

PRACTICE EXAM 18: 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 supplied charge is 650 g. The verified service process records 0.60 kg added. What additional mass reaches the target, in grams?

- A. 1,250 g.
- B. 50 g.
- C. 0.05 g.
- D. 650.6 g.

2. A transmission temperature sensor is replaced and reads accurately, but actual cooling performance still fails its supplied test. What remains?

- A. Changing the displayed units to conceal heat.
- B. A second sensor without supporting evidence.
- C. Acceptance from corrected indication alone.
- D. Resolve the real thermal fault and verify operation.

3. An engine's cylinder contribution is low, but compression and spark checks pass. The prescribed inspection finds one intake actuation mechanism stuck below its required movement. What should be assessed?

- A. A higher coolant concentration as valve movement.
- B. Engine overhaul from contribution alone.
- C. The affected air-entry mechanism and valve operation.
- D. Replacing all passed ignition parts.

4. An actuator does not move when requested normally. Its approved local test works, and the controller correctly withholds command because a required vehicle-state input is invalid. What should be diagnosed?

- A. Permanent bypass of the required state.
- B. The invalid input and normal permissive path.
- C. Immediate actuator replacement despite demonstrated function.
- D. A stronger motor fuse as input correction.

5. A diesel no-start follows filter service. The approved test finds air entering at an incorrectly assembled suction-side seal, while the required electrical command is present. What needs assessment?

- A. The identified inlet sealing and fuel-supply condition.
- B. An engine-controller replacement from no-start alone.
- C. Injector coding as inlet-boundary repair.
- D. More cranking to force the incorrect seal shut.

6. A source node remains healthy, but several receivers lose its information because a prescribed test finds their gateway output path open. Other gateway paths work. What is supported?

- A. The localized output connection needs repair and verification.
- B. All gateway functions are necessarily dead.
- C. A new battery as data-conductor repair.
- D. Every source sensor is proved defective.

7. A supplied EV auxiliary heater uses a constant 4 kW for 30 minutes. What energy is consumed under that model?

- A. 0.133 kWh.
- B. 2 kWh.
- C. 120 kWh.
- D. 8 kWh.

8. An invalid vehicle-state input is repaired, but an associated connector's locking feature remains broken. What must be completed?

- A. Permanent tape as universal connector qualification.
- B. Acceptance from one valid signal reading.
- C. Changing the input threshold to ignore disconnection.
- D. Restore approved retention and verify the full input path.

9. A loose blower wheel is repaired. What should checks verify?

- A. Only one audible speed change.
- B. Deleting the housing clearance requirement.
- C. Specified retention, free rotation and delivered airflow.
- D. Only the motor's electrical current.

10. A supported vehicle is stable before a heavy assembly is removed, but the removal changes its balance and the approved support assessment is incomplete. What is required?

- A. Complete removal faster to reduce exposure time.
- B. Use the detached part as an improvised prop.
- C. Verify the altered load distribution and required support.
- D. Assume the initial stable condition remains identical.

11. A supplied nominal tire model has 225 mm width and sidewall height equal to 60% of that width. What nominal sidewall height results?

- A. 375 mm.
- B. 22.5 mm.
- C. 1,350 mm.
- D. 135 mm.

12. A gear-contact setup is corrected. What should final verification include?

- A. A warning-free scan as complete mechanical proof.
- B. All required pattern, clearance, bearing and operating checks.
- C. Only filling lubricant to any visible level.
- D. Only one favourable tooth impression.

13. A broken climate-actuator feedback coupling is repaired. What should final verification compare?

- A. Actual door position, feedback and control response.
- B. Only actuator noise without observing the driven door.
- C. A permanent unchanging position signal.
- D. Only cleared history without checking actual feedback.

14. A supplied HV insulation record is 1.2 megaohms. With one megaohm equal to one million ohms, what value is recorded in ohms?

- A. 1,200 ohms.
- B. 12,000,000 ohms.
- C. 0.0000012 ohm.
- D. 1,200,000 ohms.

15. A network continuity check requires power-down and isolation at stated points. What should testing follow?

- A. Unverified probing of any nearby terminal.
- B. An ohmmeter connected during active bus traffic.
- C. That measurement state and approved connection method.
- D. Only a generic resistance example.

16. A blower has normal motor current but weak air delivery. Its impeller is loose on the drive and the prescribed inspection confirms incomplete rotation transfer. What is supported?

- A. Motor-current acceptance proves adequate airflow.
- B. The blower's mechanical air-moving assembly needs repair assessment.
- C. More refrigerant as impeller coupling.
- D. A larger supply fuse to attach the wheel.

17. A suspension leak is localized to a damper by the prescribed cleaning and recheck. Fresh fluid reappears from its seal, while nearby sources remain dry. What is supported?

- A. The damper's sealing and functional condition needs assessment.
- B. A tyre-pressure adjustment as seal repair.
- C. All nearby components replaced without further evidence.
- D. Acceptance because the rod still moves.

18. A pinched seat harness is repaired. What should installation restore?

- A. Only the closed upholstery seam.
- B. An unapproved path against the moving track.
- C. Specified routing, protection and function through seat movement.
- D. Only continuity in one fixed position.

19. An electric HVAC compressor's service record identifies oil not approved for its supplied application. A related insulation check fails after that work. What should be assessed?

- A. A larger fuse as lubricant compatibility.
- B. Acceptance because the compressor still rotates.
- C. Adding more of the same oil to dilute it.
- D. The contamination and prescribed compressor-circuit restoration.

20. Why should a connector view's orientation be verified before probing?

- A. Wire colour alone guarantees the correct terminal.
- B. Harness and component views can show different terminal perspectives.
- C. Every view uses the same visible left-to-right arrangement.
- D. Any nearby terminal gives an equivalent measurement.

21. A wheel-speed target installation is corrected. What should final checks compare?

- A. Actual wheel rotation and the required sensor or controller response.
- B. Permanent speed simulation instead of rotation.
- C. Only the target's part number on paper.
- D. Only absence of a warning at rest.

22. A loaded fuel-pump supply fault is repaired. What should verification reproduce?

- A. Only an unloaded supply reading.
- B. Only clearing a low-pressure code.
- C. The required demand, voltage delivery and fuel-pressure response.
- D. Replacing the pump without testing the correction.

23. An intake valve-actuation repair requires checking the related mechanical range. What should assembly verify?

- A. The specified setup and complete allowed movement.
- B. Only that the engine can be cranked.
- C. Only one visible contact point.
- D. Additional force to overcome a remaining bind.

24. A jam is corrected and operating current passes, but the load's required fastening hardware is not secure. What remains?

- A. Permanent direct operation without controls.
- B. Complete assembly retention and verify installed function.
- C. A larger fuse as mechanical fastening.
- D. Acceptance from current alone.

25. A module receives power and correct messages, but its data does not represent the installed option because replacement coding is wrong. The applicable configuration record identifies the mismatch. What is supported?

- A. A larger fuse as variant coding.
- B. Replacing every transmitting module.
- C. Changing wire gauge to redefine the option.
- D. Correct the option configuration and verify its actual function.

26. Correct hose routing restores coolant flow, but a disturbed joint still fails its prescribed leak check. What remains?

- A. A larger radiator as joint sealing.
- B. More coolant above the specified level.
- C. Acceptance from improved flow alone.
- D. Resolve containment and verify the complete cooling repair.

27. A steering diagnosis requires distinguishing a command from achieved assist. What should comparison establish?

- A. The applicable requested state and measured physical or electrical response.
- B. Any steering movement as proof of all inputs.
- C. Every command as proof of delivered force.
- D. A displayed value as complete structural acceptance.

28. A steering complaint follows component replacement. Correct input signals and assist output are present, but the installed mechanical joint interferes at part of its range because its application differs. What should be established?

- A. Increasing motor command to force interference.
- B. Correct component geometry and complete steering movement.
- C. Acceptance from electrical assist alone.
- D. A tire-pressure change as joint applicability.

29. A monitoring-return route is restored to its approved configuration. What should final checks compare?

- A. An estimated fixed value entered into the display.
- B. Only the cable's visible length.
- C. Actual current, reported data and required system response.
- D. Only a cleared warning message.

30. A damaged fuse contact is repaired. What should completion include?

- A. Specified retention and loaded supply or functional checks.
- B. A higher protection rating left from testing.
- C. Only a resting continuity tone.
- D. Only fitting another fuse.

31. A supplied message period is 20 ms. Under the simple repeating model, how many events occur per second?

- A. 500 events/s.
- B. 20 events/s.
- C. 50 events/s.
- D. 0.02 events/s.

32. A diesel boost input reads high while an independent approved measurement is normal. Its prescribed sensor response fails, with reference and ground valid. What should be assessed?

- A. A forced exhaust-service routine as sensor repair.
- B. Changing fuel delivery to match the wrong input.
- C. Turbocharger replacement from displayed boost alone.
- D. The boost sensing assembly and local signal path.

33. An evaporative-system leak check fails after cap replacement. The installed cap's sealing geometry differs from the supplied application, and the prescribed test localizes leakage there. What should be corrected?

- A. A new injector as vapour-boundary repair.
- B. The cap's applicability and actual sealing interface.
- C. A canister replacement without checking the cap.
- D. Higher purge duty as cap-fit correction.

34. A brake caliper remains applied mechanically after its hydraulic pressure is verified released. The prescribed inspection finds a damaged piston interface that cannot return correctly. What is supported?

- A. The caliper's mechanical return condition needs assessment.
- B. Upstream trapped pressure despite the verified release.
- C. A tire-pressure sensor as piston repair.
- D. More booster force as clearance restoration.

35. Correcting a cooler-hose pinch restores flow, but the hose remains damaged beyond its supplied material criterion. What remains?

- A. External tape as universal hose renewal.
- B. More fluid to support the weakened material.
- C. Acceptance from improved flow alone.
- D. Resolve the component damage and verify the complete path.

36. Two stated resistors of 6 and 3 ohms are connected in parallel. What equivalent resistance results?

- A. 0.5 ohm.
- B. 2 ohms.
- C. 9 ohms.
- D. 18 ohms.

37. What does a calibrated pressure transducer provide within its assigned test setup?

- A. Proof that all downstream passages are open.
- B. Automatic qualification of every connected component.
- C. An electrical representation of pressure at the sensing point.
- D. Direct measurement of every fluid's chemical identity.

38. An automatic transmission's cooler return hose is pinched after installation. Its prescribed flow test fails while the supplying pump checks pass. What should be assessed?

- A. A new range sensor as hose-shape repair.
- B. The restricted return path and related thermal function.
- C. Increasing fill without resolving the restriction.
- D. Pump replacement despite its passed check.

39. A manual clutch does not release fully after repair. Hydraulic travel meets its supplied criterion, but the disc is installed opposite the specified orientation and contacts an adjacent part. What is supported?

- A. The mechanical clutch assembly needs correction.
- B. Replacing the passed hydraulic cylinder first.
- C. A different axle ratio as disc clearance.
- D. More pedal force as orientation qualification.

40. A caliper's damaged return interface is repaired. What should completion verify?

- A. Only that hydraulic pressure can be released.
- B. Only clearing a chassis code.
- C. A higher booster setting to compensate.
- D. Specified mechanical freedom, containment and braking response.

41. An accessory switch interface is replaced after a sticking fault. What should completion verify?

- A. Leaving the load supply permanently bypassed.
- B. Only the load turning on once.
- C. Correct on and off states and the associated load response.
- D. Only the new part's outer dimensions.

42. A service adapter must match a specified sealing face as well as its thread. What should selection verify?

- A. Extra force as a substitute for face compatibility.
- B. Only that the threads begin to engage.
- C. The complete approved connection geometry and duty.
- D. Only the adapter's outside diameter.

43. A network disturbance starts after an unapproved load is attached to a data conductor. Disconnecting that load restores the supplied signal pattern without changing original nodes. What should be resolved?

- A. Independent replacement of every original node.
- B. More bus termination without reviewing the added path.
- C. Increasing circuit voltage to tolerate the load.
- D. The added interface and approved wiring arrangement.

44. A gateway output connection is repaired. What should final checks include?

- A. Restored required recipients and affected message functions.
- B. Leaving one expected branch unplugged.
- C. Only an exterior connector inspection.
- D. Only the gateway's own scan response.

45. A supplied fastening step adds one-quarter turn after its stated initial stage. What added angle does that represent?

- A. 180°.
- B. 90°.
- C. 1,440°.
- D. 45°.

46. A circuit test specifies a known load instead of an unloaded probe reading. Why should that condition be used?

- A. The load makes every reference value universal.
- B. It assesses the path's ability to deliver current under the defined demand.
- C. A known load repairs corroded terminals automatically.
- D. Any no-load voltage proves full current capability.

47. A drive-coupling supply connection is repaired, but required engagement pressure still falls below its criterion during operation. What should be done?

- A. A larger electrical fuse as pressure repair.
- B. Remove the failed pressure result from the record.
- C. Continue hydraulic diagnosis and complete functional verification.
- D. Release from the corrected hose identity alone.

48. Incompatible HVAC lubricant contamination is addressed by the approved process. What should completion verify?

- A. Only rotation without required electrical verification.
- B. Any similar-viscosity oil as final fill.
- C. Only cleared history without checking internal suitability.
- D. Required internal, electrical and cooling verification.

49. A protected circuit draws excessive current because inspection finds its mechanism jammed. The load's unloaded component test passes. What needs assessment?

- A. The installed mechanical load and actual current demand.
- B. Acceptance from the component's separate test alone.
- C. An unrelated sensor replacement.
- D. A larger fuse to allow the same jam.

50. An HV connection repair passes initial isolation, but its specified sealing arrangement is incomplete. What should release require?

- A. Restore environmental protection and complete the final HV checks.
- B. More software updates as a sealing barrier.
- C. Acceptance from the initial dry reading alone.
- D. An unverified cover without assembly checks.

51. An EV's traction battery is adequately charged, but ready is inhibited because an independently supplied control circuit fails its required loaded-voltage test. What should be assessed?

- A. A permanent ready-state simulation.
- B. The identified control supply and ready-sequence requirements.
- C. Traction-battery replacement from no-ready alone.
- D. Higher charging rate as low-voltage path repair.

52. One recipient displays a wrong value while the source and other receivers agree with an independent measurement. Its required interpretation configuration fails inspection. What should be assessed?

- A. All accurate source sensors replaced first.
- B. A vehicle-wide physical quantity change is proved.
- C. The recipient's local setup and data interpretation.
- D. A larger supply cable to correct scale.

53. A driveline vibration diagnosis compares road speed, engine speed and load. What should the technician capture?

- A. An assumed component verdict before measurement.
- B. Only a single noise label.
- C. Only the vehicle model's reputation.
- D. The observed response under defined comparable conditions.

54. An obstructed charge-inlet latch is repaired. What should completion verify?

- A. Actual retention, reported state and required charging response.
- B. Only the connector's exterior fit.
- C. Tape retaining the cable as ordinary operation.
- D. Only disappearance of the stored warning.

55. A component supply is normal unloaded but falls across a damaged fuse contact during its required load test. Source voltage remains stable. What should be localized?

- A. The component replaced solely from low terminal voltage.
- B. A larger fuse as contact restoration.
- C. The loaded fuse-contact and delivery path.
- D. Battery replacement despite stable source evidence.

56. A worn alignment attachment is repaired. What should the technician do before final acceptance?

- A. Reuse the old printout without remeasurement.
- B. Only clear chassis history.
- C. Raise tire pressure to preserve old readings.
- D. Recheck stability and perform the applicable geometry or adjustment verification.

57. A supplied brake assembly clearance totals 1.1 mm. An approved existing element occupies 0.65 mm. What remaining dimension is calculated?

- A. 0.045 mm.
- B. 0.45 mm.
- C. 0.591 mm.
- D. 1.75 mm.

58. A stability intervention occurs when actual straight-line motion is verified. One configured sensor axis does not match its supplied mounting definition after repair, while related inputs pass. What is supported?

- A. Change tire pressures to conceal intervention.
- B. Accept all data because the connectors fit.
- C. Disable the stability function permanently.
- D. Restore the assigned reference and required control setup.

59. A supplied brake calculation uses effective piston area 1,200 mm² and pressure 2 N/mm². Ignoring losses, what force results?

- A. 1,202 N.
- B. 600 N.
- C. 2,400 N.
- D. 24,000 N.

60. A gasoline engine loses fuel pressure only when demand increases. Pump command is present, but voltage at the running pump falls across a damaged supply connection while the source remains normal. What is supported?

- A. A larger regulator as electrical connection repair.
- B. The loaded pump supply path needs diagnosis.
- C. Pump replacement solely from lower pressure.
- D. An airflow-sensor offset to conceal delivery.

61. An EV cannot complete normal charging. Input power is verified, but the required connector-lock state remains false and the prescribed mechanical check finds the latch obstructed. What should be corrected?

- A. The locking function and associated charging sequence.
- B. Increasing source voltage to close the latch.
- C. Charger replacement despite the identified latch fault.
- D. Permanent bypass of connection monitoring.

62. What does a transfer case do in the configuration that uses it?

- A. Guarantee all tire circumferences are identical.
- B. Set every clutch pedal's mechanical travel.
- C. Distribute drive through the specified axle paths.
- D. Regulate every wheel's brake pressure directly.

63. A supplied gear pair has 31 driven teeth and 12 driving teeth. What ratio is calculated, rounded to two decimal places?

- A. 2.58:1.
- B. 43:1.
- C. 0.39:1.
- D. 19:1.

64. A hybrid isolation warning appears after a repaired HV connection is exposed to moisture. The prescribed isolated test localizes reduced insulation there while other checked sections pass. What is supported?

- A. A larger battery as insulation material.
- B. Acceptance because unrelated sections pass.
- C. A software reset as moisture removal.
- D. Assess the local moisture, damage and approved restoration.

65. An engine repair requires keeping numbered connecting-rod components paired. What should assembly preserve?

- A. Any matching outside shape as equivalence.
- B. The verified pair identity and specified orientation.
- C. An arbitrary pair chosen to simplify storage.
- D. More fastener torque to compensate for mixing.

66. Alignment readings vary under the prescribed loaded check because a worn attachment moves. Its unloaded settings are within range. What must be addressed first?

- A. More tire pressure as a mounting lock.
- B. Acceptance from the favourable resting printout.
- C. A software correction as physical retention.
- D. The attachment's stability before final geometry acceptance.

67. A tire application check includes load capability and approved construction. What should selection verify?

- A. Those actual vehicle and tire requirements along with condition.
- B. A guessed maximum load from appearance.
- C. Only matching the wheel's visible diameter.
- D. Only a brand or tread-style preference.

68. A drive coupling does not engage. Its required actuator command and current pass, but the prescribed pressure check identifies an open hydraulic supply path after hose service. What should be restored?

- A. An arbitrary tire change to create supply pressure.
- B. The approved hydraulic connection and engagement function.
- C. Actuator replacement despite acceptable electrical response.
- D. A larger fuse as hydraulic routing.

69. A correct steering joint is installed, but the required locking device is missing. Its current movement is free. What remains?

- A. More tire inflation as mechanical security.
- B. A software update to lock the connection.
- C. Restore the specified retention and verify the completed assembly.
- D. Acceptance from free movement alone.

70. A seat function fails after upholstery work. Its supplies pass, but the prescribed inspection finds its harness pinched and open at the worked area. What should be restored?

- A. More upholstery compression to hold the harness.
- B. The control module solely from the failed function.
- C. A larger fuse as conductor continuity.
- D. The damaged circuit and approved seat routing.

71. A detached window drive is reconnected. What should verification compare?

- A. Only motor noise.
- B. Physical glass travel, feedback and required control functions.
- C. Only a changing data parameter.
- D. Permanent simulation of a closed window.

72. What does an HVAC accumulator do in the system that specifies it?

- A. Perform its assigned low-side refrigerant-management functions.
- B. Control all air-door positions directly.
- C. Set engine-coolant chemistry.
- D. Act as the same component as every receiver-drier automatically.

73. A supplied crank-angle disc divides one complete 360° turn into 60 equal marks. What angle does one mark represent?

- A. 0.167° .
- B. 60° .
- C. 6° .
- D. $21,600^\circ$.

74. A pedal-travel complaint occurs after brake assembly. Hydraulic checks pass, but the prescribed inspection finds pad-support parts assembled outside their locating features, increasing movement. What should be assessed?

- A. An ABS software update as locating hardware.
- B. Additional fluid above the specified level.
- C. The friction-component support and completed assembly geometry.
- D. Master-cylinder replacement despite passed tests.

75. A replacement pressure sensor has the same connector but a different documented output scale from the supplied control requirement. What should selection do?

- A. Use a verified compatible sensor and required configuration.
- B. Accept it from connector fit alone.
- C. Adjust real pressure to suit the wrong scale.
- D. Change protection ratings to rescale the signal.

76. A repaired connection loses 0.10 V at 20 A for a stated constant 30-second test. Using $\text{energy} = \text{voltage loss} \times \text{current} \times \text{time}$, what energy is dissipated there?

- A. 600 J.
- B. 60 J.
- C. 0.15 J.
- D. 2 J.

77. Why is a correct software identifier important in an update record?

- A. Any similar name represents the same calibration.
- B. It automatically qualifies every hardware substitution.
- C. It physically restores all damaged wires.
- D. It identifies the actual applicable installed software state.

78. A body actuator is commanded and receives correct power, but its disconnected mechanical load is jammed in the prescribed test. The actuator itself passes. What should be localized?

- A. The driven mechanism and required movement condition.
- B. Every body switch as independently defective.
- C. A larger fuse to force the jam.
- D. The passed actuator replaced immediately.

79. An HVAC inspection requires distinguishing coolant leakage from condensate. What should diagnosis establish?

- A. An assumed source based only on its collection location.
- B. The actual fluid and entry path through the applicable tests.
- C. Every wet floor as a heater-core leak automatically.
- D. Every clear liquid as normal drainage.

80. A wheel-speed fault follows bearing installation. The approved check identifies an incorrect target orientation, while the sensor and its circuit pass. What should be corrected?

- A. The passed sensor replaced immediately.
- B. More brake fluid as target orientation.
- C. A fixed simulated speed for normal operation.
- D. The required bearing or target installation relationship.

81. What does a complete scan's module inventory help establish?

- A. The mechanical condition of every drivetrain bearing.
- B. Guaranteed absence of all intermittent wiring faults.
- C. Which expected nodes respond under the defined conditions.
- D. Automatic proof that every reported sensor is accurate.

82. A current reading is abnormal only when an unapproved accessory shares a monitored return outside its defined path. Independent measurement confirms the routing discrepancy. What should be assessed?

- A. Battery replacement without route correction.
- B. The intended current route and monitoring interpretation.
- C. All original loads as independently faulty.
- D. A sensor offset chosen to hide the difference.

83. A failed EV control supply is repaired. What should final checks include?

- A. Required loaded power, valid inputs and normal ready behaviour.
- B. A forced command without the normal sequence.
- C. Only a cleared no-ready code.
- D. Only a charged traction battery indication.

84. A diagnostic test used a temporary branch bypass. What should repair completion do?

- A. Leave it because a test succeeded.
- B. Disconnect the original branch permanently without review.
- C. Record only the favourable temporary state.
- D. Remove it as directed and verify the approved final path.

85. What does a piston ring generally contribute in its assigned engine role?

- A. Refrigerant metering at the evaporator.
- B. Mechanical steering return force.
- C. The specified sealing or oil-control function at the cylinder.
- D. Direct electronic control of fuel-pump speed.

86. A reversed clutch disc is reinstalled correctly. What should completion verify?

- A. Only one static pedal movement.
- B. Only the disc's printed label.
- C. Specified geometry, actuation and operating release or engagement.
- D. Changing the hydraulic limit to suit the old fault.

87. A diesel boost sensor is replaced after verified bias. What should completion compare?

- A. A fixed substitute input for ordinary driving.
- B. Only a nonzero displayed pressure.
- C. Only clearing turbo history.
- D. Applicable input accuracy and normal pressure-control response.

88. What does an injector's electrical command principally request?

- A. Direct measurement of fuel's chemical composition.
- B. Actuation according to the specified control timing.
- C. Mechanical adjustment of every valve clearance.
- D. Guaranteed delivery independent of pressure or blockage.

89. What does an EV thermal-management strategy coordinate where designed to do so?

- A. Required heat-transfer functions for its assigned components.
- B. Mechanical replacement of all electrical isolation devices.
- C. Permanent elimination of every cooling-flow check.
- D. A guarantee of constant energy consumption on every trip.

90. Pad-support components are correctly reassembled after excess movement. What should final checks include?

- A. Leaving verification for the customer's first drive.
- B. Only fluid level without checking pad-support geometry.
- C. Only a scan without the mechanical assembly checks.
- D. Required clearances, retention and braking function.

91. What does a suspension spring principally provide in its intended support role?

- A. The force relationship supporting the assigned vehicle load.
- B. Permanent damping of every motion without another mechanism.
- C. Direct adjustment of refrigerant pressure.
- D. Electronic wheel-speed reporting.

92. A battery charging operation requires the manufacturer's specified ventilation and equipment conditions. What should the technician establish?

- A. Only a closed lid over the battery.
- B. Those conditions and suitable charging connections.
- C. An arbitrary higher current to finish sooner.
- D. Only that the clamp jaws grip firmly.

93. What does an electrical ground reference provide in its defined circuit role?

- A. A guarantee of zero drop under every load.
- B. Automatic correction of damaged conductor insulation.
- C. The intended electrical return or measurement reference.
- D. Direct identification of all software variants.

94. What is the purpose of an SRS warning indicator in its assigned strategy?

- A. Guarantee deployment during every impact.
- B. Replace the required circuit diagnosis.
- C. Prove all physical restraint parts are undamaged.
- D. Communicate specified restraint-system status to the user.

95. A joint-retention repair restores free movement. What should installation also confirm?

- A. Specified fastening and geometry in the completed driveline.
- B. Only movement with the joint removed.
- C. Only retainer fit without required installed checks.
- D. An improvised fastening pattern chosen for access.

96. A supplied fastener check uses eight engaged thread pitches of 1.25 mm. What ideal engaged length results under that model?

- A. 9.25 mm.
- B. 100 mm.
- C. 10 mm.
- D. 6.4 mm.

97. A diesel filter seal is correctly renewed. What should verification include?

- A. Extra sealant inside the inlet passage.
- B. Specified priming, containment and operating fuel supply.
- C. Only that the housing closes.
- D. Only that the engine turns over.

98. A diagnostic value is outside range, but the instrument was set to an inappropriate input mode. Selecting the prescribed mode produces a valid reference reading and repeatable vehicle result. What is supported?

- A. The vehicle repaired itself during menu selection.
- B. The original setup error affected measurement interpretation.
- C. The required mode can now be ignored.
- D. Every original reading proves component damage.

99. A gasoline diagnostic procedure requires safely capturing a pressure event under demand. What should setup establish?

- A. Approved secure connections, recording and operating conditions.
- B. A loose hose watched by the driver.
- C. An unapproved gauge held beside the pedals.
- D. Only a stationary reading before demand.

100. A cooling complaint appears after hose service. The supplied routing diagram is correct, but the installed hose crosses its connections and the prescribed circulation test fails. What should be restored?

- A. A new temperature display solely from overheating.
- B. Increasing fan speed without fixing routing.
- C. The actual approved coolant path and verified circulation.
- D. Acceptance because the hose diameter matches.

101. An air-suspension service line is depressurized, but a connected reservoir remains charged and can feed it through an uncontrolled valve. What must be addressed?

- A. Only the first zero reading on the work line.
- B. Only switching the control display off.
- C. Only removing the height-sensor connector.
- D. The remaining stored source and complete isolation path.

102. A sensor reference is restored for stability control, but its required final initialization fails. Other checked components pass. What should release require?

- A. An unrelated brake-part replacement.
- B. Suppressing the warning as a final step.
- C. Acceptance from corrected orientation alone.
- D. Resolve the setup condition and complete control verification.

103. A supplied tool reference is 0.125 inch. With 1 inch = 25.4 mm, what metric dimension results?

- A. 3.175 mm.
- B. 0.00492 mm.
- C. 0.3175 mm.
- D. 31.75 mm.

104. An automatic climate complaint occurs with correct sensed temperature but an actuator feedback reading that differs from physical door position. The prescribed mechanism check finds the feedback coupling broken. What should be restored?

- A. Additional charge as mechanical coupling.
- B. The actual feedback relationship and required door operation.
- C. A new temperature sensor despite valid input.
- D. A fixed actuator command as ordinary operation.

105. A new driveline joint has suitable play but binds because an incorrectly fitted retaining part presses against its moving surface. What is supported?

- A. A higher torque input to overcome binding.
- B. Additional grease as universal geometry correction.
- C. Correct the retention assembly and verify joint motion.
- D. Acceptance from play alone.

106. A transmission's displayed temperature is normal, but an independent approved measurement shows actual overheating. Its temperature input fails the prescribed response check. What should be assessed?

- A. Acceptance from the favourable display alone.
- B. Higher load to see whether the display changes.
- C. Ignoring the independent measurement automatically.
- D. The sensing discrepancy and actual thermal condition.

107. A test records a shaft at 2.5 revolutions per second. What speed is expressed in revolutions per minute?

- A. 150 rpm.
- B. 25 rpm.
- C. 0.0417 rpm.
- D. 1,500 rpm.

108. Communication loss is reported after a branch is unplugged during testing, but the original capture shows that branch responded normally. What should the record distinguish?

- A. The unplugged configuration as the final vehicle state.
- B. The disconnection code as proved initial module failure.
- C. The test-induced state from the original fault evidence.
- D. All earlier data as invalid automatically.

109. Correct coding restores a value display, but the related physical output fails its required operating test. What remains?

- A. Acceptance from the corrected display alone.
- B. Diagnose the output response and verify the complete function.
- C. Editing the test requirement to fit the output.
- D. Replacing the accurate source input blindly.

110. A power-window feedback value changes, but the glass does not move because its drive connection is detached. The motor passes its specified check. What is supported?

- A. The changing feedback proves all glass motion is correct.
- B. Battery replacement as mechanical linkage.
- C. An increased fuse rating to join the drive.
- D. The actual drive connection and glass-motion path need repair.

111. A water-entry diagnosis requires testing separate body areas in a controlled order. What should the technician preserve?

- A. Only the number of panels removed.
- B. The tested location, exposure and first observed entry.
- C. A component verdict before reproducing entry.
- D. Only the final wet floor area.

112. The correct cap restores the specified vapour boundary, but the required system test still identifies another leak at a separate connection. What remains?

- A. Localize and repair the additional verified path.
- B. Acceptance because the first fault was fixed.
- C. Increasing purge until the test result is hidden.
- D. Deleting the second result from the record.

113. A cranking-speed observation counts 90 crankshaft revolutions over 30 seconds. What average speed results?

- A. 3 rpm.
- B. 45 rpm.
- C. 180 rpm.
- D. 2,700 rpm.

114. A vehicle service procedure requires isolating an automatic engine-start function before mechanical work. What should preparation follow?

- A. Only leaving the driver's seat empty.
- B. Only reducing the cabin accessory settings.
- C. The complete specified disabling and verification sequence.
- D. Only waiting for the engine to stop itself.

115. A damper is replaced after verified leakage, but the final inspection finds its mounting interface loose. Function appears improved. What remains?

- A. A cleared warning as mechanical fastening.
- B. Restore specified mounting and verify the full installation.
- C. More lubricant as mounting retention.
- D. Acceptance from improved feel alone.

116. A jammed body mechanism is repaired. What should final checks include?

- A. Required motion, retention and related protective responses.
- B. Only a cleared body code.
- C. Permanent disabling of the protective function.
- D. Only one free movement with the drive disconnected.

117. What does an ABS wheel-speed target provide to its assigned sensor?

- A. The tire's required inflation value by itself.
- B. Direct measurement of pedal force.
- C. Guaranteed brake friction independent of surface condition.
- D. The physical pattern representing wheel rotation.

118. A gasoline injector installation specifies new approved seals and a depth or retention check. What should completion follow?

- A. The complete component assembly and verification instructions.
- B. Reusing distorted seals with extra lubricant.
- C. Only that the electrical plug fits.
- D. Only increasing rail pressure to seat it.

119. Why should temporary electrical jumpers have an approved diagnostic purpose and disposition?

- A. A jumper universally replaces all monitoring inputs.
- B. Any successful jumper proves final repair acceptance.
- C. Their configuration must not become an unverified permanent circuit.
- D. Temporary wires automatically match every current rating.

120. Why must brake replacement parts meet the complete application?

- A. Colour alone identifies equivalent ratings.
- B. A matching outside shape proves every requirement.
- C. More hydraulic pressure qualifies any friction material.
- D. Their geometry, material and operating duty must match the system.

121. An axle gear complaint follows setup work. The prescribed contact pattern is wrong even though measured backlash meets its supplied range. What must diagnosis consider?

- A. Replacing electrical sensors before inspecting geometry.
- B. The complete gear-contact and bearing setup.
- C. Acceptance from the single clearance result.
- D. A tire-pressure change as tooth-contact correction.

122. A supplied linear fuel-pressure sensor model maps 0.5 V to 0 kPa and 4.5 V to 800 kPa. What pressure corresponds to 1.8 V in that model?

- A. 800 kPa.
- B. 360 kPa.
- C. 160 kPa.
- D. 260 kPa.

123. A diesel test captures 0.9 L in 45 seconds. What delivery rate is calculated?

- A. 0.675 L/min.
- B. 40.5 L/min.
- C. 1.2 L/min.
- D. 0.02 L/min.

124. A body accessory continues operating after its input turns off. Its monitored command correctly changes, but the prescribed inspection finds a mechanically stuck switch interface downstream. What is supported?

- A. A larger supply fuse as switch release.
- B. Assess the identified switching or output path.
- C. The input must still be active despite captured data.
- D. An unrelated software change as physical repair.

125. A signal appears absent in module data, but the prescribed test finds it correct at the module pin. The installed configuration excludes that assigned function. What is supported?

- A. Verify correct application and configuration before circuit replacement.
- B. A new physical sensor from the missing display alone.
- C. Increasing supply voltage to activate the option.
- D. Replacing the confirmed signal wire immediately.

Practice Exam 18: Answer Key and Explanations

1. **B** — Convert 0.60 kg to 600 g using one thousand grams per kilogram, then subtract from 650 g for 50 g remaining. The example requires consistent units in the service record. Actual completion still follows the specified equipment and charge method rather than a pressure estimate or an unrelated vehicle capacity.
2. **D** — The repair restores information about temperature but does not automatically correct the condition it reports. Diagnose the actual thermal function through the applicable flow and operating checks. Valid indication is useful evidence, not permission to accept overheating, and another unsupported sensor replacement would not resolve the demonstrated performance fault.
3. **C** — The independent checks reduce some mechanical sealing and ignition alternatives while the inspection identifies incomplete intake actuation. Assess that path using the engine-specific process. A contribution result is not a component verdict, but a demonstrated movement failure gives a relevant physical candidate instead of justifying indiscriminate overhaul or replacement.
4. **B** — The control decision is explained by a missing required condition, while local operation provides evidence about the load. Restore and verify the input through the applicable procedure. Forced movement does not qualify the normal strategy, and bypassing a permissive changes a required safety or operating relationship instead of repairing why its information is invalid.
5. **A** — The recent assembly and controlled test locate an air-entry path affecting fuel supply. Restore the specified seal and verify the circuit before other decisions. A valid electrical command does not establish a continuous suitable liquid feed, and coding or extended cranking cannot qualify an inlet interface known to be assembled incorrectly.
6. **A** — The pattern and direct test identify a particular outgoing path rather than universal source or gateway failure. Restore and verify it through the network procedure. Function on other paths does not qualify this connection, but it helps narrow the scope and avoids replacing every component when one required segment is physically interrupted.
7. **B** — Thirty minutes is half an hour, so multiply 4 kW by 0.5 h to obtain 2 kWh. This is the given auxiliary load's energy use, not total vehicle consumption. Actual heater output and operating duty can change with strategy and conditions, so the constant assumption must not be transferred automatically to another trip or test.
8. **D** — The signal can currently appear valid while the physical connection remains unsecured. Restore the approved assembly and verify relevant movement and operation. A threshold change cannot retain a connector, and an improvised cover is not automatically equivalent to the specified locking feature needed for durable circuit integrity.
9. **C** — The wheel must be secure and move air through its intended assembly without interference. Motor current was acceptable during the original fault, so repeating it alone cannot demonstrate this

correction. Verify actual retention and flow under the procedure rather than using sound or an omitted physical check as complete ventilation acceptance.

10. C — The support arrangement must remain suitable as the load changes, not only at the start. Complete the approved assessment and additional support requirements before removal proceeds. Speed or an improvised prop cannot establish the rated stable load path needed for the vehicle after a major assembly is detached.

11. D — Multiply the supplied nominal width by its aspect fraction: $225 \times 0.60 = 135$ mm. This is the model's nominal sidewall relationship, not a direct measured loaded dimension. Actual tire suitability and rolling behaviour still need the applicable vehicle, construction and condition checks beyond this calculation.

12. B — The repaired gearset needs the complete conditions assigned by its procedure, not one isolated pattern observation. Verify dimensions, support and operation as required. Electronic warning status cannot certify mechanical setup, and an arbitrary lubricant level does not establish the specified fluid condition for the assembled transmission or axle unit.

13. A — The restored sensing relationship must describe the real mechanism and support the assigned strategy across relevant states. Verify those relationships through the applicable range. Noise and cleared memory do not establish position accuracy, while fixed simulation removes the actual feedback needed for normal changing climate requests rather than proves its repair.

14. D — Multiply the stated value by the supplied conversion: $1.2 \times 1,000,000 = 1,200,000$ ohms. This is a unit conversion, not a universal acceptable insulation threshold. The actual test equipment, state and vehicle-specific criterion must govern acceptance; the number alone is not proof that a work point is safe to touch or open.

15. C — The measurement needs the actual paths and state defined by the procedure. Active circuits and unintended parallel connections can invalidate interpretation or expose equipment to unsuitable testing. A textbook value and terminal proximity cannot establish the correct network boundary, so verify the schematic and use the specified method before comparing the result.

16. B — Current and air movement assess different functions. The loose driven wheel can prevent the intended flow even when the motor's electrical condition appears suitable. Restore and verify the actual assembly under the procedure rather than treating one accepted measurement as proof of complete ventilation performance at the cabin outlets.

17. A — The controlled reappearance identifies a fresh local path rather than old residue from another component. Assess the damper under its actual criteria. Rod motion alone does not establish containment or proper damping, and other dry checks narrow alternatives without qualifying the observed seal from which fluid again escapes.

18. C — The repair must remain conducting and protected throughout the movement that can expose the harness to pinching. Follow the actual seat and related safety-system instructions. A stationary check or

trim closure does not establish the route's mechanical suitability, while another unsupported path near the track can reproduce the same type of fault.

19. D — The documented product mismatch and failed check warrant the approved contamination and electrical assessment process. Rotation alone cannot establish complete suitability of the internal condition. More incompatible product or altered protection does not qualify the required lubricant properties, and the repair must follow the actual equipment and vehicle service instructions.

20. B — The drawing's stated perspective governs how its labels map to the actual connector. Confirm that relationship before selecting a test point. A different side can reverse apparent positions, and colour may repeat, so proximity or visual left-to-right assumptions cannot establish which conductor the procedure intends to assess.

21. A — The repair must make the physical target provide valid motion information through the installed sensing path. Verify signal and interpretation in the relevant test state. Identification and resting warning status do not demonstrate operation, while simulation removes the actual wheel measurement rather than proves the corrected geometry now supplies it properly.

22. C — The original failure occurred with operating current and fuel demand, so verify both the repaired electrical path and physical output under that condition. A no-load value can look normal through resistance. Code clearing or unnecessary replacement is not evidence that the connection now carries the current required to sustain specified delivery.

23. A — The repair must restore the mechanism's required operating range and setup before normal engine use. One contact or cranking observation does not demonstrate every movement condition. A remaining bind needs an approved correction, not greater force that can damage the assembly while leaving its intended geometry unverified.

24. B — Electrical performance and mechanical retention are separate requirements. Restore the specified installation so the load remains correctly positioned in service, then verify the relevant behaviour. A current pass cannot qualify loose mounting, and altered protection or control does not provide the mechanical hardware function required by the repaired assembly.

25. D — The physical path passes while the defined replacement setup does not match the equipment. Restore the authorized configuration before assigning wiring or source replacement. Communication and suitability of its content are distinct, and circuit-size changes cannot supply the option identity the module needs for valid interpretation and operation.

26. D — Circulation and leak integrity are different acceptance requirements. Repair the actual joint under suitable service conditions and repeat the required tests. A favourable flow result cannot qualify ongoing coolant loss, and changing capacity or inventory does not restore the sealing interface that the check identifies as unfinished.

27. A — The control request and achieved result describe different stages of operation. Follow the applicable tests to compare them under the defined condition. A command can be present with an

electrical or mechanical failure, and some movement alone cannot certify every sensing and support requirement of the installed steering system.

28. B — The electrical functions can be satisfactory while the driven arrangement remains mechanically unsuitable. Verify the actual component and range through the steering procedure. More assist does not qualify interference, and an unrelated tire setting cannot make a replacement with the wrong geometry meet the mounting and movement requirements assigned to that joint.

29. C — The repair must make the measuring arrangement represent the intended current and support the actual strategy. Compare physical and reported values under the procedure. Length or warning state does not establish that relationship, while fixed imitation conceals the measurement function instead of verifies that the restored path now supplies valid operating information.

30. A — The contact must remain secure and provide suitable delivery while the circuit carries its required current. Verify that state and the actual function. A new fuse or low-current continuity observation cannot alone establish the repaired interface's loaded resistance, and enlarged protection cannot replace the assigned assembly and operating requirements.

31. C — Convert the period to 0.020 seconds and take its reciprocal: $1 \div 0.020 = 50$ events per second. This follows the provided regular model. Real capture rate and physical network speed are separate quantities, so the arithmetic does not identify protocol throughput or a fault cause without further context.

32. D — The independent pressure and valid supplies distinguish the real operating condition from an inaccurate local input. Diagnose that sensing path before condemning turbocharger output. A high reported value can influence strategy, but it is not proof of actual overboost when the simultaneous approved reference and component response test show a measurement discrepancy.

33. B — The changed part and localized test identify an unsuitable cap interface rather than a proven fault elsewhere in the system. Restore the approved assembly and verify sealing. A similar external size does not establish correct geometry, and purge or injector changes cannot repair the boundary from which vapour actually escapes.

34. A — The pressure observation separates the hydraulic-release state from an independently binding caliper. Assess that mechanical interface under the brake procedure. Drag alone would not localize the cause, but verified pressure release and the physical return defect provide direct evidence that increasing assist or changing unrelated inputs cannot correct.

35. D — The improved passage does not prove that material damaged during the pinch remains suitable for service. Apply the approved repair or replacement disposition, then verify containment and flow. Tape and fluid quantity cannot establish the pressure and environmental integrity assigned to a hose that still fails its actual component acceptance requirement.

36. B — For the supplied parallel arrangement, take the reciprocal of the sum of reciprocals: $1/(1/6 + 1/3) = 2$ ohms. Series addition would give nine ohms, a different topology. The example assumes fixed isolated resistors rather than an unverified active vehicle circuit containing additional connected paths.

- 37. C** — The transducer converts its sensed pressure into the defined electrical output. Its calibration and connection conditions determine how that information is interpreted. A pressure signal does not directly identify chemistry or universally prove flow, so its data must still be considered with the applicable circuit and component tests.
- 38. B** — The failed flow and physical pinch localize a path condition independent of the verified source. Resolve it under the applicable procedure and reassess operation. A good pump cannot guarantee adequate circulation through a mechanically obstructed route, and additional inventory does not restore the hose geometry required for normal return flow.
- 39. A** — The travel check passes while inspection finds an actual assembly and clearance discrepancy. Restore the correct clutch arrangement through the procedure before changing satisfactory actuation parts. Adequate movement at one point cannot qualify a reversed component that mechanically interferes with the release function in the installed torque path.
- 40. D** — The repair concerns the mechanical condition that remained faulty after pressure release, so verify that function as well as the completed brake system. One hydraulic observation cannot establish all physical movement requirements. Codes or additional assist do not demonstrate that the actual return interface now operates within its assigned geometry and acceptance criteria.
- 41. C** — The original failure involved a missing off response, so verify both states in the actual circuit. A single successful start or physical fit cannot demonstrate disconnection. Permanent supply would remove the intended control rather than provide evidence that the replacement switch and related output path now operate as required.
- 42. C** — The thread and sealing interface perform related but distinct connection functions. Verify the complete arrangement before pressurizing or measuring. Initial engagement and overall size cannot establish correct face geometry, while tightening harder can damage an incompatible connection without producing the pressure integrity and measurement path required by the test.
- 43. D** — The controlled removal restores the signal, linking the disturbance to the added connection rather than proving original component failure. Correct the installation through the approved design and verify the full system. Supply or resistor changes cannot automatically qualify an accessory attached to a path not assigned for its load.
- 44. A** — The repair must restore the information path to its assigned destinations, not merely show that the gateway itself responds. Verify those functions and the completed physical configuration. One accessible node or visual check cannot demonstrate the whole affected output segment, especially if an expected recipient remains disconnected after testing.
- 45. B** — One complete turn is 360 degrees, so one-quarter is $360 \times 0.25 = 90$ degrees. This is only the added angle defined by the problem. The actual fastening process still requires its initial stage, sequence, suitable tool and specified hardware rather than treating the conversion as a universal torque instruction.
- 46. B** — The test must challenge delivery at the condition assigned by the procedure. An unloaded instrument draws little current and can show voltage through a resistive path that cannot supply the real

demand. The specified load creates meaningful evidence but does not repair the connection or make another vehicle's limits applicable automatically.

47. C — Correct mapping restores one necessary condition, but the measured function remains unsatisfactory. Use the applicable hydraulic tests to identify the remaining cause and verify engagement. Physical hose identity does not prove achieved pressure, and altered protection or documentation cannot establish the operating result the repaired coupling is required to produce.

48. D — The restoration must meet the application-specific internal and functional requirements, including electrical considerations where applicable. A cleared message and motion observation do not establish compatibility. Similar viscosity alone is not proof of the specified oil's properties, so use the approved product and verification sequence for the actual compressor and circuit.

49. A — A satisfactory isolated device can be overloaded by its installed driven mechanism. Resolve the jam and verify the complete assembly under the required demand. The tests assess different states, so a bench pass does not qualify abnormal current in the vehicle, and changing protection leaves the mechanical obstruction rather than restores it.

50. A — Initial electrical evidence does not qualify a connection left outside its required environmental condition. Restore the approved sealing and complete applicable acceptance before release. A dry reading can precede later moisture exposure, so durable assembly matters in addition to the first measurement; software cannot supply that physical barrier.

51. B — Adequate traction energy does not establish all control power conditions needed to authorize operation. Diagnose the failed supply and verify the actual ready sequence through the vehicle procedure. A no-ready symptom alone cannot identify the traction battery, and simulation removes rather than restores the control relationship affected by the independently measured fault.

52. C — The independent and cross-recipient comparison localizes the disagreement after valid source information is available elsewhere. Resolve the identified interpretation mismatch through the authorized setup process. A correct transmitted value can be used wrongly by one receiver, so data arrival alone is not evidence of correct units, scale or configured meaning.

53. D — The controlled comparisons help distinguish which rotating or support relationships affect the complaint. Record the conditions alongside the symptom so they can guide targeted inspection. A general description is not equivalent evidence, and reputation or an early assumption cannot replace the actual measurements and physical checks needed to identify the fault.

54. A — The repair must restore mechanical locking and the control information used by the charging strategy. Verify those relationships through the applicable process. A fitted connector or cleared warning does not demonstrate secure retention, while tape cannot qualify the latch's assigned hardware and monitored-state function in the completed vehicle installation.

55. C — The simultaneous tests identify loss within the delivering connection rather than the source. Diagnose and restore that contact under the procedure. Unloaded voltage can appear suitable through a

resistive interface, so component-terminal reduction during actual current does not automatically prove the supplied load or battery is defective.

56. D — The repaired support can change the geometry that was previously measured and must maintain it under the required conditions. Verify both stability and the final alignment through the actual procedure. A historical printout describes another state, while warning clearing or inflation changes cannot establish the current mechanical relationship after component work.

57. B — Subtract the existing contribution from the stated total: $1.1 - 0.65 = 0.45$ mm remaining. This is a dimension calculation, not permission to insert arbitrary material. The actual assembly must follow its approved component and clearance procedure so the final result meets all operating and retention requirements, not only the numerical total.

58. D — The identified axis mismatch changes what the sensor's information means relative to the vehicle's actual motion. Resolve its applicable mounting or configuration and verify the system. Connection fit cannot establish a valid reference, and altered tires or disabled control would hide the effect rather than restore the required relationship among motion inputs.

59. C — Multiply pressure by the supplied effective area: $2 \times 1,200 = 2,400$ N theoretical force. The matching square-millimetre units cancel appropriately. Real brake output also depends on its architecture and friction conditions, so the simplified value does not independently establish stopping performance or every caliper's service requirement.

60. B — The pump is requested correctly and its source voltage stays normal, but the measured delivery falls across a damaged connection when current demand rises. That localizes a supply-path condition capable of reducing pump output without proving the pump itself failed. Repair and verify the connection under the same demand, then reassess pressure. An unloaded voltage check could miss the fault. Combining simultaneous electrical and hydraulic observations gives a stronger basis than replacing the pump from low pressure alone.

61. A — The verified supply and localized mechanical obstruction distinguish a missing required connection state from general charger incapacity. Restore and verify the approved lock arrangement and its control response. Bypassing monitoring does not repair retention, and changing source conditions cannot establish the mechanical connection the charging strategy requires before normal operation.

62. C — The transfer case provides the drive distribution assigned by the actual layout. Its design and selectable modes vary, so it does not universally control brakes or correct tires. Diagnostic interpretation needs the appropriate architecture, mode and requirements rather than assuming every four-wheel-drive component performs the same function under all conditions.

63. A — Divide driven by driving tooth count: $31 \div 12$ is approximately 2.58 after the stated rounding. The ratio uses the supplied pair, not a universal transmission value. The reciprocal describes another relationship, while adding or subtracting tooth counts does not represent the reduction between the meshing components.

- 64. D** — The test identifies the connection's specific contribution to the isolation condition. Apply the vehicle's HV assessment and restoration procedure before reconnection or ordinary use. Passing sections help localize scope but do not qualify the faulty area, and software clearing cannot physically dry, repair or validate an insulation boundary affected by moisture.
- 65. B** — The identified parts belong to the relationship required by the engine procedure. Preserve that identity and orientation and verify the applicable dimensions. Similar appearance cannot establish that arbitrary pieces form an accepted assembly, while extra tightening does not restore the original manufactured or inspected relationship lost through unapproved mixing.
- 66. D** — The actual support fails to hold geometry under the condition required by the test. Resolve that mechanical movement before accepting adjustment. Resting values do not qualify loaded stability, and pressure or software cannot provide the structural retaining function of the worn attachment that allows the alignment relationship to change.
- 67. A** — Tire suitability depends on the complete specified duty, not one dimension or visual feature. Verify the applicable load and construction information and inspect actual condition. An apparently similar tire does not establish the required capability, so replacement must follow the relevant application rather than an unsupported estimate based on size or appearance.
- 68. B** — The electrical path operates while the supplied fluid route is physically interrupted. Restore and verify that connection through the driveline procedure before condemning the actuator. A command and current do not prove the hydraulic mechanism receives the conditions it needs, so separate electrical actuation from actual pressure delivery and engagement.
- 69. C** — Free movement and secure retention are separate requirements. Fit the approved device and complete installation checks before release. A joint can move correctly at present while remaining able to detach or change position, and electrical setup or tire pressure cannot supply the mechanical locking function assigned by the component's actual procedure.
- 70. D** — The timing and localized open identify the disturbed harness as a fault candidate despite available supply elsewhere. Repair and route it using the applicable procedure, including relevant restraint precautions. A function failure alone does not justify module replacement when direct inspection finds the actual conductor path interrupted by the recent mechanical work.
- 71. B** — The completed linkage must carry motor motion to the glass and maintain the system's feedback and protective relationships. Those functions need actual range verification. Noise or one data value was possible during the detached fault and cannot alone prove that the repaired glass path now moves and responds as assigned by the vehicle procedure.
- 72. A** — The accumulator has a role defined by the specific refrigerant architecture and is not universally interchangeable with a receiver-drier. Identify the actual layout and service requirements before interpreting its condition. Similar vessel appearance does not establish equivalent connections, internal function or compatibility with another system's refrigerant-management arrangement.

- 73. C** — Divide the full turn by the given number of equal divisions: $360 \div 60 = 6$ degrees per mark. The question defines this reference disc; it is not every engine's timing target specification. Actual setting must use the applicable timing method and identified marks rather than assume another component shares this division.
- 74. C** — The physical assembly discrepancy provides a local mechanical cause of additional movement despite suitable hydraulic checks. Restore and verify the pad-support arrangement through the procedure. A travel symptom does not automatically mean pressure loss, and software or extra inventory cannot place mechanical parts into their required locating relationship.
- 75. A** — Electrical fit is only one interface. The controller expects a defined pressure-to-signal relationship that the different sensor does not provide. Resolve applicability and any authorized setup rather than altering physical pressure or protection, neither of which makes the mismatched calibration equivalent to the intended measurement system.
- 76. B** — Multiply the three given values: $0.10 \times 20 \times 30 = 60$ joules. The constant conditions make the simple energy relationship applicable. This quantifies the localized loss, not its acceptance; the circuit's specified voltage-drop limit and test setup still determine whether the repaired connection meets the required electrical performance.
- 77. D** — The identifier links the record to the actual module software rather than an informal or assumed file name. It does not qualify hardware or wiring. Accurate traceability supports later comparison and applicability checks, while a similar label cannot establish that the intended calibration was transferred and verified for this vehicle.
- 78. A** — The tests separate a suitable actuator from an unsuitable load attached to it. Restore the mechanism through the applicable procedure and verify their completed operation together. A missing movement symptom alone does not prove the electrical device failed, especially when controlled separation locates the obstruction in the driven assembly.
- 79. B** — Several systems can produce moisture near cabin components, so identify material and path before assigning repair. Collection location may differ from entry. Appearance alone is not complete fluid evidence, and a controlled test helps distinguish an actual coolant boundary fault from drainage or body conditions instead of replacing the nearest heat exchanger indiscriminately.
- 80. D** — The sensing circuit can pass while its physical target is not presented as the design requires. Restore the approved installation and verify actual signal interpretation. A wheel-speed warning alone does not identify sensor failure, and simulation would hide rather than correct the mechanical relationship from which the system must obtain real wheel motion.
- 81. C** — The inventory records responses at the test's vehicle state and tool capability. It helps compare expected and available nodes, but it does not certify every physical input or exclude an intermittent condition absent during capture. Interpret its scope alongside the actual build, access conditions and complaint rather than treating one scan as universal component acceptance.

82. B — The actual current does not follow the path the strategy expects to measure. Restore the approved arrangement before condemning the monitoring component. A discrepancy can concern what is included by the sensing topology, not merely a failed sensor, and an arbitrary offset cannot establish valid measurement as load combinations change.

83. A — The restored circuit must meet its actual load requirement and support the complete authorized operating sequence. Battery charge and cleared memory do not prove control delivery. A forced response can assist a defined test but cannot replace verification that real inputs and power now permit normal ready operation through the intended strategy.

84. D — Temporary arrangements must have the disposition specified by the procedure, and the released system must function through its approved path. A successful bypass helps diagnosis but does not automatically qualify the final wiring. Restore and verify the actual installation rather than accepting an unreviewed workaround that changes intended connections or protection.

85. C — The ring contributes the sealing or lubricant-control function defined by its design and location. It is not an electronic fuel controller or chassis mechanism. Its actual clearance, orientation and condition still require engine-specific checks, so compression or oil-use symptoms alone cannot prove that every ring in the assembly is defective.

86. C — The repaired orientation must produce the intended mechanical and operational relationships. Verify the applicable clearances and function rather than only identification or a moving pedal. The previous actuation measurement already passed during interference, so it cannot alone establish that the corrected assembly now releases and engages as the procedure requires.

87. D — The repaired sensor must describe actual conditions and permit the intended strategy to respond. Verify both under the procedure. A nonzero value or clear memory cannot establish calibration, and permanent substitution removes the variable pressure information required for normal control rather than demonstrates that the sensing repair is valid.

88. B — The command requests injector actuation within the engine strategy. Its presence does not alone prove hydraulic delivery, which also depends on the component and fuel conditions. Separate command, electrical response and actual flow checks where the procedure requires them instead of treating one signal as complete proof of fuel metering.

89. A — The strategy coordinates the thermal functions assigned by the actual architecture and operating states. It does not guarantee identical energy use or replace electrical safeguards. Sensors, fluid paths and commanded devices still need their applicable tests, so a displayed normal condition cannot universally prove every part receives the intended cooling or heating.

90. D — The repair must restore the physical support arrangement and its effect on braking. Verify all applicable assembly and operating conditions before release. Fluid quantity and diagnostic memory cannot establish mechanical clearance or retention, and ordinary customer driving is not a substitute for the service process's required evidence that the completed brake assembly functions correctly.

- 91. A** — The spring supplies the support and force relationship assigned by the suspension design. It is distinct from electrical measurement and a damper's motion-control role. Correct application and installed geometry still matter, so a spring that fits physically cannot be assumed to provide the required load and travel behaviour for every vehicle.
- 92. B** — Charging must use the appropriate equipment and environmental arrangement for the identified battery and procedure. Clamp grip alone does not establish compatibility or ventilation. Covering the unit or increasing current without instructions can alter exposure and battery conditions instead of meeting the controlled setup required for the service operation.
- 93. C** — Ground has the return or reference role assigned by the actual circuit, but its connection can still have unacceptable resistance. It is not universal proof of a valid measurement or intact insulation. Check the relevant path under the required conditions rather than assume that a ground symbol on a diagram establishes the installed connection's actual performance.
- 94. D** — The indicator reports the status defined by the vehicle's restraint strategy. It is not a guarantee of deployment or complete structural condition. A warning requires the applicable diagnostic process, while absence alone cannot universally qualify every physical component, so service must use the actual system information and prescribed verification checks.
- 95. A** — The assembly must remain suitable when installed and carrying its assigned motion and loads. Verify the actual geometry and fastening requirements. Free movement outside the vehicle cannot establish every installed condition, and appearance or an unapproved pattern does not qualify the mechanical retention supporting the repaired joint in ordinary operation.
- 96. C** — Multiply the number of stated pitches by pitch length: $8 \times 1.25 = 10$ mm. The problem defines this ideal model, not a universal required engagement for all wheel or chassis hardware. Actual thread condition, component geometry and fastening instructions still determine the acceptable installed joint for the vehicle.
- 97. B** — The repair must restore the required internal fuel condition and sealing path before its operating response is accepted. Follow the applicable priming and leakage checks. Housing fit and cranking do not demonstrate suitable supply, while unapproved material inside a precision fuel path can introduce contamination rather than qualify the seal assembly.
- 98. B** — The controlled instrument change and reference check establish that the earlier setup was unsuitable. Interpret the repeated result obtained through the approved mode rather than treating the initial display as confirmed vehicle evidence. Equipment configuration is part of measurement validity, not an unrelated detail that can be omitted from the diagnostic reasoning.
- 99. A** — The capture must provide valid evidence while controlling pressure, equipment and vehicle-operation hazards. Follow the approved setup and roles. A stationary value may not reproduce the event, but an improvised loose or distracting arrangement is not a suitable alternative for obtaining the demanded operating observation safely.

100. C — The physical arrangement differs from the verified design, providing a direct installation candidate for the failed circulation. Restore and verify the intended route before assigning other components. Matching diameter cannot qualify a hose connected to the wrong path, and a display or airflow change does not establish the missing coolant relationship.

101. D — The reservoir remains a potential pressure source through the uncontrolled connection. Establish and verify the complete boundary and stored-energy control under the vehicle procedure. A temporary zero on one line describes its present state, not assurance that the connected source cannot pressurize it again during maintenance.

102. D — The required initialization is an outstanding stage of establishing the system's defined input relationship. Correct orientation and other passed checks do not negate its failure. Follow the applicable setup and diagnosis process rather than hide the message or replace unrelated components without evidence that they explain the failed final condition.

103. A — Multiply the stated inch value by the supplied conversion: $0.125 \times 25.4 = 3.175$ mm. The dimension is unchanged physically, only expressed in another unit. Applicable component and tool requirements still govern whether that reference is suitable for the intended measurement or assembly operation.

104. B — The temperature input is suitable while the door's sensing relationship is physically interrupted. Correct that mechanism and verify actual position and response. A valid cabin reading cannot make inaccurate actuator feedback acceptable, and a fixed command deletes normal condition-dependent control rather than demonstrates restoration of the intended climate operation.

105. C — Play and free movement are different joint requirements. The inspected retaining interface creates a physical obstruction despite acceptable clearance in the measured direction. Restore the specified arrangement and verify its full movement under the procedure rather than using torque or lubricant to force an incorrectly assembled mechanism through its range.

106. D — The independent result establishes a real condition that the reported value does not represent, while the response test identifies a sensing fault. Diagnose both the inaccurate input and the actual overheating through the applicable procedures. A normal display cannot qualify the system when validated evidence shows its thermal behaviour exceeds the required condition.

107. A — Multiply revolutions per second by sixty seconds per minute: $2.5 \times 60 = 150$ rpm. The unit conversion describes the same rotation at the stated test point. Relating it to another shaft would require the actual gear and operating relationship rather than assuming all components rotate at this measured rate.

108. C — The chronology connects the later loss to the diagnostic change rather than the prior complaint. Document and restore the branch and interpret both captures by their actual states. An induced code is not automatically a new failed component, but its cause still must not remain as an unfinished connection in the released system.

109. B — The input interpretation is improved, but the controlled output has a separate outstanding requirement. Test its command, circuit and mechanism using the applicable procedure. A valid displayed value cannot certify every later stage of the function, and changing documentation would conceal rather than resolve the physical behaviour that still fails acceptance.

110. D — The moving motor and changing feedback do not establish glass travel when the drive connection is detached. The feedback may accurately describe movement at its own sensing point while the downstream mechanical path remains broken. Restore that connection and verify actual glass range, signal relationship and required protective responses. This case separates successful electrical actuation from achieved function. Increased current or a larger fuse cannot reconnect the physical interface identified by the inspection.

111. B — The sequence record links each result to the area actually exposed and helps distinguish source from later water travel. Final collection alone can mislead location. Controlled observations guide the next test and approved repair rather than replacing components from a guess about whichever panel is closest to the visible interior moisture.

112. A — One successful repair does not establish all system boundaries are satisfactory. Continue the prescribed diagnosis of the independently identified leak and verify final integrity. Altered control or documentation cannot remove that physical path, and the original component replacement should not overrule evidence that another connection still fails the acceptance test.

113. C — Divide revolutions by seconds and multiply by sixty: $90 \div 30 \times 60 = 180$ rpm. The calculation reports the given average. Whether it meets the test requirement depends on the supplied engine conditions and speed criterion rather than treating this numerical example as a universal acceptable cranking value.

114. C — Automatic shutdown is not proof that the engine cannot restart under the vehicle strategy. Follow the actual isolation and verification requirements before the task. Seat occupancy or accessory settings alone cannot establish the authorized condition of every command and energy path relevant to the planned mechanical work.

115. B — An improved symptom does not qualify a mounting connection that remains unsecured. Complete the specified fastening and movement checks before release. Damper performance and mechanical retention both matter, while lubricant or warning status cannot provide the load-bearing interface needed to keep the repaired component correctly attached during vehicle operation.

116. A — The completed assembly needs verified movement with its actual drive and the safeguards assigned by the strategy. An isolated free component or cleared memory does not establish system operation. Protection should remain functional after the mechanical correction, rather than be removed as a workaround for an incomplete repair or unresolved movement condition.

117. D — The target supplies the pattern used to derive wheel-motion information in that sensing design. Its geometry, orientation and condition matter. It does not establish friction or inflation

requirements, so correct electrical supply alone cannot qualify an incompatible or damaged physical target as a valid wheel-speed source for the control system.

118. A — The injector must meet its specified mechanical and sealing relationship as well as connect electrically. Follow the actual depth, retention and seal requirements. Higher pressure or excessive lubricant cannot universally restore unsuitable seals, and plug fit cannot demonstrate the pressure boundary or mounting condition needed for an accepted installation.

119. C — A test connection supplies evidence under controlled conditions, not automatic qualification of the released vehicle. Use its defined purpose and remove or disposition it as instructed, then verify the approved path. Ratings, routing and protections still matter, so a temporary workaround cannot universally serve as the final installed repair.

120. D — The braking assembly depends on suitable components and interfaces, not merely external fit. Verify the specified application and condition under the repair instructions. Increasing pressure or relying on appearance cannot establish equivalent material behaviour, geometry or duty where the actual system requires a particular approved replacement arrangement.

121. B — Backlash is one element of setup and does not establish correct loading across the teeth. Follow the applicable contact and bearing checks to resolve the actual pattern failure. A favourable dimension cannot overrule another required mechanical condition, and unrelated tire or sensor changes do not position the gear interfaces as specified.

122. D — The model's span is 800 kPa over four volts, or 200 kPa per volt. The signal is $1.8 - 0.5 = 1.3$ V above zero, giving 260 kPa. This mapping is explicitly supplied and is not a universal sensor calibration; the installed vehicle requires its own applicable reference.

123. C — Divide volume by seconds and multiply by sixty: $0.9 \div 45 \times 60 = 1.2$ L/min. This result applies to the supplied test state. Acceptance needs its actual pressure, temperature and delivery requirement, so the calculated number does not establish a universal satisfactory flow for every diesel circuit or component.

124. B — The command state changes as intended while a separate switching interface fails to disconnect the output. Diagnose that localized path under the diagram and component procedure. Continued operation is not automatic proof of a persistent request, and protection or unrelated software cannot release the mechanical condition identified by the test.

125. A — The signal reaches the receiving terminal while its documented setup does not include the function needed to interpret or expose it. Resolve applicability and authorized configuration before condemning the tested circuit. A missing data display is not complete evidence of absent physical input when direct measurement confirms the path actually carries the defined signal.