The smallest indicated measurement increment.

51. A transmission mounting repair replaces a component with specified locating features. What should installation preserve?

- A. Only the removed mount's compressed appearance.
- B. The defined position, retention, and required clearance.
- C. Only its ability to bolt into available holes.
- D. Only the engine's idle-speed setting.

52. Three stated accessory loads draw 1.5 A, 2.5 A, and 0.8 A simultaneously. What total current results?

- A. 4.8 A
- B. 4.0 A
- C. 2.5 A
- D. 9.6 A

53. A replacement shaft measures 22.00 mm at the specified location and the removed shaft 22.05 mm there. What diameter reduction results?

- A. 0.10 mm
- B. 0.50 mm
- C. 0.05 mm
- D. 0.025 mm

54. A network works on the original harness but fails after a replacement branch is connected. The new branch's end-to-end test shows an open data conductor absent from the original. What should be corrected?

- A. Acceptance because the replacement connector locks.
- B. Every original module despite normal communication beforehand.
- C. The scan tool solely because a branch was replaced.
- D. The replacement branch's demonstrated conductor interruption.

55. A wheel-bearing inspection finds roughness only after its correct installed load is applied. Unloaded rotation had seemed smooth, and the required fitting checks comply. What should be assessed?

- A. The bearing's condition under its relevant assembled load.
- B. A tyre-pressure defect proven by bearing roughness.
- C. Acceptance from the earlier unloaded rotation.
- D. A sensor fault proven by mechanical rotation resistance.

56. A stated brake-piston calculation needs 8000 N over effective area 1600 mm². What ideal pressure results?

- A. 0.2 N/mm²
- B. 5 N/mm²
- C. 1600 N/mm²
- D. 10 N/mm²

57. After an intake hose replacement, the engine's original air-leak test passes, but the hose contacts a moving belt because its route differs from the approved detail. What remains deficient?

- A. Acceptance from normal idle alone.
- B. Acceptance from correct hose diameter alone.
- C. The installed mechanical clearance and protection.
- D. Acceptance from the leak result alone.

58. A cabin blower stops when its harness moves. The motor passes its independent test, and its feed connection becomes open at a damaged terminal during the movement. What is supported?

- A. A heater-core fault proven by lost feed voltage.
- B. A motor defect proven despite its operation test.
- C. A local blower-supply connection fault.
- D. A refrigerant shortage proven by harness movement.

59. A driveline fastener procedure specifies clean threads and a defined locking product. What should tightening use?

- A. A different lubricant chosen only for easier movement.
- B. Any residual product on the removed connection.
- C. A higher torque as a substitute for thread preparation.
- D. The complete stated thread preparation and assembly condition.

60. A window mechanism travels 225 mm in a stated constant 3-second interval. What average speed results?

- A. 675 mm/s
- B. 75 mm/s
- C. 15 mm/s
- D. 225 mm/s

61. A fuel-pump replacement requires restoring a disturbed tank seal and retaining arrangement. What should be completed?

- A. The full specified boundary and installation verification.
- B. Only checking the pump motor runs.
- C. Only matching the tank's original appearance.
- D. Only restoring the electrical connector.

62. A suspension height sensor reports a high corner, but independent measurement finds the specified height. Its linkage is bent and the sensor's comparison check fails. What should be assessed?

- A. Acceptance of the sensor from a normal physical height.
- B. The height-measurement linkage and signal condition.
- C. Spring replacement solely from the reported value.
- D. A wheel-speed fault proven by bent height linkage.

63. What does an engine's geometric compression ratio compare?

- A. Cranking pressure with fuel pressure.
- B. Intake air temperature with coolant temperature.
- C. Crankshaft speed with alternator speed.
- D. Cylinder volume at bottom and top piston positions.

64. A stated wheel target provides 28 pulses per revolution. The measured rate is 14 pulses/s. What wheel speed in rpm results?

- A. 30 rpm
- B. 14 rpm
- C. 60 rpm
- D. 28 rpm

65. A service task requires removing a hot pressure cap. What should preparation follow?

- A. The dashboard gauge's lowest displayed value alone.
- B. The engine's stopped state alone.
- C. The specified cooling and safe depressurization procedure.
- D. The cap's outside temperature alone.

66. A repaired fuse-panel terminal requires restoring its specified protective enclosure. What should assembly preserve?

- A. Only current continuity on the bench.
- B. Only the terminal's readable label.
- C. Only the old panel's mounting footprint.
- D. The complete connection and environmental protection detail.

67. A relay replacement restores output, but the original terminal shows the same excessive heat and measured loss under load. What remains to be corrected?

- A. Acceptance because output appears temporarily.
- B. Replacement of the load solely from socket heating.
- C. The actual socket connection fault.
- D. Acceptance because the relay is new.

68. A wire replacement must pass through the approved harness route near moving equipment. What should be checked?

- A. Clearance and protection through the complete movement range.
- B. Only the controller's initial powered display.
- C. Only conductor size without movement clearance.
- D. Only the wire's length with the equipment parked.

69. An airflow sensor is replaced with an approved component. What should final verification check?

- A. Only the removed sensor's history code.
- B. Its installed signal plausibility and affected engine behaviour.
- C. Only the mounting screw count.
- D. Only whether its package matches the old brand.

70. A diesel cold-start test shows one glow-circuit load drawing no current despite the required voltage at its approved test connection. That load fails the specified component check. What is indicated?

- A. A fuel-rail sensor failure proven by no glow current.
- B. A normal glow function proven by present voltage.
- C. A starter failure proven despite the glow measurements.
- D. A fault at the identified glow load or its local connection.

71. What is a circuit ground's relevant function in a defined automotive load path?

- A. Provide the required electrical return relationship.
- B. Supply every load's positive voltage directly.
- C. Replace the need for any circuit protection.
- D. Guarantee zero resistance at every connection.

72. A starter works intermittently. Its required command reaches the solenoid, but the verified high-current input connection is loose and voltage collapses there during failure. What should be addressed?

- A. A sensor fault proven by the loose cable.
- B. The demonstrated starter feed connection.
- C. Acceptance because the motor worked on another attempt.
- D. Ignition-switch replacement despite present command.

73. A driveline noise occurs during coast. Inspection finds a differential bearing rough while the specified gear-contact check complies. What should be assessed?

- A. Clutch replacement solely from a differential finding.
- B. Acceptance because the gear-contact pattern complies.
- C. The rough bearing's condition and related installation.
- D. Gear replacement solely from coast noise despite its check.

74. After replacing a damaged timing guide, what should repair verification include?

- A. The complete drive alignment, retention, and prescribed mechanical checks.
- B. Only whether the cover closes.
- C. Only the new guide's part number.
- D. Only the engine's previously stored speed reading.

75. A measured circuit loss is 0.9 V while the stated current is 3 A. Using $R=V/I$, what effective resistance results?

- A. 3.33 ohms
- B. 0.9 ohm
- C. 0.3 ohm
- D. 2.7 ohms

76. A charging complaint remains after alternator replacement. Output at the new unit meets specification, but the original cable loss still fails the loaded criterion. What is unresolved?

- A. Acceptance from a normal unloaded battery reading.
- B. The demonstrated distribution-path fault.
- C. Acceptance from the new alternator alone.
- D. Replacement of the correct unit again without cable repair.

77. A battery-cable installation requires a prescribed routing clip. What should be restored?

- A. Only the cable's positive-terminal connection.
- B. Only the protective cap's presence.
- C. Only the battery's case dimensions.
- D. The specified conductor support and clearance.

78. A shaft-related vibration disappears when a bent propeller shaft is replaced through the approved procedure, while the tested mounts remain unchanged. What did the repair comparison support?

- A. Failure of every unchanged mount.
- B. The bent shaft's contribution to the reproduced vibration.
- C. An engine misfire proven by vibration disappearance.
- D. A need to replace all driveline components regardless of result.

79. A stated gear pair has 24 teeth on the driving gear and 72 on the driven gear. What driven-to-driving tooth ratio results?

- A. 1:3
- B. 4:1
- C. 3:1
- D. 2:1

80. Cooling remains poor although the compressor is commanded. Its specified electrical feed is absent through an open local connection, and its approved component test passes. What should be addressed?

- A. The demonstrated compressor supply-path fault.
- B. Compressor replacement solely from poor cooling.
- C. Acceptance because the controller requests cooling.
- D. Refrigerant addition solely from the command status.

81. An instrument's measurement requires a specified engine operating state. What should be recorded with the result?

- A. Only the numerical value without context.
- B. Only the selected range without the operating state.
- C. Only the vehicle's parked location.
- D. The actual setup, units, and defined operating condition.

82. A stated torque is 80 N m. Using 0.7376 ft lbf per N m, what equivalent results to two decimals?

- A. 118.02 ft lbf
- B. 80 ft lbf
- C. 108.46 ft lbf
- D. 59.01 ft lbf

83. A brake pedal requires unusual effort. The applicable assist input test fails at a disconnected supply hose, while hydraulic integrity checks comply. What path should be investigated?

- A. Hydraulic leak repair despite passed integrity checks.
- B. The demonstrated brake-assist supply interruption.
- C. Tyre replacement as proof of restored assist.
- D. Acceptance because fluid level is correct.

84. A stated charging calculation needs 24 kWh at a constant useful rate of 8 kW. Ignoring other changes, what time results?

- A. 192 hours.
- B. 16 hours.
- C. 3 hours.
- D. 0.333 hour.

85. A new transmission mount meets its part identity, but its installation leaves a specified locating tab outside its seat and the assembly contacts the body. What needs correction?

- A. The mount's actual seating and final clearance.
- B. Acceptance from the replacement part number alone.
- C. Acceptance because the vehicle starts.
- D. Acceptance because the bolts can be tightened.

86. A gasoline engine's rich idle condition stops during an approved purge-path isolation test. The purge valve then fails its required closed-flow check, while fuel pressure complies. What should be corrected?

- A. Coil replacement solely from rich idle.
- B. Fuel-pump replacement despite accepted pressure.
- C. Acceptance because the fault disappears while isolated.
- D. The demonstrated purge-valve flow fault.

87. A motor replacement procedure specifies a final unloaded and operating-load comparison. What should be completed?

- A. Only the easiest unloaded test.
- B. Only matching the old motor's exterior dimensions.
- C. Both applicable tests and the affected function check.
- D. Only clearing a stored motor code.

88. A temperature comparison records 30 degrees C before cooling and 13 degrees C afterward. What temperature decrease results?

- A. 17 degrees C
- B. 43 degrees C
- C. 8.5 degrees C
- D. 13 degrees C

89. Air comes only from the floor outlets despite a changed distribution command. The door actuator reaches its positions, but a broken link leaves the actual door stationary. What is indicated?

- A. A blower-speed fault proven by door immobility.
- B. The air-distribution mechanical linkage fault.
- C. An unchanged command disproved by the control data.
- D. A refrigerant-pressure fault proven by outlet selection.

90. A steering noise occurs with assist demand. The fluid route is intact, but the drive belt slips visibly while the pump's required speed is not achieved. What should be addressed first?

- A. Pump replacement solely from noise.
- B. Acceptance because the fluid reservoir is full.
- C. The demonstrated pump-drive condition.
- D. Rack replacement solely from low assist.

91. A stated inline torque-adaptor calculation uses $\text{setting} = \text{desired torque} \times L / (L + A)$. Desired torque is 100 N m, $L = 0.4$ m and $A = 0.1$ m. What setting results?

- A. 40 N m
- B. 125 N m
- C. 100 N m
- D. 80 N m

92. Several modules fail together after water enters a shared connector. Inspection and the prescribed tests identify corrosion joining the bus conductors, while individual supplies comply. What is supported?

- A. A shared network-connection fault.
- B. Acceptance of the bus from correct supplies alone.
- C. Independent loss of power to every module.
- D. A normal connector proven by readable terminal numbers.

93. A replacement steering joint moves normally but its installed retaining component does not match the specified locking method. What remains outstanding?

- A. Acceptance from free movement alone.
- B. Conformity of the complete retention arrangement.
- C. Acceptance because the part is new.
- D. Acceptance from matching joint diameter alone.

94. What is the condenser's primary thermal purpose in an automotive cooling cycle?

- A. Measure the cabin blend-door position directly.
- B. Reject heat from the refrigerant to the surroundings.
- C. Drive the refrigerant's pressure increase mechanically.
- D. Absorb heat from cabin air at the evaporator.

95. A brake-control warning names one wheel. Its sensor waveform passes at the wheel connector but is absent at the controller, and the intervening signal conductor fails its prescribed continuity check. What is indicated?

- A. A normal harness proven by a connected outer shell.
- B. Sensor replacement despite its verified local waveform.
- C. A signal-path fault between those test points.
- D. Controller replacement without correcting the open conductor.

96. A mechanical oil-pressure reading falls below the supplied warm test requirement. Correct oil level is verified, and inspection finds the pickup screen obstructed by sealant debris. What must be addressed?

- A. A normal lubrication supply proven by correct level.
- B. A sender fault as the proven cause of low mechanical pressure.
- C. A dashboard replacement as proof of restored oil delivery.
- D. The demonstrated pickup restriction and its contamination source.

97. Two adjacent cylinders have low compression. The approved test confirms air communication directly between them, while other leakage paths pass their checks. What should be investigated?

- A. The demonstrated inter-cylinder sealing path.
- B. A common ignition-coil fault as the proven pressure cause.
- C. An external oil leak as the proven communication path.
- D. A normal cylinder barrier proven by quiet exhaust.

98. A stated service calculation records constant 100 V and 2 A for 5 seconds. What electrical energy results in joules?

- A. 200 J
- B. 20 J
- C. 500 J
- D. 1000 J

99. A defined driveline test records 100 input turns for 25 output turns. What input-to-output rotation ratio results?

- A. 4:1
- B. 3:1
- C. 2:1
- D. 1:4

100. A diesel's actual rail pressure tracks the verified gauge, but remains low during crank. Low-pressure delivery is restricted at an obstructed filter found during the supplied test. What should be addressed first?

- A. Injector coding as proof that the filter is clear.
- B. Sensor replacement despite the agreeing gauge.
- C. The demonstrated upstream delivery restriction.
- D. Acceptance because actual and reported pressure agree.

101. A diagnostic procedure specifies a breakout adapter for a delicate module connector. What should be used?

- A. A direct wire splice made solely for convenient access.
- B. The compatible approved adapter and test method.
- C. A probe that spreads the terminal to remain inserted.
- D. Any adapter that fits without circuit verification.

102. A vehicle is secured for a brake inspection, but the next step removes a support member carrying a separate heavy assembly. The current stands do not support that assembly. What is missing?

- A. Acceptance from the secured vehicle alone.
- B. Acceptance from the component's manageable appearance.
- C. A suitable independent support and removal arrangement.
- D. Acceptance from the stands' labels alone.

103. An EV thermal warning appears with a temperature input jumping abruptly while independent temperature stays steady. The approved test reproduces the jump at a damaged sensor connector. What is supported?

- A. A normal sensor path proven by steady physical temperature.
- B. A localized temperature-signal fault.
- C. A real instantaneous temperature rise disproved by comparison.
- D. Battery replacement solely from the warning.

104. A network splice is repaired near a wet body cavity. What should the final assembly preserve?

- A. The specified environmental protection and routing.
- B. Only conductor size without environmental protection.
- C. Only unloaded continuity.
- D. Only the ability to close the nearest trim panel.

105. A body-accessory repair restores motion but the required position feedback remains inverted because the wrong configuration was loaded. What must be corrected?

- A. Acceptance from the software file's existence alone.
- B. Acceptance from connector retention alone.
- C. Acceptance from physical movement alone.
- D. The applicable configuration and verified feedback function.

106. A network complaint is reproduced only when a repaired connector is pulled into its normal installed position. The branch then becomes open because a terminal backs out. What remains to be corrected?

- A. Acceptance from the outer connector latch alone.
- B. Terminal retention through the actual installation movement.
- C. Replacement of every module on the branch.
- D. Acceptance from a relaxed bench continuity check.

107. After an oil-pump repair, pressure still fails the supplied test. The installed pump meets its checks, but confirmed debris remains in the inlet passage. What is unresolved?

- A. The actual supply-path obstruction.
- B. A larger oil filter as proof the passage is clear.
- C. Acceptance from the new pump alone.
- D. Sender replacement as proof of mechanical pressure recovery.

108. After replacing a driveline seal, what should final operation checks consider?

- A. Only the static component's identification plate.
- B. Only the seal's uninstalled appearance.
- C. The repaired boundary under relevant movement and service conditions.
- D. Only the original leakage photograph.

109. What does a body-control output command represent?

- A. Proof that feedback always matches observed position.
- B. Proof that every local supply connection is sound.
- C. Proof that the physical mechanism moved correctly.
- D. The requested state of the controlled function.

110. A fuel rail is removed for service under its prescribed safe preparation. What should protection of open connections accomplish?

- A. Only make the exposed parts easier to count.
- B. Preserve required cleanliness and prevent uncontrolled contamination.
- C. Only identify the rail's operating-pressure unit.
- D. Only retain the old service label.

111. A manual gearbox selects correctly with the engine stopped but resists selection when running. The clutch release mechanism fails its required travel check. What path is supported?

- A. A gear-selector adjustment proven faulty in both states.
- B. A normal clutch proven by stopped-engine selection.
- C. A tyre fault proven by the running-state change.
- D. The incomplete clutch-release function.

112. A module intermittently resets while all its bus signals remain present. Its ground voltage rises beyond the stated limit at the same moment under load. What should diagnosis prioritize?

- A. Bus replacement solely from the reset.
- B. Software replacement solely from an unloaded voltage check.
- C. The module's demonstrated ground-delivery fault.
- D. Acceptance from signal activity alone.

113. What does a safety data sheet identify for a workshop chemical?

- A. The product's specified hazards and handling information.
- B. The vehicle's required installation torque.
- C. The hoist's allowable arm configuration.
- D. The universal compatibility of every substitute cleaner.

114. After replacing a network-connected sensor module, what should be verified when its procedure requires initialization?

- A. Only the component's mounting location.
- B. The specified initialization and affected message/function response.
- C. Only deletion of the former history code.
- D. Only one successful generic scan.

115. An engine's measured valve-event timing differs from the applicable known reference, while verified position-sensor waveforms remain intact. Inspection then reveals an incorrectly set timing drive. What is supported?

- A. A mechanical timing alignment fault.
- B. Acceptance because the engine can start.
- C. A fuel-pump defect proven by valve-event timing.
- D. Sensor replacement despite verified signals.

116. What is a traction-system contactor's relevant switching role?

- A. Replace every required high-voltage verification step.
- B. Measure cell temperature directly.
- C. Consume all stored battery energy on opening.
- D. Connect or isolate its specified electrical path.

117. An injector receives the correct command and current, but its measured flow is below the stated range while peer injectors comply. What is supported?

- A. A common fuel-pump fault proven despite compliant peers.
- B. Acceptance from correct current alone.
- C. A delivery problem at the tested injector.
- D. An absent electrical command disproved by measurement.

118. Four stated accessory loads each draw 2 A simultaneously. What combined current results?

- A. 16 A
- B. 4 A
- C. 8 A
- D. 2 A

119. After a heater-hose replacement, what should final service follow?

- A. Only a check that both clamps are present.
- B. The specified refill, air removal, integrity, and function checks.
- C. Only reading the room temperature.
- D. Only topping up until fluid is visible.

120. A stated refrigerant service target is 580 g and its defined charging procedure has delivered 365 g. What additional mass reaches that total?

- A. 215 g
- B. 945 g
- C. 580 g
- D. 365 g

121. A steering linkage replacement requires restoring a specified locking feature. What should be completed?

- A. Only reaching a chosen torque number.
- B. Only a check that the component threads fit.
- C. Only reuse of the former locking feature without assessment.
- D. The correct retention assembly and final movement checks.

122. An alignment reading is 0.5 degree. Using 60 arcminutes per degree, what equivalent angle results?

- A. 60 arcminutes.
- B. 0.5 arcminute.
- C. 120 arcminutes.
- D. 30 arcminutes.

123. A throttle position signal jumps when its local connector moves, although the measured plate position remains steady and supply and reference checks pass. What should be assessed?

- A. The local signal connection and actual sensor response.
- B. A normal signal proven by the reference supply.
- C. A fuel-pressure fault proven by connector movement.
- D. A physically jumping plate disproved by observation.

124. A gauge reads high on both a vehicle and a verified reference source, but another suitable gauge matches that source. What should be resolved before vehicle diagnosis continues?

- A. The vehicle as proven overpressurized by the first reading.
- B. The first gauge's accuracy and setup.
- C. The reference as defective solely from one disagreement.
- D. The second gauge as defective because its reading is lower.

125. After a diesel injector is installed and its specified identifier entered, what should verification include?

- A. Only confirmation that the injector clamp is visible.
- B. Only confirmation that text was accepted by the scan tool.
- C. The affected cylinder and complete required fuel-system checks.
- D. Only confirmation that the old identifier was recorded.

Practice Exam 6: Answer Key and Explanations

1. **D** — Divide the total stated span by the five periods to obtain 40 ms per period. The question defines periods rather than merely a count of endpoint messages. Those definitions matter because a record containing five timestamps may not contain five complete intervals.
2. **B** — The complaint must be tested through the approved method with its specified conditions and limits. More severe loading does not automatically provide a valid or suitable comparison. Parked pedal movement and idle speed establish different attributes from the required transfer of drive under load.
3. **C** — The debris changes the assembled mounting plane even when the individual parts are sound. Clean and reassemble through the approved method, then verify the complete result. Separate passes cannot establish the geometry of an assembly built on an unsuitable interface.
4. **D** — The boot must provide its designed protection in the installed assembly. Restore seating and retention and assess the joint as required after its exposure. A similar shape and new packaging cannot establish that the sealed path or affected internal condition is acceptable.
5. **A** — The command reaches the circuit, but the speed relationship does not show the required engaged result. Follow the application-path diagnosis to locate the cause. A command is an intended state rather than proof that the clutch applies and transmits the expected mechanical relationship.
6. **B** — Pressure acts on the piston's effective area to apply mechanical force within the brake design. Sensing wheel rotation and exchanging data belong to other components. Correctly identifying this role helps separate hydraulic actuation evidence from the control system's measurements and commands.
7. **D** — The source provides the message, and changing the identified connection restores its presence at the destination. That controlled result ties the absence to the physical route. Verify final operation, but the evidence does not establish a universal software or upstream sensor defect.
8. **A** — Subtract the 80-degree C reading from 120 degrees C to obtain a 40-degree C difference. This describes the stated pair rather than proving one particular brake fault. Interpret location, load, measurement method, and the applicable test criterion before selecting the next diagnosis.
9. **C** — The bent bracket changes how the input represents the mechanism, and the independent check separates that sensing condition from actual movement. Use the approved restraint diagnostic method to resolve it. Correct actuator operation does not validate a mispositioned measurement path or prove a deployment-unit defect.
10. **D** — The comparison shows the physical wheel continuing steadily while its target produces interrupted information. Investigate and correct that local sensing condition. A displayed speed change is not direct proof of actual locking when independent motion and signal observations disagree at a specific target defect.

- 11. B** — Subtract the required 0.25 mm from the measured 0.40 mm to obtain a 0.15 mm reduction. Apply the vehicle's actual adjustment method and remeasure afterward. The arithmetic identifies the difference but does not specify which component or adjustment direction every valvetrain design uses.
- 12. C** — The localized leak result identifies a pressure-loss route at the valve connection. Correct it and verify the complete assembly through the applicable method. Passing tread and bead checks narrows the diagnosis but does not establish a sealed tyre when another tested boundary leaks.
- 13. A** — Subtract the intake absolute value from the stated atmospheric absolute value: 100 minus 35 gives 65 kPa. The two readings share the same reference. Adding them would not express the specified pressure difference between atmosphere and the intake condition.
- 14. A** — The designation relates to the tyre's carrying capability under its applicable conditions. Load suitability must be distinguished from speed and dimensional tyre designations. Check suitability against the actual vehicle requirement and installation information rather than using one tyre marking as a universal service specification.
- 15. C** — The detached cable prevents the physical transmission selection despite the displayed request. Restore and verify that path before condemning an internal reverse element. An indicator can report a control position without establishing where the transmission's mechanical lever actually moved.
- 16. B** — The observed connection movement is a separate mechanical fault that static alignment cannot resolve. Restore and verify the required retention and assess the affected joint. Correct pressures and alignment establish other conditions but do not make an unsecured steering load path acceptable.
- 17. D** — The leak result establishes tightness under its test, while the observed contact violates a separate routing requirement. Correct and verify clearance through the relevant movement. Appropriate diameter and a working display cannot establish protection of the physical hose from the identified exposure.
- 18. C** — The brightness responds to a specific ground connection whose retention is deficient. Restore and verify it under load. A good supply is necessary but cannot validate the separate return path, and the local comparison does not demonstrate an alternator defect.
- 19. D** — The fastener's contact surface must match the wheel's designed retention relationship. Correct threads alone do not establish that loading geometry. Suitable seating must accompany the specified tightening method rather than being treated as an alternative to proper assembly verification.
- 20. A** — The bound shaft provides a physical condition relevant to the excessive current under the verified supply. Diagnose the motor and mechanical load according to the procedure. Correct voltage does not establish normal movement, and high current alone cannot locate an open ground.
- 21. B** — The procedure defines equipment appropriate to the actual electrical boundary and required verification. A readable display and familiar identity do not establish ratings or function. Trained personnel must use and verify the specified arrangement rather than assuming any available meter can establish the high-voltage work condition.

- 22. C** — The controlled input correction removes the continuous request and restores the defined shutdown condition. That result identifies a control-path issue contributing to drain. A discharged battery may need assessment, but the symptom alone does not prove it caused the unwanted load.
- 23. B** — The two scales use different numerical references and increments, so direct numerical comparison is invalid. Convert appropriately or select matching units before judging the sensor. A displayed Fahrenheit value does not itself indicate defective sensing or authorize changing the specified Celsius requirement.
- 24. A** — The repaired harness must remain conductive and protected through the defined tailgate movement. Restore the appropriate allowance and routing as well as terminal identity. Static continuity cannot establish a suitable flexing arrangement when another position imposes damaging strain or contact.
- 25. D** — The resistances are explicitly in series, so add 3 and 5 to obtain 8 ohms. The parallel formula would describe another arrangement. Use the connection relationship given in the question instead of assuming every automotive resistor network shares the same configuration.
- 26. C** — Equipment operation can alter hazards in the adjacent work area. Coordinate with the other technician and establish the permitted state before activation. Motor rating and scheduling do not demonstrate that movement, energy, or discharge will remain controlled around the exposed repair.
- 27. A** — The pump's installation does not establish an air-free or correctly prepared circuit. Complete the vehicle-specific routine and verify the affected thermal function. Visible reservoir contents and electrical connection do not demonstrate adequate circulation through every required part of the restored system.
- 28. B** — The cover forms part of the required restored arrangement and must be fitted with its prescribed components and checks. A cabin accessory result cannot verify that boundary. Complete the vehicle's actual restoration sequence rather than accepting solely from external shape or message clearing.
- 29. D** — The seal's material and preparation must suit the actual refrigerant system. Matching size alone does not establish compatibility or correct assembly. Use the specified method and complete integrity checks rather than assuming another stock item or external compound provides an approved equivalent.
- 30. B** — Secure mounting and suitable supply are necessary but do not establish the required learned reference. Complete initialization and verify that reported position follows the actual mechanism. Clearing an earlier code alone cannot demonstrate correct sensing throughout the installed range.
- 31. D** — The physical state is verified, but the controller cannot receive the intended status through the open signal connection. Diagnose and restore that path under the applicable service procedure. Charge refusal alone does not prove a traction-battery defect or overrule the inspected latch position.
- 32. C** — Absolute pressure uses an absolute-vacuum reference, unlike a gauge value referenced to atmosphere. Confirm the data parameter's basis before comparison or calculation. The numerical value is not an intake-temperature measurement or a sum of unrelated engine-system pressures.

- 33. A** — The physical path now works while the configuration still differs from the required vehicle arrangement. Correct that separate finding and test the affected functions. Communication recovery and cleared messages cannot establish that the module interprets or supplies all data correctly for the installed equipment.
- 34. C** — The source-side result establishes output there, while the open distribution path explains why the downstream point does not receive it. Restore and verify that connection under the relevant service procedure. A correct local result cannot establish delivery through an interrupted remote circuit.
- 35. A** — The motor can move the seat and the switch supply is present, while the failed internal contact prevents the normal command. Correct and verify that input arrangement. The symptom cannot be assigned to a mechanical jam or absent supply after those conditions pass their comparisons.
- 36. D** — The lockup function creates a more direct mechanical relationship under its permitted conditions, reducing the slip associated with converter operation. It does not replace the gearbox's ratios or require permanent disconnection. Evaluate actual engagement with the relevant commands and speed evidence for the vehicle.
- 37. B** — The identifier has meaning within the network's defined message arrangement and helps distinguish its traffic. It does not independently supply wire routing or a universal replacement identity. Interpret message information with the actual vehicle communication design and the appropriate diagnostic tool.
- 38. C** — Software validity must be evaluated for the actual vehicle and installed equipment. The working communication path does not establish that another variant produces this vehicle's required messages. Correct applicability and verify the affected functions rather than treating any valid package as universal.
- 39. B** — The fault follows the actual harness movement and is localized at the pinch point, while the load can operate separately. Restore protection and continuity through the required range. An open-gate voltage does not establish current delivery with the harness in another service position.
- 40. D** — The completed diesel connection must preserve the internal preparation and pressure boundary required by its design. Follow the specified seals and assembly method. Matching length and an unchanged engine setting cannot establish suitability of the actual wetted and sealing surfaces after service.
- 41. A** — The calculated change guides assembly but the final components must meet the required measured relationships. Recheck them using the actual prescribed setup. Part labels and an expected position cannot demonstrate that the delivered clearances and contact pattern are correct after installation.
- 42. A** — The physical latch and reported input disagree only with movement of the failed connection. Restore and verify that sensing path. A stationary mechanism does not establish that its signal circuit is reliable when the identified connector cannot maintain the required contact.

- 43. B** — The repair must restore the input the assist design requires and demonstrate its effect on the vehicle's braking function. Flexibility and fluid quantity describe other attributes. Verify the actual installed route and operating response rather than accepting solely from exterior similarity.
- 44. D** — The seal works against its actual mating surface, which must meet the applicable condition requirements. Inspect that surface as well as the replacement component. Identification and fit cannot demonstrate acceptable sealing where damage, wear, or an unsuitable finish remains at the contact location.
- 45. C** — Backlash measurement depends on the defined components and how movement is restrained and observed. Use the specified setup rather than inferring a dimension from sound. Tooth count and housing size cannot directly supply the required measured relationship in the installed gear arrangement.
- 46. B** — The final route must remain protected as steering and suspension move through their applicable range. Parked slack is not proof of clearance at another position. Verify the installed path rather than relying solely on a connected sensor or stationary displayed value.
- 47. C** — The detached hose and failed pressure retention establish an open delivery route despite correct actuator movement. Restore the approved connection and verify under the relevant load. A command or actuator test cannot demonstrate pressure delivery through a physically disconnected charge-air path.
- 48. A** — Configuration must correspond to the actual vehicle and the applicable replacement procedure. Preserve and restore it through the specified method. Similar models and connector geometry cannot establish equivalent routing, equipment information, or required messages in the delivered gateway arrangement.
- 49. D** — The application and preparation requirements define the intended seal without introducing unwanted material into the engine. Follow the specific instructions rather than compensating with extra thickness. The former bead's appearance cannot establish correct material or cure conditions for the completed repair.
- 50. D** — Resolution describes the display or scale increment rather than establishing accuracy. A fine indication can still have offset, setup, or calibration error. Select equipment whose resolution suits the required comparison, then complete the relevant verification before relying on its numerical reading.
- 51. B** — The mount must establish the position and support relationship required by the vehicle, not merely attach somewhere. Follow its locating and retention details. A worn mount's former shape and engine settings do not define suitable clearances for the installed replacement assembly.
- 52. A** — Add the stated simultaneous currents: 1.5 plus 2.5 plus 0.8 gives 4.8 A. The calculation defines the test load rather than a universal circuit rating. Protection and wire selection must still meet the actual installation's specified conditions and applicable requirements.
- 53. C** — Subtract the replacement's 22.00 mm from the removed shaft's 22.05 mm to obtain a 0.05 mm diameter reduction. This compares the stated measurements at the same location. Acceptability of the replacement must still follow its actual service specification rather than matching the old worn component by assumption.

- 54. D** — The comparison and open-conductor test localize a physical fault introduced by the replacement branch. Restore and verify it under the network method. Mechanical connector retention does not establish electrical continuity through each required data conductor.
- 55. A** — The roughness appears under the installed condition that matters to the bearing's service. Assess it under the prescribed method rather than relying solely on the earlier unloaded check. Correct fit establishes one requirement, not acceptable internal movement at the actual operating load.
- 56. B** — Pressure equals force divided by effective area under the supplied model. Eight thousand divided by 1600 gives 5 N/mm². The result is not a universal required brake-system pressure and does not replace the vehicle's complete service or performance acceptance procedure.
- 57. C** — The hose seals at the tested condition but has an unsuitable contact exposure in its installed route. Correct and verify the specified clearance through normal movement. Tightness and idle operation cannot establish that the hose will remain protected from the identified belt contact.
- 58. C** — The reproduced open feed locates the electrical interruption while the independent test establishes motor capability under that setup. Correct and verify the terminal through its installed movement. Loss of blower operation from an absent supply does not demonstrate a refrigerant or heater-core failure.
- 59. D** — The tightening method assumes particular thread conditions and retention preparation. Restore those as specified rather than replacing them with another material or torque by preference. A reached torque number cannot independently validate an assembly made under different friction and locking conditions.
- 60. B** — Divide the stated travel by elapsed time: 225 mm divided by three seconds equals 75 mm/s. The result describes average speed over that interval. Its acceptability must be judged against the actual specified test condition, including load and control requirements for the installed mechanism.
- 61. A** — Pump operation is one attribute of a repair that also changes the tank's sealing and retention. Complete all applicable assembly and leak checks. An energized motor and connected wires cannot establish vapour or fluid integrity of the disturbed tank opening.
- 62. B** — The independent height measurement separates the actual position from the faulty reported value. The bent linkage and failed comparison provide specific evidence in the sensing path. A normal physical height cannot validate a sensor that does not represent it correctly.
- 63. D** — The geometric ratio compares the cylinder's maximum and minimum volumes at the defined piston positions. It is not a direct pressure or rotational-speed ratio. Measured cranking compression depends on additional operating and mechanical conditions and must not be treated as the same quantity.
- 64. A** — Divide 14 pulses per second by 28 pulses per revolution to obtain 0.5 revolution per second. Multiply by 60 for 30 rpm. The target count is supplied explicitly; another sensor or ring may require a different pulse-per-revolution basis.

- 65. C** — The system may retain pressure after shutdown, so follow the required preparation before opening its cap. A cool-looking display or stopped engine does not establish the condition at that boundary. Do not substitute a surface observation for the specified pressure-control and verification method.
- 66. D** — The enclosure helps preserve the restored connection under its actual exposure and must be assembled as specified. Bench continuity describes one electrical moment, not a protected final installation. Readable identification and mounting size cannot demonstrate that the repaired terminal is suitably enclosed.
- 67. C** — The socket still fails its loaded condition despite a new relay, so the connection itself remains outstanding. Repair and verify it under the applicable method. Temporary output does not establish an acceptable contact, and local terminal heating does not prove the downstream load caused it.
- 68. A** — The route must remain suitable as equipment moves, not just at its parked position. Restore protection and verify the applicable range. A correctly sized or powered circuit can still have an unacceptable mechanical exposure that damages its conductor during operation.
- 69. B** — The replacement must operate correctly in the actual circuit and restore the relevant control condition. Verify signal relationships and the original complaint using the prescribed method. Packaging, screw count, and an earlier code do not establish functional performance of the installed sensor.
- 70. D** — The present voltage and failed load test identify a local glow-function problem under the cold-start condition. Resolve it with the specified component and circuit procedure. Supply voltage alone does not establish current or heat delivery through the load, and it cannot prove an unrelated starter or rail fault.
- 71. A** — The ground path establishes the return relationship required by the circuit design. Its actual connections can still have resistance and require testing under relevant load. Correct terminology does not prove the path is sound or eliminate separate supply and protection requirements.
- 72. B** — The fault is observed at the high-current connection during the failed attempt while the command remains present. Correct and verify that supply path before replacing the command source. Intermittent success does not demonstrate an acceptable connection under every required operating demand.
- 73. C** — The bearing supplies a specific mechanical finding distinct from the compliant gear-contact result. Assess it and related assembly conditions through the prescribed method. A passing check on one part of the differential cannot demonstrate that the separately rough bearing is acceptable.
- 74. A** — The guide is part of an assembled timing system, so verify the required relationships and retained components before normal operation. Correct identity does not establish correct installation. A closed cover and historical engine data cannot demonstrate alignment or mechanical function of the repaired drive.

- 75. C** — Divide the measured voltage difference by current: 0.9 divided by 3 equals 0.3 ohm under the stated model. This quantifies the tested path's effective resistance. Its acceptance depends on the actual circuit requirement and operating condition, not a universal value inferred here.
- 76. B** — The new unit's output is correct, yet its delivery path still loses unacceptable voltage under current. Correct that measured cable fault and verify the complete system. Replacing the generator again would leave the demonstrated connection problem between it and the battery unchanged.
- 77. D** — The clip maintains a defined route and protects the cable from unsuitable contact or movement. Complete that support in addition to the electrical connection. A cap and connected terminal do not demonstrate clearance along the rest of the installed cable path.
- 78. B** — The controlled correction changes the demonstrated bent component and removes the reproduced symptom without altering the checked mounts. That supports its contribution under the verified condition. Record the relevant test limits rather than claiming that every possible vibration cause has been excluded permanently.
- 79. C** — Divide the driven gear's 72 teeth by the driver's 24 teeth to obtain 3:1. The question defines the tooth-count direction. Inverting the division would describe a different ratio and must not be substituted merely because both gears are part of the same pair.
- 80. A** — The command is an intended state, while the open feed prevents the required component response. Restore and verify that path before selecting another repair. A cooling request does not establish delivered electrical power or justify changing refrigerant quantity without the appropriate evidence.
- 81. D** — The result must be related to the conditions that make its service comparison valid. Record the setup and units with that state. A number alone cannot show whether an apparent discrepancy comes from the component or from a measurement obtained under different conditions.
- 82. D** — Multiply the stated 80 N m by the supplied conversion factor 0.7376 to obtain 59.008 ft lbf, rounded to 59.01. This is a unit conversion of the specified torque. It does not change the associated fastener preparation or tightening sequence.
- 83. B** — The assist test identifies a missing supply at the connection relevant to pedal effort. Restore and verify that function using the vehicle's procedure. A correctly filled and leak-free hydraulic circuit does not establish that the separate assist mechanism receives its required input.
- 84. C** — Divide required energy by the stated useful power: 24 kWh divided by 8 kW equals three hours. The useful rate already defines the assumed delivered basis. Do not introduce additional losses or changing charging taper that the question expressly does not supply.
- 85. A** — The locating feature has not established its prescribed position, and the resulting contact confirms a physical installation problem. Restore the seating and verify clearances. Correct identity and tight bolts cannot make an incorrectly located support arrangement conforming.

- 86. D** — The controlled isolation changes the complaint, and the valve's failed sealing check provides a specific fault in that path. Repair and verify normal connected operation. Disappearance during isolation is diagnostic evidence, not final acceptance of an intentionally separated emissions or vapour circuit.
- 87. C** — The procedure distinguishes behaviour without load from operation in the actual mechanism. Complete both prescribed checks. Matching dimensions and code clearing do not establish that the installed motor delivers the required motion under its service demand.
- 88. A** — Subtract the final 13-degree C value from the initial 30-degree C value to obtain a 17-degree C decrease. The reading pair defines the comparison. Whether it satisfies the required performance also depends on the test's airflow and other specified operating conditions.
- 89. B** — The actuator moves while the door does not, locating a fault between them. Correct and verify the linkage and outlet response. The distribution complaint cannot be assigned to blower speed or refrigerant pressure from this specific mechanical mismatch.
- 90. C** — The pump is not receiving its required mechanical drive under demand, providing a specific condition to correct and verify. A full reservoir establishes fluid quantity, not pump speed. Noise and weak assist alone cannot justify replacing hydraulic assemblies while the visible drive problem remains.
- 91. D** — Use the relation expressly supplied for this inline arrangement: 100 times 0.4 divided by 0.4 plus 0.1 equals 80 N m. Adapter orientation and equipment instructions matter in actual use. Do not apply this example's relation automatically to a different tool geometry.
- 92. A** — The corroded bridge provides a common physical cause for the affected communication despite adequate separate power. Repair and verify the connector. Correct supplies establish necessary supporting conditions but cannot make a shorted communication path transmit the required data.
- 93. B** — Normal movement verifies one attribute while the required retention method remains unmet. Correct and inspect the complete assembly before acceptance. New condition and dimensional fit do not establish that the connection remains secured through the vehicle's service loading and movement.
- 94. B** — The condenser transfers refrigerant heat to the surroundings as part of the cycle. The evaporator absorbs cabin heat and the compressor establishes another function. Separate these roles when interpreting pressure and temperature evidence, and use the actual system's operating requirements for acceptance.
- 95. C** — The valid local signal and failed intervening conductor locate the loss before it reaches the controller. Repair and verify that path before condemning either endpoint. Connector-shell engagement cannot establish continuity of the actual wire carrying the wheel information.
- 96. D** — The independent mechanical result confirms a real pressure deficiency, and the obstruction identifies a relevant supply restriction. Correct the pickup and contamination cause under the repair procedure. Correct sump level cannot establish unobstructed delivery through the screen, while display parts cannot restore that path.

- 97. A** — The test identifies communication between the two cylinders, directing mechanical investigation to that boundary. It does not uniquely name the final damaged part without inspection. Quiet exhaust and passing other paths do not establish a sound inter-cylinder seal when direct leakage is confirmed.
- 98. D** — Power is 100 times 2, or 200 W. Multiply by the stated five seconds to obtain 1000 J. This is arithmetic from supplied values, not an instruction to perform energized high-voltage work; actual service uses the vehicle's prescribed training, isolation, and equipment requirements.
- 99. A** — Divide the supplied input turns by output turns: 100 divided by 25 gives a 4:1 ratio. The test's stated direction matters. This rotation-count result does not independently establish gear efficiency or diagnose a complaint without the applicable expected relationship.
- 100. C** — Agreement validates the pressure measurement but does not make its deficient value acceptable. The obstructed upstream filter supplies a direct delivery fault to correct and verify. Coding or replacing an accurate sensor cannot restore flow through that identified restriction.
- 101. B** — The adapter must preserve the connector and establish the intended measurement relationship. Use the applicable equipment and method. Physical lead appearance or convenient access does not establish compatibility, while an unsuitable probe can damage the contact condition being diagnosed.
- 102. C** — The vehicle support does not carry the separate assembly once its member is removed. Establish the required independent support before releasing that load path. Rated stands at other points and a stable vehicle cannot demonstrate control of an assembly not included in their actual support arrangement.
- 103. B** — The independent measurement and reproduced connector effect separate physical temperature from its faulty report. Resolve and verify the sensing connection using the vehicle's trained-service method. A warning alone cannot establish cell damage, and stable temperature does not validate a damaged input circuit.
- 104. A** — The repair must maintain its electrical condition in the actual exposure, including the required sealing and support. A closed trim panel does not establish protection from moisture. Continuity at one dry moment cannot demonstrate suitable long-term installation of the repaired connection.
- 105. D** — The repaired mechanism moves, but its control information still represents the wrong direction under the confirmed configuration mismatch. Correct that setup and test the complete response. Movement and a securely fitted connector cannot establish accurate position reporting to the vehicle system.
- 106. B** — The terminal's movement changes the circuit from connected to open at the actual installed position. Correct retention and verify the full route. A bench result obtained without that mechanical condition cannot establish reliable operation in the vehicle.
- 107. A** — The pressure result remains deficient because a known supply obstruction has not been corrected. Restore and verify that path under the engine procedure. A suitable pump cannot establish

delivery through a blocked inlet, and indicator replacement cannot alter the mechanically measured condition.

108. C — The installed seal must perform against its actual rotating or moving relationship under the applicable conditions. Verify the repaired boundary and complaint. An uninstalled visual check cannot establish final sealing, and the old photograph describes evidence before the corrective work.

109. D — A command describes what the controller requests, rather than certifying the electrical delivery or mechanical result. Compare it with actual operation and feedback. A valid requested state can coexist with a failed wire, load, linkage, or position-sensing path in the installed system.

110. B — The open connections expose precision surfaces and internal volumes to contamination during the repair. Use the specified protection and handling method. Inventory and labels aid traceability, but do not preserve the fluid path's cleanliness while openings remain unprotected in the work area.

111. D — The difference between stopped and running selection is paired with deficient release travel, identifying a relevant clutch-actuation condition. Correct and verify it before treating the gearbox as the proven cause. Successful selection without rotating input does not establish adequate clutch disengagement during operation.

112. C — The reset coincides with an unacceptable loaded ground condition, providing a specific supporting-circuit fault. Correct and verify that path before attributing the reset to communication or software. Bus activity cannot establish stable module operation when its required electrical reference is compromised.

113. A — The sheet describes the identified chemical and the relevant exposure and handling information. It does not establish every substitute's equivalence or a vehicle repair specification. Confirm that the document corresponds to the actual product used rather than assuming similar containers have identical hazards.

114. B — The new module must have the applicable reference or configuration before its delivered information is accepted. Complete the initialization and verify the affected functions. A generic scan response establishes participation but does not demonstrate correct data relationships or restored operation of the specific system.

115. A — The valve-event discrepancy and inspected drive alignment supply mechanical evidence, while the sensor checks reduce support for a reporting fault. Correct timing and verify the prescribed operation. An engine's ability to start does not demonstrate that every valve event is correctly phased.

116. D — The contactor controls a defined connection in the traction circuit. Its open state does not mean every cell or conductor is discharged, and its presence does not eliminate the prescribed verification procedure. Interpret its actual function within the vehicle's electrical architecture and trained-service requirements.

117. C — The electrical observations establish actuation conditions, while the flow test identifies deficient delivery at one injector. Investigate its actual mechanical or flow condition under the

procedure. Correct current cannot demonstrate adequate liquid delivery, and one localized result does not prove a shared pump failure.

118. C — Add the four simultaneous stated currents: four times 2 A gives 8 A. The question defines concurrent operation rather than alternating loads. This total is not automatically a fuse-selection value; installation must meet the circuit's applicable protection and conductor requirements.

119. B — The repair opens a coolant boundary and requires preparation of its complete installed condition. Visible liquid and clamp presence do not establish removal of trapped air or restored heating performance. Follow the actual vehicle's method and verify the relevant complaint safely.

120. A — Subtract the delivered 365 g from the supplied 580 g target to obtain 215 g. The calculation assumes the charging procedure's specified starting condition and retained-mass treatment. It must not be interpreted as an instruction to add refrigerant to an unknown existing charge.

121. D — The locking requirement is part of the complete steering assembly and must be satisfied with its applicable components. Thread fit and torque alone do not replace that retention function. Complete the specified movement and security checks before service release.

122. D — Multiply the stated 0.5 degree by 60 arcminutes per degree to obtain 30 arcminutes. This changes the angular unit without changing its sign or physical measurement. Keep the same unit and convention when comparing the result with the applicable alignment requirement.

123. A — The physical plate stays in place while movement changes its reported position. Diagnose the signal path and sensor connection rather than treating the displayed jump as real throttle motion. A correct reference establishes one supporting circuit but cannot validate the complete measurement connection.

124. B — The independent reference comparison shows that the first gauge does not represent the known condition correctly. Verify and correct that instrument before interpreting the vehicle result. The high vehicle reading cannot independently prove a fault when its measuring equipment fails a separate comparison.

125. C — Accepted identifier entry establishes one configuration step rather than the completed repair. Verify the physical installation, integrity, and affected cylinder operation as specified. Visible hardware and documentation of the removed part cannot establish performance of the delivered injector assembly.