

PRACTICE EXAM 8: 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. After changing a gateway routing configuration, what should final tests include?

- A. Only a response from the gateway itself.
- B. The required source-to-destination messages and affected functions.
- C. Only confirmation that the settings menu closes.
- D. Only deletion of the former communication history.

2. A rich-running complaint is paired with fuel pressure above its supplied limit. The approved regulator test shows its control path obstructed, while airflow and sensor plausibility checks comply. What should be assessed?

- A. The fuel-pressure regulation fault.
- B. Coil replacement as proof of reduced fuel pressure.
- C. Air-meter replacement despite its accepted comparison.
- D. Acceptance because the pressure sensor is plausible.

3. A gasoline engine's intake-pressure signal remains fixed while independent manifold pressure changes during the approved test. Its reference and ground comply, but the sensor response fails the comparison. What is indicated?

- A. Acceptance from correct sensor supply alone.
- B. Fuel-pump replacement solely from the signal.
- C. A physically fixed manifold pressure disproved by measurement.
- D. An intake-pressure measurement fault.

4. A gasoline sensor wiring repair is made at a shared reference circuit. What should verification include?

- A. Only the sensor's part number.
- B. The repaired reference and all affected inputs identified by the diagram.
- C. Only the original complaint's one displayed value.
- D. Only conductor size without testing the shared reference.

5. A diesel intake-temperature value is implausible after a cold soak, and several related inputs share the same failed reference connection. Independent temperatures are normal. What should diagnosis prioritize?

- A. Acceptance because the engine starts.
- B. A real universal temperature rise disproved by comparison.
- C. The demonstrated common reference-path fault.
- D. Replacement of every temperature sensor immediately.

6. A diesel shared-reference repair affects several identified inputs. What should final checks include?

- A. The applicable reference and each affected input's plausibility.
- B. Only the repaired wire's exterior appearance.
- C. Only the easiest displayed input.
- D. Only an initial successful start.

7. A gasoline fuel-line replacement has a defined route near hot exhaust parts. What should installation preserve?

- A. Only the former line's external markings.
- B. Only the line's nominal pressure rating.
- C. The specified protection, retention, and thermal clearance.
- D. Only its ability to reach both fittings.

8. After a heated-element repair, what should the verification assess?

- A. Only the label on the replacement element.
- B. The restored electrical path and required heating response.
- C. Only the connector's external latch.
- D. Only cleared history codes.

9. A brake-assist complaint is reproduced with a damaged input hose leaking in its approved test. The assist unit works with the prescribed verified test supply. What should be restored?

- A. Acceptance because the hydraulic reservoir is full.
- B. Assist-unit replacement despite its working comparison.
- C. A wheel-speed correction as proof of sealed assist input.
- D. The demonstrated assist-supply connection.

10. A manual transmission resists engagement after clutch service. The release linkage is incorrectly seated and fails its travel check, while the detached selector mechanism meets its test. What should be corrected?

- A. Acceptance because the clutch parts are new.
- B. Differential replacement solely from engagement resistance.
- C. The demonstrated clutch-release installation fault.
- D. Selector replacement despite its accepted comparison.

11. Why should a driveline repair preserve required mating orientation?

- A. Matching exterior diameter guarantees correct indexing.
- B. The service method may depend on that defined assembled relationship.
- C. Any bolt pattern makes every orientation equivalent.
- D. Correct component mass replaces alignment requirements.

12. What does high input impedance help limit during a suitable voltage measurement?

- A. The meter's loading of the measured circuit.
- B. The need to identify the correct test points.
- C. Every possible connector damage risk.
- D. Every possible instrument calibration error.

13. A network-connected sensor reports a valid value locally but its destination receives an outdated value. The gateway log confirms the required new message is not routed under the loaded wrong configuration. What should be addressed?

- A. Acceptance because both modules individually communicate.
- B. Mechanical adjustment solely from the stale value.
- C. Replacement of the source sensor despite valid output.
- D. The gateway's actual message-routing setup.

14. What is a specified high-voltage protective cover intended to provide?

- A. Automatic discharge of every battery cell.
- B. The defined barrier and protection in the assembled design.
- C. Proof that every internal electrical fault is absent.
- D. A replacement for the isolation verification procedure.

15. A brake-assist hose repair replaces a connection with a prescribed material and route. What should be preserved?

- A. Only the removed hose's flexible appearance.
- B. Only the nearest wheel's alignment value.
- C. Only its approximate outside diameter.
- D. The full compatibility, sealing, support, and clearance requirements.

16. After suspension-bracket reattachment, what should the final inspection include?

- A. The specified retention, movement clearance, and affected function.
- B. Only the repair's recorded completion time.
- C. Only the bracket's outside appearance.
- D. Only a static engine-idle check.

17. A clutch hydraulic complaint is being evaluated with a specified actuator-travel measurement. What should be recorded?

- A. Only the replacement part's delivery time.
- B. Only whether the pedal moves visibly.
- C. The actual travel, defined reference, and operating condition.
- D. Only the reservoir's full appearance.

18. A stated circular brake piston has diameter 40 mm. Using $\text{area} = \pi \times \text{diameter squared} / 4$ and $\pi = 3.14$, what area results?

- A. 628 mm²
- B. 1256 mm²
- C. 5024 mm²
- D. 125.6 mm²

19. A brake repair requires replacing a specified damaged fastener. What should be installed?

- A. A same-length bolt without material verification.
- B. An extra washer as a universal substitute.
- C. The correct component with its prescribed assembly conditions.
- D. The removed bolt because its head still fits the tool.

20. Why should brake-service acceptance include both integrity and actual function?

- A. A sealed boundary alone does not establish required braking response.
- B. Correct tyre pressure replaces brake verification.
- C. A successful lamp test proves hydraulic performance.
- D. Any dry fitting proves every brake function acceptable.

21. A diesel fuel-control complaint appears after harness replacement. The required actuator supply is correct, but its command conductor terminates in the wrong cavity relative to the verified vehicle diagram. What is indicated?

- A. Actuator replacement solely from absent response.
- B. A mechanical compression fault proven by pin location.
- C. Acceptance from correct supply alone.
- D. A command-path terminal assignment fault.

22. A fan runs intermittently while its command remains unchanged. Its power connection opens during the failure at a loose verified terminal, and the motor passes its independent test. What should be addressed?

- A. Acceptance from operation on a previous attempt.
- B. The motor's demonstrated feed connection.
- C. Motor replacement despite its successful comparison.
- D. The command source despite its unchanged correct state.

23. A drive-shaft installation requires restoring a designated support bracket and torque method. What should be completed?

- A. The entire support, retention, and movement-clearance arrangement.
- B. Only checking the shaft's unloaded length.
- C. Only replacing the most visible fastener.
- D. Only connecting the shaft ends.

24. A stated wiper movement covers 90 degrees in 0.6 second at constant rate. What angular rate results?

- A. 54 degrees/s
- B. 15 degrees/s
- C. 90 degrees/s
- D. 150 degrees/s

25. A network timing test defines 250 ms between five complete equal update periods. What period results?

- A. 250 ms
- B. 5 ms
- C. 50 ms
- D. 1250 ms

26. Input speed is 2400 rpm with stated sequential reductions 2:1 and 3:1. Ignoring slip, what final speed results?

- A. 400 rpm
- B. 14400 rpm
- C. 800 rpm
- D. 1200 rpm

27. What does an HVAC temperature input provide when functioning correctly?

- A. Proof that every air outlet has that temperature.
- B. Information about its defined sensing location.
- C. A direct measure of refrigerant mass everywhere.
- D. A universal indication of compressor mechanical condition.

28. A transmission connector was disturbed during mechanical service. What should restoration follow?

- A. Only the requested gear shown on the selector.
- B. Only closure of the outer housing.
- C. Only unloaded signal continuity at one position.
- D. Complete terminal retention and circuit verification.

29. After a driveline lubricant mismatch is corrected, what should verification include?

- A. Only matching the former drain quantity.
- B. Only the stated fluid type without the final level check.
- C. The specified preparation and relevant operating performance checks.
- D. Only a record that the fluid was replaced.

30. A door-position sensor is remounted after movement. What should final checks verify?

- A. The specified mounting reference and accurate state changes.
- B. Only clearing the earlier status message.
- C. Only tightening any nearby fastener.
- D. Only operation of the door motor.

31. What is ABS intended to manage in its relevant braking function?

- A. The suspension's constant ride height.
- B. The engine's long-term fuel trim.
- C. The tyre's physical tread-depth measurement.
- D. Wheel-locking tendency under the applicable control strategy.

32. An engine's oil-pressure warning occurs only hot. The verified mechanical reading fails the hot criterion, and measured bearing clearances exceed their supplied limit. Oil type and level comply. What is supported?

- A. A normal lubrication system proven by correct oil level.
- B. Cooling-fan replacement as proof of restored oil clearance.
- C. A mechanical lubrication fault involving the deficient clearances.
- D. Sender replacement as proof of normal mechanical pressure.

33. A restraint-related nonpyrotechnic input remains absent after a replacement seat is fitted. Verified build information requires that input, but the connector is left unattached. What should be restored?

- A. Deployment-unit replacement solely from the absent input.
- B. The required input connection and approved system verification.
- C. Acceptance because the seat bolts fit.
- D. Acceptance because a generic seat description omits the feature.

34. A stated conductor model uses $R = \rho \times L/A$, $\rho = 0.020 \text{ ohm mm}^2/\text{m}$, length 3 m, and area 2 mm². What resistance results?

- A. 0.030 ohm
- B. 0.120 ohm
- C. 0.0133 ohm
- D. 0.060 ohm

35. An HVAC temperature sensor connection is repaired after an intermittent signal. What should final verification reproduce?

- A. Only an unrelated blower-speed result.
- B. Only a static clear-code check.
- C. Only physical retention of the outer housing.
- D. The relevant connector movement and valid temperature response.

36. A relay socket repair requires replacing a heat-damaged terminal. What should final service verify?

- A. Only the relay's case identity.
- B. The correct terminal assembly and loaded current-delivery condition.
- C. Only unpowered continuity at the damaged contact.
- D. Only the old socket's exterior shape.

37. After repairing an injector supply, the electrical current test passes but a final fuel-boundary test finds leakage at its disturbed seal. What still requires correction?

- A. Acceptance from the injector's label alone.
- B. Acceptance from electrical current alone.
- C. The injector's actual sealing assembly.
- D. Acceptance from correct command alone.

38. What is a controlled purge path's relevant gasoline-system purpose?

- A. Route stored fuel vapour to the engine under the defined strategy.
- B. Meter liquid fuel into individual cylinders.
- C. Route exhaust gas into the intake through the EGR path.
- D. Regulate liquid fuel pressure in the rail.

39. After repairing a latch-drive conductor, what should the test include?

- A. Only a test of an unrelated window.
- B. Only checking the repaired wire's label.
- C. The actual latch response from the required normal commands.
- D. Only unloaded continuity.

40. A diesel filter-differential input stays implausibly negative under its prescribed flow test. Inspection finds the two identified pressure hoses reversed, while the sensor passes its reference test. What should be corrected?

- A. Sensor replacement despite its reference result.
- B. The pressure-tapping connection arrangement.
- C. Filter replacement solely from the displayed sign.
- D. Acceptance because both hoses fit the sensor.

41. A propeller-shaft joint is smooth unloaded, but its installed angle lies outside the supplied design range and the specified operating test reproduces vibration. What should be assessed?

- A. Acceptance from correct shaft part identity alone.
- B. Acceptance from the unloaded rotation alone.
- C. Engine replacement solely from vibration.
- D. The actual installed geometry and affected joint duty.

42. A bus disturbance appears only while a repaired harness is clamped in its final position. The clamp pinches the pair and a prescribed test confirms a short there. What is supported?

- A. A physical installation fault in the repaired route.
- B. A universal software fault proven by clamping.
- C. A scan-tool limitation proven by a measured short.
- D. Acceptance from an unclamped bench test.

43. A stated brake comparison records 7.0 MPa at one test point and 4.5 MPa at another. What difference results?

- A. 1.25 MPa
- B. 4.5 MPa
- C. 11.5 MPa
- D. 2.5 MPa

44. A steering assist input is valid, but the motor's installed feed voltage collapses through a connector that fails the loaded criterion. The motor passes the approved independent test. What is supported?

- A. Alignment change as proof of restored motor voltage.
- B. Motor replacement solely from weak assist.
- C. A steering-motor supply-path fault.
- D. Acceptance from the input command alone.

45. What does an engine oil-pressure regulating device control in its applicable design?

- A. Store the complete oil supply at rest.
- B. The specified oil-pressure relationship through its operating action.
- C. Filter suspended particles from the oil directly.
- D. Set every internal bearing clearance mechanically.

46. A stated accessory load draws 4.5 A at 14 V. What electrical input power results?

- A. 63 W
- B. 126 W
- C. 18.5 W
- D. 3.11 W

47. A stated fastener-angle step is three-quarters of one full turn. Using 360 degrees per turn, what angle results?

- A. 90 degrees
- B. 480 degrees
- C. 180 degrees
- D. 270 degrees

48. A separate engine cooler is replaced after a confirmed internal leak. What should repair verification cover?

- A. Only absence of an engine warning at first start.
- B. Only the former cylinder compression readings.
- C. The restored fluid separation and affected circuit preparation.
- D. Only the cooler's outside mounting dimensions.

49. A replacement brake hose passes its initial leak check but touches the tyre at full permitted steering lock. The approved route avoids that contact. What should be corrected?

- A. The final hose route and movement clearance.
- B. Acceptance from straight-ahead clearance alone.
- C. Acceptance from initial tightness alone.
- D. Acceptance from correct hose pressure rating alone.

50. A clutch repair includes a hydraulic connection whose supplied procedure requires a final leak check. What should be verified?

- A. Only the slave cylinder's part identity.
- B. The actual assembled pressure boundary and release function.
- C. Only the pedal's ability to return.
- D. Only a full reservoir before operation.

51. A stated resistive service calculation uses 400 V across 1000 ohms. What ideal current results using $I=V/R$?

- A. 2.5 A
- B. 0.4 A
- C. 0.04 A
- D. 400 A

52. A suspension noise occurs when a fitted support bracket moves against its attachment. The prescribed retention check fails there, while the nearby shock passes its test. What should be corrected?

- A. Wheel balancing as proof of restored retention.
- B. Acceptance because the vehicle is level.
- C. Shock replacement despite its accepted test.
- D. The demonstrated bracket attachment fault.

53. A clearance result changes substantially when a loose indicator base is secured. The reference check then passes and the repeated component reading is stable. Which result should guide the comparison?

- A. The first reading solely because it was obtained first.
- B. The arithmetic average of valid and unsupported readings.
- C. The verified stable measurement from the corrected setup.
- D. A preferred value chosen to avoid repair.

- 54.** A repair opens a system with potentially harmful contents. What should the work method provide?
- A. Only a slower fastener-removal sequence.
 - B. Only a nearby general-purpose bucket.
 - C. Only the component's external identification.
 - D. The specified isolation, containment, and exposure controls.
- 55.** A loaded connection drops 0.7 V while carrying a stated 30 A. What electrical loss using $P=VI$ results?
- A. 30.7 W
 - B. 21 W
 - C. 42.86 W
 - D. 0.0233 W
- 56.** A brake pulsation persists after disc replacement. The new disc passes its separate dimensional test, but the assembled hub interface has trapped debris and fails runout. What remains unresolved?
- A. The mounting-interface condition and assembled geometry.
 - B. Acceptance from the new disc alone.
 - C. Another disc replacement solely from pulsation.
 - D. A tyre-pressure adjustment as proof of corrected runout.
- 57.** A tyre-sensor service requires updating identification information. What should verification confirm?
- A. Only the sensor's physical mounting.
 - B. Only a cleared warning without the identification check.
 - C. The correct sensor relationship and applicable pressure-system response.
 - D. Only a verified handheld pressure reading.

58. A retained-fluid section is separated from the gauge by a closed valve. The gauge reads zero, but the work point lies inside the isolated section. What remains unverified?

- A. Drainage proven by the number of upstream controls.
- B. The actual retained section's pressure and energy condition.
- C. Depressurization proven by the separated gauge alone.
- D. Safety proven by the valve's external closed label.

59. An EV repair replaces a temperature-input connector under its approved work preparation. What should final testing include?

- A. Only an unrelated cabin-light check.
- B. Only deletion of the former warning.
- C. The restored sensing path and required thermal-system response.
- D. Only mechanical connection without software applicability.

60. A differential clunk has a confirmed loose mounting connection. Its internal clearance measurements meet the supplied criteria, and tightening under the approved repair removes the reproduced noise. What did the comparison support?

- A. The mounting fault's contribution under the verified condition.
- B. Failure of every other mount regardless of inspection.
- C. A fuel-delivery fault proven by mounting correction.
- D. Mandatory internal overhaul despite accepted measurements.

61. A stated thermal test uses 0.01 kg/s refrigerant flow and 300 kJ/kg useful heat transfer. What rate results?

- A. 0.03 kW
- B. 30000 kW
- C. 30 kW
- D. 3 kW

62. A parking-current test exceeds its supplied sleep criterion. Disconnecting a damaged accessory module restores the required value, and its independent current check fails. What is supported?

- A. Replacement of every original module.
- B. A universal battery defect proven by parked discharge.
- C. The accessory's contribution to the excess draw.
- D. Acceptance because the current becomes normal when the accessory is removed.

63. A diesel pressure-sensor hose arrangement is restored after a verified connection error. What should verification confirm?

- A. Only that both hoses are attached.
- B. Correct tapping identity and the required operating comparison.
- C. Only that the sensor label is readable.
- D. Only deletion of the old differential code.

64. A recovery record reports 150 g in one defined stage and 200 g in another. What total recovered mass results?

- A. 350 g
- B. 30000 g
- C. 50 g
- D. 175 g

65. A vehicle is being prepared for a diagnostic road test with connected equipment. What should be established?

- A. Only enough cable length to reach the operator's hand.
- B. Only the technician's familiarity with the route.
- C. Only a charged diagnostic-tool battery.
- D. Authorization and a secure arrangement clear of driving controls.

66. Why must eye protection suit the actual cutting or cleaning task?

- A. A clean workpiece guarantees no material can be released.
- B. The exposure can include propelled particles or released fluid.
- C. Protection eliminates the need to control the source.
- D. Any eyewear establishes identical protection for every exposure.

67. An accessory reads its position correctly when stationary, but movement interrupts the feedback at a damaged flexing connector. Drive commands and motion remain normal. What should be assessed?

- A. A normal feedback path proven by its stationary reading.
- B. The command source as proven absent.
- C. The movement-related position-signal connection.
- D. The motor as proven failed despite normal motion.

68. A pressure gauge meets its known-reference check, but the test hose is blocked and the gauge retains yesterday's reading after connection to a drained system. What should be corrected?

- A. The measurement communication path.
- B. The service limit changed to match the retained reading.
- C. The gauge's scale as necessarily wrong.
- D. The drained system as proven pressurized solely by that display.

69. A circuit test specifies identifying harness-side terminal orientation. What should precede probing?

- A. Use the component-side view without reversing its relationship.
- B. Select a terminal solely because its wire is longest.
- C. Select a cavity solely from connector position in the bay.
- D. Establish the correct connector view and terminal identity.

70. A supply fuse remains intact, but a branch receives no voltage because the fuse-panel output conductor is open. Upstream voltage and the separate load test comply. What is supported?

- A. A normal branch proven by an intact fuse.
- B. A failed load disproved by its independent test.
- C. An absent battery supply disproved by upstream measurement.
- D. A downstream supply-path interruption.

71. A driveline test records three shaft turns in 0.25 second at constant speed. What equivalent rpm results?

- A. 12 rpm
- B. 180 rpm
- C. 720 rpm
- D. 45 rpm

72. What does a network's defined message timing help describe?

- A. A universal physical connector orientation.
- B. When its data is transmitted under the applicable operating design.
- C. The wire route without the applicable connector information.
- D. The payload's numerical accuracy without sensor verification.

73. After a cylinder repair, the specified pressure result improves but still remains below its provided minimum. The work record shows that one confirmed leaking valve path was not corrected. What is outstanding?

- A. The remaining mechanical leakage and final acceptance requirement.
- B. Acceptance from improvement alone.
- C. Acceptance from normal idle sound alone.
- D. Acceptance from newly installed rings alone.

74. What does a gearbox's selected ratio establish in its defined operating state?

- A. The condition of every electrical speed sensor automatically.
- B. The engine's cylinder compression directly.
- C. The universal wheel diameter for every tyre.
- D. The relevant input-to-output speed relationship.

75. An engine assembly procedure specifies measuring the final installed end clearance. What should be used for acceptance?

- A. Only the sum of uninstalled component dimensions.
- B. The prescribed measurement after the required assembly condition is established.
- C. Only the torque wrench's selected setting.
- D. Only the removed assembly's worn clearance.

76. A shared network connector is serviced after water entry. What should final assembly restore?

- A. The specified terminal condition, sealing, and communication arrangement.
- B. Only an unloaded scan response.
- C. Only the external latch.
- D. Only matching the old connector's outside dimensions.

77. An electrical harness is replaced across a section requiring separation from a rotating pulley. What should be established?

- A. Only terminal voltage without verifying the installed route.
- B. Only a stationary powered display.
- C. The required route and protection throughout applicable movement.
- D. Only sufficient connector reach.

78. A heated accessory receives its specified voltage, but its current is absent through a measured open element. Ground and command paths pass their checks. What should be assessed?

- A. A missing positive supply disproved by measurement.
- B. The heating load's continuity and required function.
- C. A normal load proven by terminal voltage alone.
- D. Command replacement despite its accepted test.

79. An optional module is listed as missing by a generic scan selection, but verified build information shows that the vehicle does not contain it. All fitted modules respond correctly. What should be reconciled?

- A. The diagnostic vehicle configuration and expected module list.
- B. Replacement of the absent optional module as a fault.
- C. A universal bus failure despite responding installed modules.
- D. Acceptance of the generic list as exact build evidence.

80. A brake warning indicates an implausible pressure input at rest. The verified hydraulic reference meets the stated released condition, but the input sensor fails its comparison. What should be assessed?

- A. Master-cylinder replacement solely from the input value.
- B. Acceptance because hydraulic pressure is actually normal.
- C. The pressure-measurement function and local path.
- D. A real high pressure disproved by the independent reference.

81. A transmission-speed comparison requires verifying the scan inputs before assessing slip. What should the diagnostic setup establish?

- A. Only the requested gear number.
- B. Only the selector's visible lettering.
- C. Only the gearbox's uninstalled dimensions.
- D. The applicable speed sources and their valid measured behaviour.

82. A hub shows excess play with the specified retention correctly established. Inspection finds its bearing damaged, while the related joint and mounting checks comply. What is supported?

- A. Acceptance because adjacent parts comply.
- B. A fault in the inspected bearing assembly.
- C. Retention adjustment solely from play despite its correct condition.
- D. A fuel-supply fault proven by hub movement.

83. Why must ride-height measurements use the specified vehicle condition?

- A. Wheel steering angle alone defines every height measurement.
- B. Any parked condition gives the same service measurement.
- C. A tyre's load designation replaces every height datum.
- D. Load and reference position affect the measured geometry.

84. One wheel-speed signal has regular disturbances at each revolution. Inspection identifies a damaged target segment and the disturbances align with that segment during the prescribed test. What deserves correction?

- A. A universal controller-software fault.
- B. Acceptance because average road speed is plausible.
- C. The demonstrated target condition.
- D. All wheel sensors regardless of their signals.

85. What does a switch-input measurement establish directly at its test point?

- A. The electrical state observed there under the defined test.
- B. Proof that the accessory moved mechanically.
- C. The physical condition of every body latch.
- D. Proof that every downstream output is correct.

86. A wheel completes 100 rotations with stated rolling circumference 2.1 m and no slip in the calculation. What distance results?

- A. 210 m
- B. 102.1 m
- C. 47.62 m
- D. 21 m

87. A gearbox output rotates according to an independent measurement, but its reported speed remains zero. A required signal wire is open between a working local sensor and the controller. What is supported?

- A. Acceptance from the local sensor alone.
- B. Internal transmission replacement solely from the zero display.
- C. A speed-information delivery fault.
- D. A stationary output shaft disproved by measurement.

88. A stated replacement-circuit model has 2-ohm and 3-ohm resistors in parallel. Using $R = R_1 \text{ times } R_2 / (R_1 + R_2)$, what resistance results?

- A. 6 ohms
- B. 0.8333 ohm
- C. 5 ohms
- D. 1.2 ohms

89. A stated tyre comparison uses nominal sidewall heights 120 mm and 110 mm. What reduction results with the latter value?

- A. 20 mm
- B. 10 mm
- C. 5 mm
- D. 230 mm

90. A power lock does not respond to its switch. The switch signal reaches the controller, but its output conductor is open while the latch passes an independent test. What merits correction?

- A. Acceptance from the controller's request alone.
- B. The latch-drive output path.
- C. Switch replacement despite present input.
- D. Latch replacement despite the successful test.

91. A stated screw has 1.5 mm advance per complete turn. What axial advance results from six complete turns?

- A. 1.5 mm
- B. 36 mm
- C. 9 mm
- D. 4 mm

92. A qualified EV procedure requires restoring an interlock and verifying the final protected boundary. What must be completed?

- A. The complete specified reassembly and actual system checks.
- B. Only installation of a visible outer panel.
- C. Only a cleared diagnostic screen.
- D. Only low-voltage accessory operation.

93. A relative-compression result identifies one low contribution, and a subsequent prescribed pressure test confirms that cylinder below its stated limit. What finding warrants mechanical diagnosis?

- A. A fuel-pressure fault proven by confirmed low compression.
- B. Replacement of the starter solely from one waveform feature.
- C. Acceptance because relative compression is only comparative.
- D. The corroborated deficient cylinder result.

94. A damaged HVAC fan housing is replaced. What should assembly preserve?

- A. The required mounting, running clearance, and affected airflow function.
- B. Only the disconnected motor's historical test.
- C. Only its outside resemblance.
- D. Only the replacement's delivery number.

95. An EV's required thermal pump remains off. Its trained-service test verifies the command, but a disconnected low-voltage feed prevents current; the separate pump test passes. What should be restored?

- A. Pump replacement despite its successful comparison.
- B. Acceptance from a correct command alone.
- C. Traction-cell replacement solely from pump inactivity.
- D. The pump's demonstrated electrical supply path.

96. A blower motor receives the correct supply and ground, but its installed fan rubs a damaged housing and current exceeds the supplied test range. What should be assessed?

- A. A normal fan proven by voltage alone.
- B. The actual mechanical load and affected motor assembly.
- C. A refrigerant shortage proven by housing contact.
- D. A missing supply disproved by measurement.

97. A repaired lamp circuit works, but its conductor remains pinched beneath a panel and fails the prescribed protection check. What is outstanding?

- A. Acceptance from correct terminal numbering alone.
- B. Acceptance from a new wire alone.
- C. The final mechanical installation requirement.
- D. Acceptance from illumination alone.

98. After hub cleaning, the assembled runout now complies, but the required wheel-retention step remains unverified in the completed work. What is outstanding?

- A. Acceptance from cleaned surfaces alone.
- B. Acceptance because the wheel rotates.
- C. Acceptance from corrected runout alone.
- D. The specified final retention and acceptance evidence.

99. A repaired network connector operates normally, but its environmental seal is missing and the original water path remains uncorrected. What is outstanding?

- A. The required protected installation and exposure correction.
- B. Acceptance from immediate communication alone.
- C. Acceptance from the vehicle's dry exterior alone.
- D. Acceptance from a new terminal alone.

100. A misfire remains at one cylinder after ignition parts pass their comparisons. Its injector command is present, but an open local supply prevents current and the independent mechanical test complies. What should be restored?

- A. Mechanical engine repair despite acceptable measurements.
- B. The injector's demonstrated supply path.
- C. Acceptance from the command waveform alone.
- D. Replacement of every ignition part despite their checks.

101. A module's status message is missing even though its supply and ground comply. The approved bus test finds its local branch open while the trunk and peers remain active. What should be assessed?

- A. The entire trunk as necessarily open.
- B. Replacement of every active peer module.
- C. The local communication branch.
- D. Acceptance from adequate power alone.

102. An EV charger refuses operation while its recorded prerequisite status is absent. The approved non-high-voltage input test finds that status wire open, and the compatible supply passes its checks. What should be assessed?

- A. Battery replacement solely from refusal.
- B. The identified charging prerequisite signal path.
- C. Supply replacement despite its accepted comparison.
- D. Acceptance because the cable connector fits.

103. A stated ring-gap adjustment requires 0.30 mm and currently measures 0.22 mm. What increase is calculated?

- A. 0.08 mm
- B. 0.04 mm
- C. 0.22 mm
- D. 0.52 mm

104. A cabin-temperature value is implausible with a stable verified room condition. The sensor signal changes only when a loose terminal is moved, and the circuit inspection fails there. What is indicated?

- A. A real rapid cabin change disproved by comparison.
- B. Acceptance because the cabin physically feels normal.
- C. A local temperature-input connection fault.
- D. Refrigerant addition as proof of sensor recovery.

105. A scan-tool update changes displayed units. What should a technician do before using the readings for acceptance?

- A. Treat an updated display as proof of changed vehicle condition.
- B. Use the largest displayed number as the reference.
- C. Retain the earlier numerical limits without checking units.
- D. Confirm the units and applicable parameter definition.

106. A driveline noise started after an incorrect fluid was installed. Correct quantity and temperature checks pass, but the record confirms the fluid is excluded by the unit specification. What remains unresolved?

- A. Acceptance from the warm level result alone.
- B. A guaranteed need for total unit replacement without diagnosis.
- C. The actual lubricant suitability and required disposition.
- D. Acceptance from correct quantity alone.

107. An HVAC repair corrects a housing rub and current now complies, but the required air-temperature control still fails because its known detached link remains uncorrected. What is outstanding?

- A. Acceptance from the new housing alone.
- B. The separate control-link fault and final function verification.
- C. Acceptance from successful fan rotation alone.
- D. Acceptance from current recovery alone.

108. For a stated tyre model, nominal sidewall height=section width times aspect percentage/100. Width is 200 mm and aspect is 60%. What height results?

- A. 120 mm
- B. 200 mm
- C. 333.33 mm
- D. 60 mm

109. A stated electrical energy balance has 12 kWh input and 2 kWh losses. What useful output energy results?

- A. 6 kWh
- B. 24 kWh
- C. 14 kWh
- D. 10 kWh

110. A purge-valve replacement requires confirming both control and closed-path sealing. What should final testing cover?

- A. Only whether the valve clicks once.
- B. Both the specified command response and required flow states.
- C. Only the former code's cleared status.
- D. Only whether the connector fits.

111. A cooling complaint includes a valid command but no condenser-fan movement. The motor passes its test, while its prescribed ground check fails at a disconnected attachment. What should be restored?

- A. The fan's demonstrated ground path.
- B. The compressor solely from absent fan motion.
- C. Acceptance from the command alone.
- D. The motor despite its successful comparison.

112. A body-control output passes its test, but the reported door state disagrees with physical inspection at a sensor whose mounting slipped. What is indicated?

- A. Controller-output replacement despite its accepted result.
- B. A battery-capacity defect proven by mounting movement.
- C. A position-sensing installation fault.
- D. Acceptance from the door's physical closure alone.

113. A tyre-pressure warning follows wheel service. A verified pressure gauge meets the vehicle's requirement, but the installed sensor identification does not match the required configuration record. What should be reconciled?

- A. Acceptance because the gauge is accurate.
- B. Brake-sensor replacement solely from the pressure warning.
- C. Inflation change despite correct measured pressure.
- D. The sensor identity and applicable system setup.

114. A ground-wire replacement requires a specified contact location on the body. What should be restored?

- A. Only a reading from an unrelated ground point.
- B. Any nearby fastener that accepts the terminal.
- C. Only the new wire's nominal length.
- D. The approved attachment, surface preparation, and electrical check.

115. An engine loses coolant with no visible external leak. The prescribed internal test identifies fluid communication through a separate cooler, while cylinder sealing checks comply. What should be addressed?

- A. An ignition-coil fault proven by fluid communication.
- B. Acceptance because the external surfaces are dry.
- C. The demonstrated cooler boundary fault.
- D. Head-gasket replacement solely from coolant loss.

116. A lighting output is commanded off, but its relay contacts remain conducting and fail the specified release test. The control coil command follows the required states. What merits correction?

- A. The bulb as the proven cause of contact retention.
- B. The relay's switched-path release fault.
- C. A normal relay proven by coil response.
- D. The control input despite its accepted states.

117. In a stated AC traction-motor architecture, what is the inverter's principal electrical role?

- A. Convert the supplied DC into the required AC drive.
- B. Convert one DC level only into another DC level.
- C. Store energy chemically inside the traction cells.
- D. Convert grid AC directly into charging DC.

118. A communication reset coincides with a module supply falling below its given limit. Bus activity stays valid and the power fault is reproduced at its fuse contact under load. What should be corrected?

- A. The active bus solely from the reset.
- B. Every sensor on the vehicle.
- C. A normal fuse contact proven by idle voltage.
- D. The module's demonstrated supply connection.

119. A replacement network module supports the vehicle only with a specified software package. What should service verify?

- A. Applicable software and configuration checks.
- B. Only the former module's stored identifier.
- C. Only the file's successful download.
- D. Only mechanical connection without software applicability.

120. A network fault persists after an incorrect module is removed. The approved test still finds water-induced bridging in its shared connector. What remains unresolved?

- A. A normal connector proven by a cleared message.
- B. Replacement of every intact conductor.
- C. The physical connector contamination and required restoration.
- D. Acceptance from module removal alone.

121. In a stated ideal series circuit, what relationship applies to current through its consecutive components?

- A. Each component automatically receives an unrelated current.
- B. The same current passes through the series path.
- C. Current divides equally at every component without a branch.
- D. Current is determined only by the component's outside size.

122. A body-accessory repair restores input and motor motion, but the required closing limit still fails because its known displaced stop remains. What needs correction?

- A. Acceptance from a cleared-code report alone.
- B. Acceptance from restored input alone.
- C. Acceptance from motor operation alone.
- D. The final mechanical limit and affected verification.

123. After transmission service, the mechanical repair passes inspection but the required connector-retention check fails and its signal interrupts when moved. What is still deficient?

- A. Acceptance from one stationary shift alone.
- B. Acceptance from correct component identity alone.
- C. The restored electrical connection's actual security.
- D. Acceptance from the mechanical result alone.

124. A hybrid temperature warning appears with normal independently measured temperature. Its reporting input fails the prescribed comparison at a damaged connector, while the cooling function complies. What is supported?

- A. Battery replacement solely from the warning.
- B. A thermal-measurement connection fault.
- C. Cooling-pump replacement despite its accepted function.
- D. A real overtemperature disproved by the independent test.

125. A stated injector pulse lasts 3 ms in a defined 20 ms period. What duty percentage results?

- A. 15%
- B. 85%
- C. 6.67%
- D. 60%

Practice Exam 8: Answer Key and Explanations

1. B — The change must deliver the required information across the actual networks, not merely leave the gateway available on a scan. Verify messages at their intended destinations and associated functions. Menu closure and cleared history cannot demonstrate correct routing of the final operating arrangement.

2. A — The actual high pressure and obstructed regulator path identify a relevant fuel-control condition. Correct and verify it through the specified method. An accurate sensor can report a real fault, and successful air checks do not make pressure beyond the provided service limit acceptable.

3. D — The independent pressure varies, while the input fails to represent that change despite adequate supporting circuits. Diagnose the sensor and local signal arrangement under the procedure. A stable reading does not prove a stable physical condition when its response test is demonstrably incorrect.

4. B — The shared path can influence several inputs, so verify the circuit and relevant signals defined by the actual diagram. One corrected display does not automatically establish every affected input. Identification and appearance cannot demonstrate the final loaded reference condition of the repaired connection.

- 5. C** — The affected readings share a reference path that fails its check, providing a common electrical explanation. Correct and verify that circuit before condemning several sensors. Independent physical readings reduce support for interpreting every implausible input as an actual temperature condition.
- 6. A** — The repair restores a common supporting circuit whose actual consumers must meet their specified checks. One plausible parameter cannot establish every connected input. Verify the identified group under relevant conditions rather than accepting from appearance or one start that does not reproduce the fault.
- 7. C** — The line needs suitable service material and a protected installed route. Correct pressure rating does not establish clearance from heat, and reaching the ends does not ensure secure support. Restore the applicable shields and restraints and verify the complete assembly before acceptance.
- 8. B** — The circuit must deliver its required current and produce the relevant heating function under the prescribed test. A secure connector and suitable part identity are not the complete result. Code clearing cannot demonstrate thermal response of the actual installed element.
- 9. D** — The unit can provide its required function on a verified supply, while the installed hose fails integrity. Repair and verify that connection under its actual conditions. Fluid quantity and wheel-speed data do not establish a sealed input path for the assist mechanism.
- 10. C** — The release system cannot provide its required motion because its installed seating is incorrect. Restore and verify it before attributing the complaint to the selector or downstream differential. Suitable new parts do not establish correct assembly or sufficient travel of the completed release path.
- 11. B** — The prescribed orientation belongs to the complete assembly requirement, even when another position appears to fit. Record and restore it as directed. Bolt engagement, mass, and outside dimensions cannot independently establish equivalence of a different indexed relationship in the repaired driveline.
- 12. A** — Input impedance affects how much the instrument draws from the measured circuit under the applicable conditions. It does not establish overall accuracy, correct connection, or safe probing by itself. Select the suitable equipment and complete the specified setup rather than treating one property as universal validity.
- 13. D** — The source value is current while the gateway does not transmit the required update to its destination. Correct and verify that routing configuration. Individual communication establishes participation but not delivery of the correct message or freshness of every received parameter.
- 14. B** — The cover is part of the restored protective arrangement and must be fitted as specified. It does not establish energy removal or internal electrical integrity by itself. Trained personnel still follow the actual vehicle's required isolation, measurement, and verification procedures for the work boundary.
- 15. D** — The hose must suit its actual fluid or pressure service and remain protected in its installed route. Restore the specified connection and support details. Outside size and flexibility do not establish complete compatibility or integrity, and wheel geometry cannot validate the repaired assist boundary.

- 16. A** — The bracket must carry and locate its components correctly in the installed assembly. Verify its retention and applicable movement rather than judging only appearance. Repair duration and an engine idle cannot establish the suspension connection's mechanical performance under its required service conditions.
- 17. C** — The prescribed travel test measures what reaches the release mechanism under a defined setup. Record that relationship for comparison with its requirement. Visible pedal movement and reservoir quantity do not establish sufficient actuator travel through the actual hydraulic and mechanical path.
- 18. B** — Apply the supplied circle relation: 3.14 times 40 squared divided by four gives 1256 square millimetres. Diameter is not radius, so omitting the division by four would overstate the area. The value describes the given geometry, not complete brake force without a pressure and design basis.
- 19. C** — The replacement must match the actual retention design and complete tightening requirements. Length and tool fit establish limited geometry, not material or locking suitability. An additional washer cannot automatically provide an approved alternative to the fastener specified for the repaired brake assembly.
- 20. A** — Integrity addresses leakage or assembly condition, while function establishes the required response of the installed system. Both belong to the actual service method. A dry fitting and unrelated vehicle measurements cannot substitute for the applicable brake operating checks after repair.
- 21. D** — The command does not reach its intended terminal because the replacement harness is incorrectly assigned. Reconcile and verify that connection under the service method. Supply voltage establishes another necessary condition but cannot compensate for a control conductor connected to a different circuit.
- 22. B** — The failed terminal interrupts actual power while the required command and motor capability remain established. Correct and verify the connection under the relevant load and movement. Intermittent operation cannot be accepted merely because the circuit worked during another attempt.
- 23. A** — The support contributes to the installed shaft's position and load path. Complete its specified attachment and clearances as well as the end connections. Length and one replaced fastener cannot establish suitable support throughout the complete driveline assembly's required movement.
- 24. D** — Divide the stated angular travel by elapsed time: 90 divided by 0.6 equals 150 degrees per second. The supplied constant-rate assumption defines this example. Its acceptance depends on the actual accessory test requirements, not a universal rate inferred for every wiper mechanism.
- 25. C** — Divide the stated 250 ms span by the five complete periods to obtain 50 ms each. The question defines intervals, not only a count of message events. Interpreting the count correctly prevents confusing the number of timestamps with the number of measured update periods.
- 26. A** — The sequential reductions multiply to 6:1. Divide 2400 rpm by six to obtain 400 rpm final output under the stated no-slip assumption. Adding ratios or multiplying input speed by the reductions would describe a different relationship from the supplied arrangement.

- 27. B** — The input represents the physical condition at its actual sensor location and must be interpreted accordingly. One reading cannot establish every outlet's condition or refrigerant mass. Compare it with the applicable independent measurement and system relationships before identifying another component as faulty.
- 28. D** — The connector is part of the restored transmission control arrangement and needs correct internal and external assembly. A closed housing does not prove terminal engagement or circuit function. Verify the applicable paths after service rather than accepting solely from appearance or historical position.
- 29. C** — The corrective method must establish the actual final fluid condition and assess the relevant complaint. A replacement record does not itself verify operation or removal of incompatible retained material. Follow the prescribed quantity, preparation, and test conditions for the installed unit.
- 30. A** — The sensor's reference must match the actual mechanism so its report changes correctly with door position. Restore that mounting and verify its response. Motor operation and erased status do not establish correct sensing geometry or reliable information in the final installed arrangement.
- 31. D** — The system uses its defined sensing and hydraulic control to manage wheel-locking tendency during braking. It does not directly maintain suspension height or engine fuelling. Diagnose the actual brake-control inputs and response rather than treating one warning as proof of every mechanical brake condition.
- 32. C** — The mechanical pressure deficiency is paired with out-of-range internal clearances under the relevant hot condition. Assess those components and the complete lubrication path through the procedure. Correct oil quantity cannot make deficient mechanical measurements acceptable, while a sender cannot restore actual oil pressure.
- 33. B** — The actual build requires the function and its connector is demonstrably not installed. Complete the applicable restraint-service restoration and checks. Mechanical fit and a generic description cannot override verified equipment information or establish acceptable operation of an unconnected required input.
- 34. A** — Apply the supplied model: $0.020 \text{ times } 3 \text{ divided by } 2 \text{ equals } 0.030 \text{ ohm}$. The given material parameter and dimensions define this example. Actual connection losses and temperature effects are not included, so the result is not proof of a complete vehicle circuit's measured resistance.
- 35. D** — The fault appeared with connector movement, so verify the repaired input under that relevant condition as well as its prescribed temperature comparison. A static message check cannot establish contact reliability. Blower speed measures another function and does not validate the repaired sensing path.
- 36. B** — The damaged contact must be restored with the specified terminal and retention, then checked under the relevant demand. Unpowered continuity can miss a remaining current-delivery deficiency. Relay identity and exterior shape do not establish suitable contact behaviour at the repaired interface.

- 37. C** — The electrical repair establishes its tested actuation condition, while the disturbed seal remains a separate demonstrated boundary fault. Correct it and repeat the required integrity checks. Current and command cannot prove tightness where the final installed connection visibly fails its leak test.
- 38. A** — The purge arrangement transfers stored vapour into the engine under the applicable control conditions. Its function can affect mixture but does not directly measure injector flow or control braking. Evaluate the actual valve, lines, commands, and operating state rather than inferring operation from one code alone.
- 39. C** — The repair must deliver the intended command and electrical power through the installed route to the latch. Verify actual operation using the applicable method. Continuity establishes a path at its test condition but cannot alone prove the complete accessory responds correctly in service.
- 40. B** — The reversed taps change the pressure relationship presented to an otherwise verified sensor. Restore and test the specified connections before interpreting restriction. Hose fit does not identify the intended side, and a sign error alone cannot establish that the filter itself requires replacement.
- 41. D** — The installed angle fails a stated requirement and the relevant test exposes the complaint. Reconcile geometry and component condition through the applicable method. A smooth uninstalled check cannot establish operation under a different installed load and angular relationship.
- 42. A** — The short occurs at the actual installed restraint and reproduces the communication complaint. Correct and protect the harness under its approved route. A bench pass without the clamp condition cannot establish the final assembly's electrical integrity through that physical exposure.
- 43. D** — Subtract the second stated pressure from the first: 7.0 minus 4.5 equals 2.5 MPa. The comparison is meaningful only with the defined locations and operating condition. A pressure difference alone is not a universal fault criterion without the relevant design and service requirements.
- 44. C** — The connector loses required supply under the relevant demand despite a capable motor and valid input. Repair and verify the feed path before another disposition. A steering command cannot make the motor operate correctly through an electrical connection that fails its loaded requirement.
- 45. B** — The device acts within the lubrication system to influence its pressure condition under the design. Its operation must be assessed with oil supply, temperature, clearances, and the actual procedure. Regulating action must be distinguished from oil filtration, storage, and the mechanical dimensions of bearings.
- 46. A** — Multiply the supplied voltage by current: 14 times 4.5 equals 63 W. This reports electrical input at the defined point. Mechanical or thermal output cannot be assumed identical without additional efficiency information, and circuit acceptance still uses the relevant component requirements.
- 47. D** — Multiply the supplied fraction 0.75 by 360 degrees to obtain 270 degrees. This converts a stated instruction's angle without defining its preceding torque or component applicability. Actual tightening must follow the complete vehicle-specific procedure and the required tools and assembly conditions.

- 48. C** — The repair must restore the identified boundary and prepare both affected circuits as required. Correct mounting fit does not establish separation of the fluids. An initial warning-free start cannot demonstrate that the leakage path or contamination consequences were fully corrected.
- 49. A** — The installed route creates contact within the required steering range despite a static integrity pass. Correct and verify the whole movement envelope. Pressure suitability and straight-ahead clearance cannot establish mechanical protection of the hose at the demonstrated full-lock position.
- 50. B** — The connection must maintain integrity under the prescribed operating conditions and deliver the required release motion. Reservoir level, correct identity, and pedal return establish other observations. None replaces the specified test of the newly disturbed hydraulic boundary.
- 51. B** — Divide the supplied voltage by resistance: 400 divided by 1000 equals 0.4 A. The question defines an ideal arithmetic model rather than an energized service operation. Actual high-voltage testing uses the vehicle's permitted qualified procedure, boundary controls, and equipment requirements rather than this calculation alone.
- 52. D** — The reproduced movement and failed retention identify a specific mechanical connection relevant to the noise. Restore and verify it under the procedure. Passing shock operation and normal height establish other conditions but cannot secure a loose support attachment.
- 53. C** — The loose base compromised the original reference, while the corrected arrangement is verified and repeatable. Use that valid result with its conditions recorded. Averaging an unsupported reading with a valid one cannot restore the missing measurement basis or establish a meaningful component value.
- 54. D** — Opening requires control of the actual contents and energy as well as a suitable destination for any release. Follow the system-specific preparation. Slower removal and a nearby container do not establish compatibility, capacity, or protection against the identified fluid exposure.
- 55. B** — Multiply the stated voltage difference by current: 0.7 times 30 equals 21 W at the test condition. This quantifies electrical power associated with that loss. It does not independently establish a permissible temperature or voltage-drop limit for the actual connection without its service criterion.
- 56. A** — The separate disc result does not describe the plane created by the contaminated mounting interface. Correct and verify the final assembled runout. A new component cannot establish suitable geometry when its underlying seating condition still fails the required inspection and measurement.
- 57. C** — Actual inflation and electronic association are separate requirements. Complete the specified identification procedure and verify the affected system. A sound mounting and correct gauge reading do not demonstrate that the vehicle recognizes the intended sensor or reports the correct wheel's information after service.
- 58. B** — The closed valve prevents the gauge from directly representing the section to be opened. Verify and control the actual work-side volume through the prescribed procedure. A zero reading elsewhere cannot establish that this retained section has been drained or relieved of its relevant energy.

- 59. C** — The repaired input must accurately represent its physical temperature and support the specified system response. Complete the applicable qualified-service verification. Mechanical fit and a working cabin accessory do not demonstrate correct feedback or performance of the affected thermal arrangement after repair.
- 60. A** — The localized correction changes the reproduced complaint while the internal comparisons remain compliant. Document and verify the support repair rather than selecting an overhaul from noise alone. The result supports the identified contribution without proving every possible operating condition has been tested permanently.
- 61. D** — Multiply the supplied mass flow by useful energy per mass: 0.01 times 300 gives 3 kJ/s, or kW. The properties are given explicitly for this calculation. They do not define a universal refrigerant condition or replace the actual vehicle's required pressure and temperature testing.
- 62. C** — The isolation result and independent test corroborate a fault associated with the accessory. Correct it and verify the final installed sleep condition. Normal current with a component removed is diagnostic evidence rather than acceptance of the vehicle with its required accessory function still unaddressed.
- 63. B** — The hoses must connect to the intended pressure points, and the resulting signal must represent the actual operating relationship. Attachment alone does not establish identity. A cleared code cannot demonstrate correct differential behaviour after a connection arrangement was changed.
- 64. A** — Add the two recorded stage quantities to obtain 350 g. This is the collected mass under the supplied recording basis, not a universal recharge target. The final system preparation and specified charge must still follow the actual vehicle's service method and starting condition.
- 65. D** — The test must be authorized and equipment positioned so it cannot obstruct pedals, steering, or visibility. Use the workplace's applicable recording or second-technician method. Tool power and route familiarity do not establish a safe setup for handling diagnostic information while the vehicle moves.
- 66. B** — Select protection for the actual material and release mechanism while controlling the operation itself. A clean surface can still produce debris or fluid during work. Eyewear selection does not eliminate the need for suitable workholding, pressure preparation, guards, or other required source controls.
- 67. C** — The fault appears in the feedback connection during the actual motion range, not in the working drive. Repair and verify that signal through movement. A static correct value cannot establish continuous position information when the connector fails under its required service condition.
- 68. A** — The instrument can respond correctly to its reference while a blocked hose isolates it from the current system. Restore the test path before interpreting the retained indication. A calibrated gauge does not establish communication through every accessory used in its field setup.
- 69. D** — The view determines how the identified cavities correspond to the actual side being tested. Reconcile that orientation before connecting equipment. Bay position and wire length do not identify the circuit, and an opposite view can place an otherwise correct number on the wrong physical terminal.

- 70. D** — The intact fuse does not establish continuity of the conductor after it. Restore and verify the demonstrated open branch. The upstream and load comparisons localize the problem rather than proving a battery or component failure from absent voltage at the remote point alone.
- 71. C** — Three turns divided by 0.25 second gives 12 turns per second. Multiply by 60 to express 720 rpm. The timing is supplied in seconds, so its unit conversion must be included before comparing with an rpm service parameter.
- 72. B** — The timing describes the traffic's scheduled or observed behaviour within the actual communication design. It does not identify unrelated component material or mechanical conditions. Use the relevant network and operating state when judging missing or delayed messages rather than assuming one universal timing for all vehicles.
- 73. A** — Improvement does not establish compliance when the cylinder still fails its stated requirement and a known leakage path remains. Complete the approved correction and repeat verification. Replacing one component cannot make the uncorrected valve boundary acceptable or substitute for the final pressure criterion.
- 74. D** — The selected gear determines a speed relationship within the gearbox's design. Actual operation and signals must still be checked when diagnosing a discrepancy. Ratio information does not measure cylinder sealing or prove sensor accuracy merely because the controller requests that gear.
- 75. B** — The final clearance belongs to the installed relationship under the procedure's defined state. Component dimensions can guide selection but do not replace required final measurement. A reached torque and a historical worn value cannot independently establish the delivered assembly's accepted fit.
- 76. A** — The connector must maintain its intended electrical contacts under the actual environmental exposure. Restore sealing and required terminal features as well as communication. An outer latch and one response cannot establish that water protection or internal contact integrity has been preserved after the repair.
- 77. C** — The final harness must remain protected in its actual movement and rotating-part environment. Restore the specified clearances and support. Connector reach and one powered result cannot demonstrate that the route avoids the pulley when the assembly moves under service conditions.
- 78. B** — The element cannot carry current through the demonstrated opening despite suitable supporting circuits. Repair or disposition the load according to its method and verify heating. Voltage at the terminal does not prove an intact element or delivered thermal output.
- 79. A** — The vehicle's verified equipment does not include the optional module, so its absence is not evidence of a missing installed function. Correct the scan applicability and expected list. A generic selection cannot establish that every possible module belongs on the actual vehicle.
- 80. C** — The physical condition is independently correct while the sensor does not represent it. Diagnose the input and supporting connections under the brake-system procedure. A normal actual pressure does not validate inaccurate feedback, and the reported value alone cannot prove a master-cylinder defect.

- 81. D** — The ratio assessment uses actual speed information, so identify and verify the signals that enter it. A command does not validate measured rotation. Confirm the relevant sources and test conditions rather than condemning mechanical engagement from an implausible or incorrectly selected parameter alone.
- 82. B** — The play remains under the correct assembly state and a damaged bearing is directly identified. Assess and disposition it through the service method. Passing related components narrows the investigation but cannot make the affected bearing acceptable or establish an unrelated engine cause.
- 83. D** — Height must be measured from the defined points under the stated load and setup so the service comparison is valid. Another parked condition can change that relationship. Tyre suitability is relevant to the vehicle, but does not replace the actual height-measurement reference.
- 84. C** — The disturbance repeats at the physical defect's location, providing a specific target-related explanation. Correct and verify that assembly under its service requirements. A plausible average value can hide local signal errors and does not establish integrity of every pulse used by the control system.
- 85. A** — The measurement describes that input point and operating condition. It must be correlated with the actual command path and resulting mechanism when diagnosing a feature. A valid input alone cannot demonstrate current delivery, linkage movement, or feedback through every later stage of the system.
- 86. A** — Multiply the number of rotations by distance per turn: 100 times 2.1 equals 210 m. The given rolling circumference and no-slip assumption define the result. Actual motion analysis must use appropriate vehicle conditions rather than substitute a different nominal tyre dimension without verification.
- 87. C** — The independently verified rotation and local sensor output show that the missing information is not proof of a stopped output. Restore and verify the open signal path. A correct source signal cannot reach the controller through an interrupted conductor.
- 88. D** — Apply the explicitly supplied parallel relation: 2 times 3 divided by their sum 5 gives 1.2 ohms. Adding would describe a series arrangement instead. The ideal model excludes other components and connection losses, so it does not establish every real vehicle circuit's total measured resistance.
- 89. B** — Subtract the latter 110 mm dimension from 120 mm to obtain 10 mm reduction in the stated sidewall comparison. This is not a direct calculation of ride-height change or loaded rolling radius. Component selection must still satisfy the actual vehicle's fit and service requirements.
- 90. B** — The required input is available and the latch can operate, while the identified output interruption prevents delivery between them. Restore and verify that path. A controller request does not establish power at the load through an open conductor.
- 91. C** — Multiply the supplied advance per turn by the six complete turns: 1.5 times six gives 9 mm. The relation is expressly defined for this calculation. Actual repair must use the specified component and assembly method rather than infer thread travel for an unidentified mechanism.

- 92. A** — The interlock and boundary form part of the vehicle's required restored condition after service. Complete the prescribed checks using the applicable equipment and qualifications. An outer panel and ordinary accessory function establish other observations and cannot verify all affected high-voltage protection or operation.
- 93. D** — The follow-up pressure test independently confirms the cylinder's deficiency instead of relying on relative comparison alone. Continue the specified mechanical tests to locate its sealing or timing cause. Comparative evidence has limits, but corroboration cannot be ignored merely because the first method did not measure absolute pressure.
- 94. A** — The fan must operate without unintended contact in its installed housing and provide the required airflow. Complete the mounting and clearance checks. A sound detached motor and similar outer shape cannot establish that the final combined assembly turns freely under its actual service condition.
- 95. D** — The pump can operate under the approved comparison, but its installed supply is incomplete. Restore and verify the feed and thermal function through the vehicle procedure. A control request does not establish current or coolant circulation through a disconnected supporting path.
- 96. B** — The contact imposes a physical load consistent with the excessive current under otherwise suitable electrical conditions. Assess and correct the assembly under its procedure. Correct voltage does not demonstrate free fan movement, and the finding does not establish a refrigerant-charge fault.
- 97. C** — Illumination establishes a present electrical path, while the pinched conductor fails a separate service requirement. Correct routing and verify panel movement or fit as applicable. New material and accurate terminal identity cannot make the demonstrated mechanical exposure acceptable for return to service.
- 98. D** — Geometry and wheel retention are separate parts of the completed repair. Finish and verify the required securing method before acceptance. A freely rotating and correctly seated assembly can still lack evidence that its connection meets the actual service retention requirement.
- 99. A** — The electrical path currently works while its specified environmental protection is incomplete. Restore the seal and address the identified water source. Immediate communication and a dry outside surface cannot establish suitable internal protection against the exposure that caused the previous connector fault.
- 100. B** — The current path is incomplete at the injector even though a command is available and mechanical checks pass. Restore and verify the supply before further component disposition. A displayed or measured command cannot make an unpowered injector deliver its required electrical and fuel function.
- 101. C** — The supporting circuits are suitable, but the branch lacks its required communication path. Restore and verify that local route before blaming active peers or the complete trunk. Correct module power does not establish that its data can reach the vehicle network.

- 102. B** — The missing prerequisite is tied to a specific open input rather than an inadequate external supply. Restore and verify it using the vehicle's qualified-service method. Physical connector fit cannot establish correct status information, and refusal alone does not prove a traction-battery defect.
- 103. A** — Subtract measured gap from the supplied target: 0.30 minus 0.22 gives 0.08 mm increase. Use the actual component's permitted adjustment and final verification method. The arithmetic does not authorize modifying a ring or applying this target to another engine without its own specification.
- 104. C** — The independent condition and reproduced terminal effect localize the inaccurate input to its connection. Correct and verify the path before treating the display as a real thermal change. Normal cabin conditions do not establish reliable feedback to the controller when the local circuit fails.
- 105. D** — The updated tool may express the same physical value differently. Confirm its units and definition before comparison with the actual service requirement. A software display change does not itself alter the vehicle or authorize use of an unconverted numerical limit from the former setup.
- 106. C** — The fluid's suitability fails a requirement separate from quantity and level conditions. Follow the prescribed corrective disposition and investigate damage as warranted. The mismatch cannot be accepted from those other checks, but it also does not independently prove that every internal component requires replacement.
- 107. B** — The housing repair resolves one measured condition while a confirmed link fault leaves the required air-control function incomplete. Correct and verify that path. Normal motor current and fan movement cannot establish that the temperature-control mechanism receives and follows its intended motion.
- 108. A** — Apply the relation supplied for the nominal model: 200 times 60 divided by 100 gives 120 mm. This geometric calculation is not a measurement of loaded rolling radius. Actual tyre suitability and fit still follow the vehicle's applicable component and installation requirements.
- 109. D** — Subtract the stated loss from input: 12 minus 2 gives 10 kWh useful output. The quantities are explicitly defined for this balance. They do not assert a universal charging efficiency or battery-health value, and power would require a separate elapsed-time basis.
- 110. B** — The valve must follow the intended control and provide the required sealing or flow under the stated conditions. Audible activity confirms neither every flow state nor boundary integrity. Complete the applicable tests instead of accepting solely from connector fit or message clearing.
- 111. A** — The motor can operate with the appropriate test arrangement, but the installed ground path is missing. Restore and verify that connection and its required cooling response. A command cannot supply current through an incomplete return circuit or prove a compressor defect from fan inactivity.
- 112. C** — The slipped sensor no longer has its required relationship to the door, explaining incorrect state information despite a functional output. Restore and verify the measurement arrangement. Physical closure does not validate feedback, and the identified mounting fault cannot establish a battery-storage cause.

113. D — The actual tyre pressure meets the requirement while the system's installed identification is inconsistent. Correct and verify that configuration under the applicable procedure. A credible gauge measures pressure, not whether the controller associates the correct sensor with the intended wheel.

114. D — The specified location contributes to the circuit's intended return relationship and protective assembly. Restore its preparation and verify the actual path. A nearby fitting point or another ground's result cannot establish equivalent condition of the connection being repaired.

115. C — The internal test locates the connected fluid path at the cooler rather than demonstrating a cylinder seal failure. Correct and verify that boundary under the applicable method. Dry exterior surfaces do not establish internal integrity, and the broad coolant-loss symptom alone cannot name the head gasket.

116. B — The coil control operates as specified while the contacts do not release the load path. Correct and verify that relay function. An accurate command cannot demonstrate actual isolation at the contacts, and an illuminated bulb does not itself explain the failed contact-release test.

117. A — The inverter provides the AC drive required by the specified motor arrangement from its DC source. Chemical storage and DC-level conversion are separate functions. Diagnose the actual architecture and supporting paths rather than using a generic component name to infer every vehicle's electrical design.

118. D — The loaded supply failure provides a localized supporting-circuit fault at the reset condition. Repair and verify the fuse contact before condemning communication components. A satisfactory idle reading cannot establish current delivery through the same path when the module demands operating power.

119. A — A downloaded file is not necessarily the correct package for the actual vehicle and equipment. Verify applicability and required settings under the procedure. Mechanical fit and download completion cannot establish the intended message relationships or affected system operation of the installed module.

120. C — Removing the unsuitable module addresses one issue but leaves a measured shared connection fault. Restore that physical boundary and verify the installed network. A cleared display and removed component do not eliminate a conductive bridge that remains in the actual communication path.

121. B — A series path has no branch at which the current divides, so the same current flows through its consecutive components under the stated ideal model. Voltage differences can vary between components. Do not confuse those voltage drops with separate parallel-path currents.

122. D — The electrical repair completes some functions, while the displaced stop prevents the required final mechanical condition. Correct and verify that limitation. A working motor and command cannot establish suitable travel or closure when the actual endpoint remains outside the specified assembly requirement.

123. C — The connector demonstrates an intermittent electrical fault that remains outside the accepted mechanical repair. Restore retention and verify through the relevant movement. A stationary shift may not expose the condition that the final inspection and signal test already identified.

124. B — The physical measurement and cooling checks distinguish actual thermal behaviour from the inaccurate input. Correct and verify the identified sensing connection. A warning indicates a monitored condition but cannot independently prove battery damage when its reporting path demonstrably fails to represent the real temperature.

125. A — Divide the on-time by the full period and multiply by 100: 3 divided by 20 times 100 equals 15 percent. This computes the stated duty relationship. It does not directly establish delivered fuel mass without pressure, flow behaviour, and the applicable injector characteristics.