

PRACTICE EXAM 22: 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 charging model adds a steady 10 A for 36 minutes. What charge quantity is represented?
 - A. 6 Ah
 - B. 16 Ah
 - C. 3.6 Ah
 - D. 10 Ah

2. A wheel-speed signal loses pulses only when its cable is stretched during steering. The target and supply pass, and the stretched connector separates beyond its prescribed engagement. What is strongest?
 - A. A supply failure despite the passing check.
 - B. Normal wiring because straight-ahead data passes.
 - C. The lead routing and connector retention under movement.
 - D. A target defect already excluded.

3. A gasoline ignition coil's operating role is principally to provide what?
 - A. The throttle plate's mechanical centring.
 - B. The electrical transformation needed for the intended spark event.
 - C. The coolant pump's direct fluid displacement.
 - D. The fuel rail's hydraulic regulation.

4. A technician reviews a safety data sheet for a cleaning product. What information is its principal safety purpose?

- A. The lift's rated support-point dimensions.
- B. Every repair fastener's torque sequence.
- C. The vehicle's complete connector pinout.
- D. The product's identified hazards and handling precautions.

5. A tire repair requires determining whether the damage lies within the permitted area. What should disposition use?

- A. The actual tire's approved repair-location and condition criteria.
- B. Only whether it holds pressure briefly.
- C. Only remaining tread depth.
- D. A larger patch regardless of location.

6. A body repair disturbs a water barrier behind the door panel. What should restoration include?

- A. Sealant blocking every drain opening.
- B. Restore the barrier and verify its water-management path.
- C. Only drying the carpet once.
- D. Only a tight-looking panel.

7. A shaft-seal leak returns after replacement. Inspection identifies a scored mating surface; vent and level checks pass. What is strongest?

- A. Normal repaired sealing from new-part status alone.
- B. A low-voltage battery fault as the physical groove cause.
- C. The uncorrected seal-to-shaft interface.
- D. A blocked vent despite its passing result.

8. A valve-train rattle follows a repair. Gallery oil pressure passes, but the supplied local check finds an incorrectly installed follower with insufficient specified contact. Other valves operate normally. What is strongest?

- A. Normal local motion because the other valves pass.
- B. All valve timing necessarily incorrect.
- C. A common gallery-pressure failure already excluded.
- D. The local follower installation.

9. A camshaft's lobes principally establish which mechanical action through the intended valve train?

- A. The prescribed valve-opening motion.
- B. The fuel injector's metering movement.
- C. The cooling thermostat's controlled opening.
- D. The oil-pressure relief valve's response.

10. An engine repair specifies separate initial and post-warmup checks. What should final verification include?

- A. Only the warmed warning-lamp state.
- B. Both stages under their prescribed conditions.
- C. Only a cold successful start.
- D. One convenient stage substituted for the complete procedure.

11. A starter-control signal is absent at the solenoid. The supplied capture shows no command leaving the control module because its required selector input reports drive while the vehicle is at park. What is strongest?

- A. The incorrect selector prerequisite or its input path.
- B. A commanded solenoid that fails to respond.
- C. Normal start permission because the lever looks parked.
- D. A starter motor drawing excessive current in the stated no-command condition.

12. Toe describes which wheel-alignment relationship in its usual view?

- A. Steering-axis tilt viewed from the side.
- B. Rim mounting offset through its width.
- C. Wheel pointing inward or outward viewed from above.
- D. Wheel tilt viewed from the front.

13. A diesel hose repair requires verifying clearance around a hot exhaust component. What should final routing provide?

- A. The hose tied directly to the hot shield.
- B. Only the hose's nominal diameter.
- C. Only a cold gap visible from one angle.
- D. The specified thermal protection and required movement clearance.

14. A valve repair requires measuring guide clearance before seal installation. What should the technician do?

- A. Complete the prescribed dimensional check and disposition first.
- B. Accept it based only on valve diameter.
- C. Install a tighter seal to replace the clearance requirement.
- D. Ignore wear if the valve can move by hand.

15. A supplied cable model has resistance 0.006 ohm per metre over 5 m. Ignoring its terminals, what resistance is calculated?

- A. 0.300 ohm
- B. 0.030 ohm
- C. 0.012 ohm
- D. 0.006 ohm

16. A repair disconnects an exterior sensor's sealing boot. What should final assembly restore?

- A. The boot omitted because the circuit works while dry.
- B. Only a parked scan value.
- C. The specified boot, terminal state and required operation checks.
- D. Only a code clear.

17. A high-voltage component replacement requires a defined post-repair diagnostic routine. What should completion include?

- A. A bypass that makes the vehicle operate.
- B. Only fitting the connectors.
- C. Only erasing the original warning.
- D. The prescribed restoration, setup and relevant system checks.

18. An alternator output is correct at its stud but battery charging is low. Its output cable has a failed continuity test after a fuse-link opening; the ground passes. What is strongest?

- A. Normal battery charging because the alternator voltage is correct.
- B. The interrupted positive charging connection.
- C. The passing ground as the sole defect.
- D. A missing generating output already excluded.

19. A driveshaft repair requires checking joint movement before fitting it to the vehicle. What should preparation verify?

- A. Only new-component appearance.
- B. A binding joint accepted if bolts can be installed.
- C. Only that the shaft length matches.
- D. The prescribed free movement and complete assembly condition.

20. A tire wear complaint appears after ride-height modification. The measured camber is outside the supplied range and its permitted adjustment cannot restore specification. Component damage checks pass. What is strongest?

- A. Normal geometry because components are undamaged.
- B. An obligatory tire-pressure fault despite its passing check.
- C. The altered suspension operating geometry requires authorized resolution.
- D. A software reset as the complete physical adjustment.

21. A repaired ignition connector has a specified locking and sealing arrangement. What should assembly restore?

- A. The approved terminal engagement, retention and protection.
- B. A partly seated connector accepted if the engine starts.
- C. Only a temporary spark at idle.
- D. Only exterior tape.

22. Communication fails after a harness is reconnected. The supplied continuity checks pass, but the connector is inserted into the wrong labelled module port; moving it to the specified port restores the expected domains. What is supported?

- A. A mandatory replacement of every module.
- B. Normal topology because the plug fits.
- C. The incorrect physical connection assignment.
- D. A broken wire established by passing continuity.

23. A driveline lubricant supports which principal mechanical requirement in its specified assembly?

- A. Automatic replacement of damaged gear teeth.
- B. A guarantee that all seals remain sound forever.
- C. A change in manufactured axle ratio.
- D. The designed lubrication of moving interfaces.

24. A cylinder-head fastener hole contains liquid before assembly. What should preparation follow?

- A. The specified hole cleaning and assembly method.
- B. Only a higher final torque.
- C. The liquid ignored because the bolt can enter.
- D. Only wiping the fastener head.

25. The supplied alignment model sums individual toe with positive values meaning toe-in. Left toe is +0.15 degree and right toe is -0.05 degree. What total toe follows for comparison with its criterion?

- A. -0.10 degree
- B. +0.10 degree
- C. -0.20 degree
- D. +0.20 degree

26. A hybrid thermal-system repair specifies a particular insulating barrier beside the serviced part. What must final assembly restore?

- A. Accept coolant operation without restoring the specified barrier.
- B. The approved barrier and complete connection condition.
- C. Only a normal ready display.
- D. Only the part's mounting bolts.

27. A brake pressure sensor's isolated response passes its supplied curve, but the module reading is wrong. Its installed ground shifts under valve activation and fails the defined limit. What is strongest?

- A. A tire diameter mismatch as the ground fault.
- B. Normal installed accuracy from the disconnected pass alone.
- C. A failed isolated sensor curve already not supported.
- D. The operating ground-reference condition.

28. A caliper service procedure specifies lubricating only designated contact points. What should assembly use?

- A. The approved lubricant and specified application locations.
- B. Grease across the friction surfaces.
- C. Extra quantity wherever metal parts touch.
- D. A universal compound on every rubber part.

29. A fuel-system component replacement requires a specified depressurization procedure before removal. What must preparation use?

- A. Only ignition shutdown.
- B. Only the tank-cap position.
- C. That actual release and verification method.
- D. A loosened fitting as the initial pressure test.

30. A fuel-support relay receives its command, but the pump has no supply. The approved path test finds an open contact; a designated comparison feed restores normal pump flow. What is strongest?

- A. A pump unable to run despite the comparison.
- B. The relay's switched feed path.
- C. Normal supply because the relay coil is energized.
- D. A missing command already excluded.

31. A warm engine's trim is strongly negative. Actual rail pressure is within range, but its airflow sensor reports more than the supplied reference, and an approved reference substitution restores the reported air and correction. What is supported?

- A. A brake-pressure switch explaining the substituted sensor result.
- B. Normal original airflow because a signal exists.
- C. Airflow over-reporting contributes to excess fueling.
- D. A low fuel-pressure shortage as the only cause.

32. A battery supplies 15 A for 50 minutes under a stated steady test. What discharged capacity should be compared with the provided criterion?

- A. 12.5 Ah
- B. 7.5 Ah
- C. 15 Ah
- D. 30 Ah

33. A vehicle electrical ground uses a specified contact treatment. What should repair follow?

- A. Only fastener appearance.
- B. Any coating between the contact faces.
- C. Additional torque to replace the preparation step.
- D. The designated preparation, hardware and final path test.

34. A repaired module connector has numbered cavities. What should terminal installation preserve?

- A. The same wire count without checking locations.
- B. A convenient unused cavity.
- C. Only matching conductor colours by appearance.
- D. The actual wiring diagram's cavity assignments and retention.

35. A sensor-equipped hub is replaced. What should completion verify beyond mechanical seating?

- A. Only the sensor's external colour.
- B. The specified encoder, circuit and control checks.
- C. A clear warning lamp as proof of every installed signal.
- D. Only the wheel's ability to spin.

36. A diesel exhaust-aftertreatment sensor supplies information for its specified control strategy. What should its signal be interpreted against?

- A. A normal engine idle as proof of every sensor reading.
- B. One universal value for every exhaust sensor.
- C. The actual sensor definition and relevant operating conditions.
- D. Only the current warning label, without the actual sensor test definition.

37. A supplied dynamometer model uses power in kW = torque in N m times rpm divided by 9,550. With 120 N m at 3,000 rpm, what power should be compared with its report, rounded to two decimals?

- A. 37.70 kW
- B. 75.39 kW
- C. 30.00 kW
- D. 12.00 kW

38. Brake application pressure passes, but one wheel produces low braking contribution. Its friction material is contaminated and the supplied caliper-motion test passes. What is strongest?

- A. Normal braking because the pad has enough thickness.
- B. A bound caliper despite its passing motion check.
- C. The affected friction interface.
- D. Insufficient measured pressure already not supported.

39. A sharp damaged panel edge lies beside the harness area being inspected. What should preparation control?

- A. Only the meter's electrical range.
- B. Only the harness's original colour.
- C. A faster hand movement past the edge.
- D. The edge exposure and protected work access.

40. Oil consumption appears after deceleration. The supplied ring-sealing tests pass, but valve-guide clearance at an affected intake valve exceeds its limit and the associated oil-control interface is damaged. What is strongest?

- A. The valve-guide oil-entry path.
- B. A failed ring-sealing result despite its passing tests.
- C. An external fuel leak as the engine-oil path.
- D. Normal oil control because compression passes.

41. An EV repair opens a connector whose procedure requires testing both designated sides before further work. What should verification use?

- A. Only one convenient nearby reading.
- B. The exact approved points, equipment and sequence.
- C. Only the service-disconnect position.
- D. A warning indicator as the entire electrical test.

42. A restraint sensor bracket is damaged during body work. What should repair use?

- A. Only clearing the warning.
- B. An unapproved bend to restore its visual angle.
- C. The authorized bracket and mounting disposition for that sensor.
- D. A sensor glued to a nearby panel.

43. A blower housing replacement requires restoring an air seal and drain. What should final inspection include?

- A. Both specified routes and their relevant functional checks.
- B. Only the motor's sound.
- C. Only visible panel fit.
- D. A blocked drain accepted because air exits the vents.

44. A branch goes offline when one connector is warmed under its specified test. Network traffic and power remain present, but its local ground loss rises above limit and cooling restores communication. What is strongest?

- A. Normal ground because it passes cold.
- B. A temperature-dependent local ground condition.
- C. Every module's software as the only supported cause.
- D. A complete source-message loss.

45. A damaged fuse link is replaced after its upstream fault is repaired. What should final assembly verify?

- A. Only an unloaded voltage reading.
- B. A permanent jumper used instead of the link.
- C. Only using the largest available rating.
- D. The correct link specification and relevant loaded circuit operation.

46. A steering complaint follows subframe work. Alignment is outside the supplied range, and the subframe fails its locating-position check while the suspension arms are undamaged. What is strongest?

- A. A confirmed bent arm despite the inspection.
- B. Calibration alone as a physical subframe correction.
- C. The subframe's incorrect installed location.
- D. Normal support geometry because all bolts are present.

47. A powered window repair requires checking its travel before installing trim. What should the technician establish?

- A. The specified safe clearance and correct mechanism operation.
- B. Close the trim before verifying the specified mechanism clearance.
- C. A hand placed inside the closing path.
- D. Only motor sound.

48. An EV reports an isolation fault. Under its approved disconnected test, one specified compressor branch fails resistance criteria; the remaining section passes after that branch is removed. What is strongest?

- A. A wheel-sensor configuration as the resistance path.
- B. The localized compressor branch or its connections.
- C. Normal original isolation because the display has power.
- D. Every remaining section failed despite its passing test.

49. Three loads draw 1.5, 2.0 and 2.5 A under the supplied model. What total current should be compared with their common feed reading?

- A. 3.0 A
- B. 4.5 A
- C. 6.0 A
- D. 5.0 A

50. A clutch repair requires replacing contaminated friction material. What should the technician also verify?

- A. Only the new disc's packaging.
- B. Only greater pressure-plate bolt force.
- C. The source ignored because the fresh part initially grips.
- D. The contamination source and affected mating conditions.

51. An engine misfires only under a defined high-load condition. The supplied ignition capture fails at one coil, while fuel pressure and that cylinder's compression pass. The coil fails the approved comparison test. What is strongest?

- A. The localized ignition coil condition.
- B. Normal coil function because idle is smooth.
- C. A supply-pressure failure already excluded.
- D. A compression fault despite its passing test.

52. A high-voltage warning remains during a repair requiring verified isolation. What should the technician do?

- A. Bypass the warning input to continue the repair.
- B. Ignore the warning because the ignition is off.
- C. Open another cover to find a convenient test point.
- D. Maintain the boundary and follow the specified failure or escalation procedure.

53. A communication harness is repaired through a body opening. What should final installation restore?

- A. Only the opening's exterior paint.
- B. The specified edge protection, sealing and wire support.
- C. An unsupported wire against the bare metal edge.
- D. Only communication while stationary.

54. A valve guide principally provides which mechanical relationship?

- A. Guide the valve stem along its designed movement path.
- B. Regulate the main gallery's oil pressure.
- C. Meter fuel through the injector nozzle.
- D. Set the crankshaft's stroke length.

55. An HVAC repair opens a refrigeration connection. What should final preparation follow?

- A. Only a brief operating run.
- B. Only a clean exterior fitting.
- C. Use the prescribed preparation and evacuation method.
- D. An immediate charge without the required internal preparation.

56. A supplied traction test records 280 V and 150 A. What input power follows for comparison with the provided operating target?

- A. 4.2 kW
- B. 42 kW
- C. 56 kW
- D. 420 kW

57. A traction cooling diagnostic requires comparing commands with actual circulation. What should the test verify?

- A. Only a pump command percentage.
- B. Only the reservoir's appearance.
- C. A louder pump sound as the complete flow criterion.
- D. The specified operating state and measured fluid response.

58. A final network check calls for several specified vehicle states. What should verification cover?

- A. Only clearing historical messages.
- B. Only the easiest parked scan.
- C. Each relevant state required by the repair procedure.
- D. A pass from another configuration.

59. A restraint warning begins after seat installation. Under the prescribed disabled inspection, a designated connector is not fully seated; the approved harness comparison fails there and restoration clears the condition on the required retest. What is supported?

- A. A confirmed deployment device failure without other evidence.
- B. The incomplete connector assembly contributed to the warning.
- C. Normal connection merely because the seat is bolted down.
- D. A required replacement of every restraint module.

60. A diesel sensor installation requires a designated seat and fastener method. What should assembly use?

- A. Any convenient depth that fits.
- B. Extra torque to compensate for an unclean seat.
- C. Only the connector's latch.
- D. The actual mounting preparation and tightening process.

61. A brake repair opens a circuit whose bleed procedure requires a scan-tool stage. What should restoration include?

- A. The complete specified hydraulic and control routine.
- B. Only a full reservoir.
- C. A static pedal pass used to waive the required stage.
- D. Only repeating a conventional bleed indefinitely.

62. A voltage regulator in its specified charging arrangement controls which intended quantity?

- A. Rectify alternator current as a diode function.
- B. The required charging-output condition.
- C. Provide the sensor's designated reference conversion.
- D. Close the starter's switched motor-power path.

63. A manual vehicle's vibration is strongest during clutch engagement. The supplied inspection finds an unacceptable friction-surface condition, while driveshaft and wheel checks pass. What is strongest?

- A. Normal clutch operation because it can engage fully.
- B. A passing wheel condition as the only defect.
- C. The clutch's engagement interface.
- D. A driveshaft fault despite its passing test.

64. A body accessory works from its local switch but not from a network request. The local load path passes; the remote request never arrives, and an approved communication check finds its upstream route disabled by wrong configuration. What is strongest?

- A. A load that cannot operate despite the local comparison.
- B. A universal positive-feed failure.
- C. Normal remote operation because the local switch works.
- D. The remote command's configured delivery path.

65. A heater complaint follows valve replacement. Its command and supply pass, but the approved routing inspection shows the inlet and controlled outlet connected contrary to the supplied diagram. What is strongest?

- A. The valve's installed port arrangement.
- B. A blower-only fault explaining the port mismatch.
- C. A missing controller request already excluded.
- D. Normal heating valve installation because the hoses fit.

66. A supplied ratio predicts 1,500 output turns, but the recorded total is 1,350. What percentage shortfall relative to prediction is represented?

- A. 15%
- B. 20%
- C. 9%
- D. 10%

67. A transmission gear slips at its supplied load test. The relevant apply pressure meets specification, but the friction element fails the prescribed holding test. Other elements pass. What is strongest?

- A. The affected friction element's holding condition.
- B. Normal torque transfer because the controller requests the gear.
- C. Insufficient measured apply pressure despite its passing result.
- D. Every element failing equally.

68. A transmission replacement procedure requires securing cooler lines before a load test. What should installation establish?

- A. Only a larger fluid supply.
- B. The specified connection, support and circulation state.
- C. Only the transmission's case fit.
- D. Lines left unsupported if no immediate leak appears.

69. An alignment repair includes replacing a bent locating component. What should final geometry work follow?

- A. Only one toe adjustment.
- B. Only a steering-angle reset.
- C. The restored mechanical condition and full prescribed alignment method.
- D. An unapproved bend to compensate for the replacement's position.

70. A seal installation procedure specifies a tool that controls depth. What should assembly use?

- A. An arbitrary deepest insertion.
- B. Only the seal's outside diameter.
- C. A stronger hammer blow as the depth measure.
- D. The required tool and verified installed position.

71. A transmission downshift command is absent although the supplied load and request inputs pass. The configured control mode incorrectly inhibits that shift, while relevant hydraulic checks pass. What is strongest?

- A. A missing load input already excluded.
- B. A demonstrated hydraulic apply failure despite passing checks.
- C. The control configuration or inhibition state.
- D. Normal commanded shifting when no command is issued.

72. A fan circuit draws high current. The supplied mechanical check finds its blade assembly contacting the housing, while command voltage and motor identification pass. What is strongest?

- A. The confirmed mechanical load restriction.
- B. A missing drive voltage already excluded.
- C. Normal motor load because its part number is correct.
- D. An electrically open motor drawing no current.

73. An engine is lifted during mount replacement, and the suspended load would obstruct the planned repair access. What should be established?

- A. A worker supporting the engine by hand.
- B. An approved support and access arrangement for the work.
- C. Only a shorter repair time beneath the suspended load.
- D. The hoist's capacity accepted as proof of safe personnel access.

74. A repaired steering lead must clear suspension movement. What should routing verification include?

- A. Only parked continuity.
- B. Only centre-steering clearance.
- C. A stretched wire used to eliminate slack.
- D. The required full operating envelope and retention.

75. A powered door latch fails to return. The approved isolation check shows the latch moves freely without its cable, while the cable binds and fails the prescribed movement check. What is strongest?

- A. A missing motor supply as the cause of the mechanical cable test.
- B. A seized latch despite its free isolated movement.
- C. The cable or its routing condition.
- D. Normal closure because the door can be pushed shut.

76. A network has normal static resistance. During the complaint, a connected module holds the signal outside its supplied live range; disconnecting that module restores the waveform. What is strongest?

- A. Static resistance proving no operating fault exists.
- B. The module or immediate connection affects live signal behaviour.
- C. A mechanical brake fault causing that conductor state.
- D. Normal bus behaviour while the live range fails.

77. An HVAC temperature door principally changes which designed relationship?

- A. The cabin air path's heat-mixing arrangement.
- B. Raise refrigerant pressure through compressor action.
- C. Reject refrigerant heat at the condenser.
- D. Meter refrigerant through the expansion arrangement.

78. A door cable repair changes its routing behind a trim panel. What should final assembly verify?

- A. Only a local lock command.
- B. Accept the bend based only on panel fit.
- C. Only the panel's flush appearance.
- D. The prescribed clearance, retention and latch functions.

79. A destination receives changing source messages, but its live display uses an unchanging fallback value and a required local input is invalid. The supplied strategy defines that fallback when the input fails. What is strongest?

- A. An absence of all source traffic.
- B. The destination's documented fallback condition.
- C. Every other recipient necessarily sharing the same local fault.
- D. A normal full-data state because the display has a number.

80. A wheel bearing requires a defined installation support race. What should the press arrangement use?

- A. A hammer used until the part looks seated.
- B. Any race easiest to contact.
- C. The specified load-bearing support for that operation.
- D. Only a larger press load.

81. A diesel lacks requested boost. The charge path passes its leak test, but actuator feedback fails and inspection confirms its arm does not reach the supplied travel requirement. What is strongest?

- A. The actuator or mechanical travel path.
- B. Normal boost control because the target is displayed.
- C. A fuel-level sender as the actuator movement source.
- D. A confirmed charge-air leak despite its passing test.

82. An HVAC sensor replacement requires measuring its response against the actual calibration. What should final verification use?

- A. The warning lamp cleared as the entire response test.
- B. Only the part's connector shape.
- C. The specified reference conditions and installed signal check.
- D. A universal voltage from another sensor type.

83. A supplied interpolation model gives 1,000 ohms at 80 C and 600 ohms at 100 C, linear only between those points. An isolated sensor reads 800 ohms. What temperature does the model imply?

- A. 90 C
- B. 85 C
- C. 100 C
- D. 95 C

84. A driveline speed reading is wrong after a module update. The physical sensor waveform matches the supplied tooth-count model, but the module is configured for a different count. What is strongest?

- A. A gear tooth broken conclusively from the setup value.
- B. Normal reporting because the module has current software.
- C. A missing physical waveform already excluded.
- D. The configured speed-interpretation model.

85. A rotation check records seven twelfths of a full turn. Using 360 degrees per turn, what angular movement is represented?

- A. 180 degrees
- B. 210 degrees
- C. 240 degrees
- D. 150 degrees

86. A no-ready diagnostic requires checking key recognition and selector status before examining traction parts. What should the technician establish?

- A. Immediate pack replacement without checking the inputs.
- B. Only the traction battery's nameplate voltage.
- C. Only a quiet engine.
- D. The specified operating prerequisites through the actual test sequence.

87. A steering repair requires replacing damaged locking hardware. What should final assembly restore?

- A. The specified retention parts and tightening method.
- B. Any wire added as a substitute without approval.
- C. A stronger wrench pull on the damaged piece.
- D. Only the old hardware's external shape.

88. A control unit's voltage is correct at rest, but its ground rises above the provided limit during activation. The harness supply remains stable and the warning appears at that instant. What is strongest?

- A. An internal module fault assumed before resolving the measured ground loss.
- B. A positive supply failure despite the capture.
- C. The loaded ground-return condition.
- D. A normal operating ground from the rest reading.

89. A lamp works through its approved direct load test. Normal feed voltage is present, but the local ground reads above its supplied loaded-loss limit and the lamp is dim. What is strongest?

- A. A complete absence of positive feed.
- B. The deficient lamp-ground path.
- C. A bulb that cannot illuminate despite its comparison.
- D. Normal return established by some light output.

90. A supplied pad-wear model starts at 12 mm, reaches its replacement limit at 3 mm, and currently measures 8 mm. What percentage of its usable thickness remains, rounded to two decimals?

- A. 66.67%
- B. 55.56%
- C. 44.44%
- D. 88.89%

91. A diesel exhaust sensor reports a value outside its supplied range. Its known-reference test passes disconnected, but the harness reference is low when connected and that path fails loaded checks. What is strongest?

- A. Normal installed measurement from the disconnected pass alone.
- B. A worn axle bearing as the signal reference.
- C. A failed isolated sensor reference test.
- D. The connected reference-supply fault.

92. A supplied drive range gives 54 input turns for 12 output turns. What reduction ratio results?

- A. 4.5:1
- B. 3.5:1
- C. 2.25:1
- D. 5.5:1

93. A digital multimeter in resistance mode measures which circuit property under its approved test conditions?

- A. The circuit's live voltage in a different measurement mode.
- B. Charge storage evaluated through a capacitance function.
- C. Opposition to its specified measuring current.
- D. Operating current measured through the meter's current input.

94. A driveline gear reduction changes the relationship between input and output speed. Under its defined reduction, what normally happens to output speed relative to input?

- A. Output speed is reduced according to the stated ratio.
- B. Ratio exists only when the tires are removed.
- C. Output always exceeds input by the same ratio.
- D. Both shafts must stop in every gear.

95. A vehicle's steering effort rises with temperature. The supplied electrical capture shows assist motor drive limited under a documented thermal-protection state, with torque input and supply passing. What is strongest?

- A. A mechanical axle-ratio fault as the control limit.
- B. Normal unrestricted motor drive.
- C. Interpret the protected assist state and investigate its thermal cause.
- D. An absent torque request already excluded.

96. A module's supply voltage is stable unloaded but falls below its specified minimum during the network self-check. A shared upstream splice fails its loaded test; unaffected modules use another feed. What is strongest?

- A. Normal module power from the unloaded reading.
- B. A termination-count error as proof of the voltage collapse.
- C. A shared communication failure at every node.
- D. The affected supply splice under load.

97. A replacement battery cable passes its bench inspection. What should installed verification also confirm?

- A. Only its measured length.
- B. The specified routing, contact and loaded loss requirements.
- C. The bench pass used to waive vehicle connection checks.
- D. Only matching external insulation colour.

98. A gasoline air filter supports which intended intake function?

- A. Pulse injector current to meter fuel.
- B. Screen designated particulate material from the incoming air.
- C. Set the engine's mechanical compression ratio.
- D. Measure oxygen in the exhaust directly.

99. A driveline repair calls for an operating leak check after a static inspection. What should final verification include?

- A. Only the parked appearance.
- B. A result copied from the removed assembly.
- C. Complete the specified operating and static checks.
- D. Only the quantity filled.

100. A meter-current test requires a protected input and a stated range. What should the technician verify before connection?

- A. The correct leads, input, range and circuit method.
- B. Any jack that accepts the probe plug.
- C. Only a stable display with the leads disconnected.
- D. A range chosen from another job without checking this circuit.

101. A driveline complaint occurs only during left turns under power. The supplied joint check finds excessive internal play at an affected outer CV joint; shaft support and hub checks pass. What is strongest?

- A. A stationary starter fault as the turning torque path.
- B. Normal joints because straight travel is quiet.
- C. A passing hub as the only supported defect.
- D. The failed articulated joint under the complaint load.

102. A supplied gasoline test model measures 882 g of intake air and requires a 14.7:1 air-to-fuel mass ratio. What fuel mass should be compared with delivery under that model?

- A. 60 g
- B. 14.7 g
- C. 120 g
- D. 882 g

103. An A/C pressure complaint appears only with a missing condenser shroud. The supplied airflow check fails despite normal fan speed, while charge quantity passes. What is strongest?

- A. An overcharge already not supported.
- B. A fan that receives no command.
- C. Normal airflow proved only by fan rpm.
- D. The deficient installed condenser airflow arrangement.

104. A joint-play inspection requires a specific wheel support position. What should the technician establish?

- A. A universal acceptable movement copied from another joint.
- B. The prescribed support and measurement condition.
- C. Only a convenient hanging position.
- D. Only a wheel shaken by hand without the required method.

105. A high-voltage interlock provides information for its specified safety or operating strategy. What should its state be interpreted as?

- A. An automatic physical repair of a damaged connector.
- B. Complete proof that every conductor is voltage-free.
- C. An input defined by the vehicle's connection and control arrangement.
- D. A substitute for the required protective barriers.

106. A restraint impact sensor provides information related to which intended physical condition?

- A. Apply the belt's pretensioning force.
- B. Classify the seat's occupant load.
- C. Report the belt buckle's latch state.
- D. The vehicle motion measured by its specified sensing function.

107. A blower output fails its supplied speed range while command and power pass. The approved movement check finds an obstruction in the wheel, and removal restores output. What is supported?

- A. The wheel obstruction contributed to inadequate airflow.
- B. Normal original movement because the motor had power.
- C. A charge-quantity fault as the direct wheel obstruction.
- D. A missing command despite its verified input.

108. A replacement heater valve requires its flow arrow to match the supplied route. What should installation verify?

- A. Only a new connector seal.
- B. The specified orientation, connections and operating response.
- C. Only hose diameter.
- D. An arrow relabelled without changing the internal arrangement.

109. A network fault code describes a detected communication condition. What distinction should diagnosis preserve?

- A. A cleared code proves the physical wiring is sound.
- B. Every code requires immediate module replacement.
- C. A detected condition is not automatically proof that the named module is defective.
- D. The code label replaces all vehicle-specific tests.

110. A suspension clunk is reproduced in the specified loaded check. One locating fastener has lost required clamp, but bushing condition and joint play pass. What is strongest?

- A. All joints defective independently.
- B. The deficient fastening relationship.
- C. A bushing failure despite its passing condition.
- D. Normal retention because the bolt remains in the hole.

111. An intake repair disturbs a bracket that supports a sensor lead. What should final installation verify?

- A. Only a static scan value.
- B. The wire pulled tight across a moving component.
- C. The designated support and protected movement route.
- D. Only the bracket's external appearance.

112. A steering pull occurs with one brake remaining hot. Its released hydraulic pressure passes, but the supplied caliper-slide movement test fails. Tires and alignment pass. What is strongest?

- A. An alignment defect already not supported.
- B. A normal brake because fluid does not leak.
- C. Retained pressure despite its passing result.
- D. The caliper's mechanical release restriction.

113. A verified common-clock capture timestamps transmission at 0.0050 s and receipt at 0.0078 s. What measured interval should be compared with the provided communication criterion?

- A. 2.8 ms
- B. 0.28 ms
- C. 5.0 ms
- D. 7.8 ms

114. A pressure tester's adapter does not match the service port specification. What should be used?

- A. The nearest available adapter regardless of rating.
- B. Extra sealant on the wrong connection.
- C. The approved compatible adapter and sealing arrangement.
- D. A partially engaged adapter forced tight.

115. A gateway forwards the prescribed identifier but applies a configured data scale different from the supplied destination definition. The input values are correct and the output comparison fails. What is strongest?

- A. An open network conductor despite received output.
- B. Normal forwarding simply because an identifier appears.
- C. A source sensor failure despite verified input.
- D. The gateway's configured conversion or routing definition.

116. A supplied ideal blend model mixes three equal heat-capacity units at 10 C with one at 50 C. What temperature results without other heat transfer?

- A. 20 C
- B. 15 C
- C. 40 C
- D. 30 C

117. An axle clunk occurs at torque reversal. The supplied backlash measurement exceeds its limit, while all observed joint and mount play pass. What is strongest?

- A. A failed mount despite its passing check.
- B. The excessive gear relationship in that axle test.
- C. A joint defect as the only supported cause.
- D. Normal axle condition because its teeth remain present.

118. A connector repair requires replacing a heat-damaged housing as well as its terminal. What should restoration include?

- A. Only a new terminal in the damaged cavity.
- B. Tape around the housing as the sole repair.
- C. Both specified parts and the complete retention and sealing checks.
- D. Only a successful brief load test.

119. A network module repair requires recording configuration before updating. What should the technician preserve?

- A. The relevant authorized identification and setup information.
- B. An unverified donor file as the replacement record.
- C. Only the current warning-lamp state.
- D. Only the case serial number if other data is required.

120. A restraint inspection requires a defined disabled state before handling a connector. What should preparation establish?

- A. Only ignition shutdown without checking the procedure.
- B. The complete prescribed safety sequence and approved diagnostic method.
- C. Only the connector's outside appearance.
- D. An unapproved test lamp to identify its terminals.

121. A final brake check requires verifying application and release. What should completion establish?

- A. Only a firm applied pedal.
- B. Only free rotation before pedal use.
- C. A successful first stop as proof of every function.
- D. Both states and the prescribed system checks.

122. A parking brake fails its supplied holding test. Its actuator reaches the specified travel, but friction clearance is beyond limit and lining wear is confirmed. What is strongest?

- A. A wheel-speed input as the sole mechanical repair.
- B. The friction and clearance condition.
- C. A missing actuator command already excluded.
- D. Normal holding because the motor moves.

123. A driveline bolt sequence includes replacement of specified locking hardware. What should assembly restore?

- A. The required hardware and complete fastening method.
- B. Any washer matching external size.
- C. The old damaged lock with extra torque.
- D. Only the last bolt's reading.

124. A rear door opens from outside but not inside. The supplied design blocks the inside handle with child lock enabled; inspection confirms that setting and both handle mechanisms pass their tests. What is best supported?

- A. A broken outside handle.
- B. A confirmed internal cable defect despite its passing test.
- C. The documented child-lock condition explains the reported difference.
- D. A common lock motor failure preventing all opening.

125. After tire installation, one wheel's signal differs from the others. Its actual rolling size is outside the supplied compatibility requirement, and all sensor waveform checks pass. What is strongest?

- A. An electrical signal failure despite its passing waveform.
- B. A brake-fluid leak as the tire-size cause.
- C. Normal control inputs because each sensor works individually.
- D. The incompatible rolling-size relationship.

Practice Exam 22: Answer Key and Explanations

1. A — Convert thirty-six minutes to 0.6 hours and multiply by ten amperes to obtain six ampere-hours. This is charge quantity under the supplied steady model, not energy without a voltage basis. The

calculation does not replace the charging system's required diagnostic conditions or certify battery capacity by itself.

2. C — The fault follows the movement that makes the connector leave its acceptable engagement while target and supply checks pass. Restore the approved route and retention. Straight-ahead operation cannot certify the path across steering travel, and a local physical separation is not repaired by replacing a sound target.

3. B — The coil supplies the designed electrical transformation for ignition under the system's control. Fuel pressure and coolant flow use different components. A valid command alone cannot establish the coil's actual output or a successful spark under every operating condition, so diagnosis needs the relevant ignition checks.

4. D — The safety data sheet identifies relevant product hazards and precautions for handling, exposure and response. It is not a substitute for vehicle wiring or lift instructions. Use it with workplace procedures to establish the actual cleaning task's controls rather than treating one document as covering every technical requirement.

5. A — Pressure retention and tread depth do not establish that a damaged area is repairable under the tire's criteria. Evaluate the actual location and condition, then use an authorized method or replacement. Additional patch size cannot make a prohibited repair position acceptable by itself.

6. B — The water barrier and designated drains work together to handle entry and discharge. Restore them as specified and verify the relevant leak condition. Drying contents does not repair the path, and blocking drains can create retention instead of establishing the intended water-management arrangement.

7. C — The new seal still operates against the confirmed damaged surface, which can explain the recurring leak despite correct vent and level conditions. Assess the entire interface under the repair criteria. New component identity does not make its mating part acceptable or establish a complete restored seal.

8. D — The physical installation failure is localized to the noisy valve path while common supply and other movement checks pass. Correct and verify that follower relationship. A passing gallery test cannot approve a misassembled mechanical interface, and one unaffected valve does not establish the condition of its neighbouring components.

9. A — The camshaft lobes operate the intended valve train to create its prescribed valve-opening motion. Injector metering, thermostat opening and pressure-relief movement use different control paths. Actual timing and lift still depend on correct complete installation, so rotation alone cannot prove every valve reaches the required movement.

10. B — The two stages can assess different conditions, so perform each as directed. A cold start does not prove the warmed result, and one indicator cannot establish every check within that stage. Record the actual operating state with the findings rather than treating a partial verification as complete acceptance.

- 11. A** — The sequence withholds command when the supplied selector input is not the required state. Verify and repair that input before condemning an uncommanded solenoid. Lever position and reported state can differ, so appearance alone does not establish the actual condition used by the controller.
- 12. C** — Toe concerns the top-view pointing relationship, distinct from camber, caster and wheel offset. Apply the actual vehicle's measurement and specification rather than assuming one value suits every design. Identifying the angle does not establish that worn or bent locating components are acceptable for adjustment.
- 13. D** — The operating environment and movement envelope matter beyond a cold visual view. Restore the prescribed route and heat protection, then verify the relevant clearances. Nominal diameter does not establish exposure suitability, and direct contact with a hot shield is not automatically an approved retention method.
- 14. A** — The guide's dimensional condition must meet its criteria before the associated seal completes assembly. A tighter seal does not automatically correct an unacceptable guide relationship. Hand movement and one component diameter cannot replace the actual matched-clearance measurement specified for the repair.
- 15. B** — Multiply the stated five-metre length by 0.006 ohm per metre to obtain 0.030 ohm conductor resistance. The terminal contribution is excluded. This calculation represents the given replacement path only and does not establish universal cable acceptance without its operating current and the applicable vehicle requirement.
- 16. C** — The circuit's protection is part of the final service condition, even when it can communicate during a dry check. Restore its approved environmental assembly and test operation. A cleared message cannot replace a removed moisture barrier or establish that the connection remains suitable after the repair.
- 17. D** — Physical connection and code clearing cannot demonstrate the full post-repair condition required by the actual vehicle. Complete the defined checks and restore every affected protection. Operation obtained through bypass is not acceptance evidence for a system still outside its specified connection or control arrangement.
- 18. B** — The generator's output exists but the identified open prevents its intended delivery to the battery. Restore the approved path and verify charging. A correct reading at the source cannot establish continuity beyond an opened link, and a sound ground does not replace that positive connection.
- 19. D** — The shaft needs the approved joint movement and assembly before installation, not just a matching overall length. Binding can remain even when the part fits between mounts. Verify the actual condition rather than using attachment capability or fresh appearance as proof of acceptable mechanical operation.
- 20. C** — The modification changes the operating geometry, and the supplied adjustment cannot meet the original range even without identified damage. Resolve the actual approved configuration rather than

forcing another setting outside specification. Undamaged parts do not necessarily retain their intended geometric relationship at an altered ride height.

21. A — The connector needs its intended electrical and environmental condition in service, not merely a momentary operating pass. Restore the prescribed assembly and checks. Engine startup can occur while a weak contact remains vulnerable to heat or vibration, and exterior tape does not automatically establish correct internal seating.

22. C — The conductors are continuous but connected to an unintended interface, and the controlled correction restores the expected communication. Physical fit cannot establish the correct topology. Verify the specified connection assignment before treating a successful continuity check as acceptance of every installed network relationship.

23. D — The lubricant provides the required operating medium for the assembly's moving interfaces under its specification. It does not repair damaged teeth or alter gear geometry. Correct fluid alone also cannot certify every seal, so mechanical condition and leakage checks remain separate parts of driveline diagnosis and repair.

24. A — The fastening procedure includes the condition of the threaded hole, not merely the external head. Prepare it as instructed before assembly. Entry alone does not establish the complete joint state, while extra torque cannot compensate for an unverified volume or condition inside the required fastener path.

25. B — Add the signed values specified by the model: positive 0.15 plus negative 0.05 gives positive 0.10 degree total toe. The right side's toe-out reduces the left side's toe-in contribution. Adding absolute magnitudes would ignore the sign convention and overstate total toe-in.

26. B — The barrier provides protection separate from coolant flow and must be restored as specified before re-energization. A working display and tightened bolts do not establish its physical condition. Verify the complete assembly instead of treating one functional path as authorization to omit another required safeguard.

27. D — The sensor's element passes while its installed reference fails during the relevant operation. Restore and verify the actual ground path before judging the entire measurement accurate. An isolated calibration test cannot establish a signal's integrity when its operating electrical reference changes under load.

28. A — The procedure separates sliding contacts from friction and material-sensitive interfaces. Apply the specified lubricant only where directed. More product or broad application cannot establish compatibility and can contaminate a braking surface, so use the actual assembly requirements rather than assuming every contact needs grease.

29. C — The required work boundary can retain fuel pressure after the engine stops. Follow the procedure before opening it. Tank-cap position describes another part of the system, while loosening a connection to discover its contents substitutes uncontrolled release for verification of the prescribed safe state.

- 30. B** — The pump delivers normally through the approved comparison while its original feed remains open at the relay. This separates the load from the switched path. Coil energization does not prove contact continuity, so restore and verify the actual supply instead of replacing the pump solely from its original no-run symptom.
- 31. C** — The controlled substitution corrects both the airflow comparison and fuel response while actual fuel pressure passes. That supports the source air measurement's contribution. A present signal is not proof of correct scaling, and the observed change does not require condemning a separate pressure system without evidence.
- 32. A** — Multiply fifteen amperes by fifty minutes converted to hours to obtain 12.5 ampere-hours. The current and time describe the same supplied steady test. This result is removed charge, not energy without a voltage basis or a complete battery-health verdict without the applicable acceptance conditions.
- 33. D** — The grounding joint's electrical contact depends on its prescribed surface and fastening method. Complete those requirements and verify the path. A neat fastener does not establish resistance, and extra force cannot automatically compensate for material placed at an interface intended to provide the specified conduction.
- 34. D** — The connector needs each path at its specified cavity, with approved retention. Correct wire count cannot establish functional assignment, and colour alone may not resolve every circuit. Follow the actual diagram and connector method rather than assuming a physically complete plug is correctly wired.
- 35. B** — The replacement must restore its mechanical support and the associated sensing relationship. Perform the encoder and circuit checks required by the procedure. Rotation alone cannot establish signal orientation or delivery, and one indicator state does not independently prove every control function is correctly restored.
- 36. C** — The signal's meaning depends on the particular sensor and the conditions required by its diagnostic method. One exhaust device's value cannot be transferred to every other sensor. Normal idle alone does not establish aftertreatment performance throughout its operating range or identify every underlying fault.
- 37. A** — Multiply the measured torque by the supplied speed, then divide by the given conversion constant: 120 times 3,000 divided by 9,550 is approximately 37.70 kW. This uses the stated model and measurement condition. The numerical comparison does not independently certify the dynamometer's calibration or every engine operating requirement.
- 38. C** — The wheel receives pressure and its caliper moves correctly, but the friction surface has a confirmed unacceptable condition. Assess that interface under the brake criteria. Sufficient thickness does not establish appropriate friction, and a hydraulic pass cannot certify mechanical contact contaminated by another substance.

- 39. D** — The exposed edge creates a physical injury and possible wiring-damage hazard beside the work area. Establish the approved protection and access before inspection. Electrical instrument settings and wire identification address different matters, while speed cannot remove contact with a sharp surface.
- 40. A** — The failed guide clearance and damaged local oil-control interface provide a direct lead while ring tests pass. Compression evidence alone does not establish every oil-entry boundary. Inspect and repair that guide-area relationship under the engine criteria rather than treating all oil consumption as proof of ring damage.
- 41. B** — The procedure defines the work boundary and its required confirmation points. Complete them with authorized equipment rather than substituting a nearby value. A disconnected device or indicator does not independently establish the state of both affected sides, so access depends on the actual prescribed verification.
- 42. C** — The bracket establishes the sensor's physical relationship under the vehicle design and requires authorized repair or replacement. A visual approximation or clear code cannot establish that installation. Improvised mounting changes the intended attachment rather than providing the specified mechanical condition for a safety-related sensor.
- 43. A** — Air delivery and condensate removal are separate housing requirements. Restore and verify both under the procedure. Motor sound and some vent airflow cannot establish the drain remains open or that the seal directs air correctly after the replacement assembly closes.
- 44. B** — The fault follows a controlled temperature change and a matching failed ground measurement while other conditions remain valid. Investigate the affected return connection. A cold pass cannot certify the warmed state, and a global software explanation is less consistent with the localized electrical change that reproduces the dropout.
- 45. D** — The repaired circuit needs its designed protection as well as the corrected fault. Install the specified link and verify operation under the prescribed conditions. An unloaded source reading cannot certify its carrying path, and a larger rating or jumper does not restore the approved protective arrangement.
- 46. C** — The failed locating check supplies a mechanical explanation for the changed alignment after subframe work, while arm damage is not identified. Restore the approved installation relationship before final geometry or calibration. Bolt presence does not establish correct location, and software cannot move a displaced structural support into its required position.
- 47. A** — The travel check verifies movement and clearance while access remains available, using the prescribed safe arrangement. Motor sound cannot establish unobstructed travel. Keep personnel out of the pinch path and resolve interference rather than enclosing a known defect beneath the panel.
- 48. B** — The approved comparison changes the failing boundary into a passing remainder, localizing investigation to the removed branch and associated connections. It does not prove the exact internal compressor defect. Maintain the specified high-voltage test and safe-work conditions while following the localized diagnostic path.

- 49. C** — Add the supplied branch currents to obtain six amperes at their common feed under the stated arrangement. Each value belongs to the same operating model. This provides a comparison basis rather than proving a particular branch fault; differences require the approved path tests and valid simultaneous measurements.
- 50. D** — The source must be addressed so the new friction assembly is not exposed to the same condition. Verify the prescribed mating surfaces and repair scope. Initial grip cannot establish continuing suitability, and additional bolt force does not remove oil or another contaminant entering the interface.
- 51. A** — The complaint condition produces failed ignition evidence at the same component that fails its independent comparison. Smooth idle does not establish high-load performance. The passing pressure and compression checks narrow alternatives, so assess that coil under the vehicle method rather than assigning the misfire to a generic cylinder cause.
- 52. D** — The required safe state has not been established for the task. Keep the boundary controlled and use the vehicle's authorized diagnostic or escalation method. An ignition state does not override failed verification, and altering warning inputs cannot demonstrate absence of hazardous energy at the intended work point.
- 53. B** — The restored route must protect the repaired path from abrasion and environmental exposure as prescribed. A stationary communication pass does not certify its later mechanical condition. Restore the grommet or designated protection and support rather than leaving the conductor at a new sharp contact interface.
- 54. A** — The guide locates the stem along the valve's designed path, with clearance specified for the actual engine. Stroke, injection and pressure regulation are separate functions. Guide condition and its related oil-control parts must be assessed independently; the component's general role does not establish acceptable wear or sealing.
- 55. C** — The repaired circuit needs the specified internal condition before it operates. External cleanliness and a short run cannot demonstrate evacuation or the intended moisture state. Complete the actual preparation and acceptance checks rather than treating connected fittings alone as restoration of the full refrigeration boundary.
- 56. B** — Multiply the stated 280 V by 150 A to obtain 42,000 W, or forty-two kilowatts. The result describes the supplied electrical input, not mechanical output without conversion and loss information. Any actual traction measurement remains limited to the vehicle's authorized procedure and established work boundary.
- 57. D** — Command expresses the requested operation but cannot certify actual fluid movement through the circuit. Use the prescribed state and response method. Appearance and sound provide observations to interpret, not a replacement for the circulation evidence needed to determine whether the thermal path meets its requirement.

58. C — The states can expose different wake, power or message conditions, so test the actual repaired vehicle as directed. A parked pass does not establish operation in every required mode. Code clearing and another configuration's result cannot supply evidence for states not tested on this installation.

59. B — The condition is localized at a physically incomplete connection and changes after its controlled restoration and retest. Follow the vehicle's approved final verification without assuming every device named by a code is defective. Mechanical seat fastening does not prove the wiring disturbed by installation is correctly assembled.

60. D — The sensor needs the prescribed mechanical relationship as well as electrical connection. Prepare its seat and use the specified fastening method. Connector latching cannot establish installation depth, and extra torque does not make an unclean or incorrect seating surface acceptable.

61. A — The procedure defines how air is removed from the actual hydraulic arrangement, including its required control operation. Complete it and verify the relevant result. Reservoir level or a temporary pedal feel cannot authorize omitting a stage explicitly required for the repaired boundary.

62. B — The regulator controls the required charging-output condition under its design and strategy. Starter switching, sensor reference conversion and diode rectification are separate electrical functions. A setpoint alone does not prove actual delivery; compare commanded and measured output through the prescribed conditions before accepting the charging arrangement.

63. C — The complaint is tied to engagement and a failed surface check at that interface, while the supplied rotating-path alternatives pass. Assess the clutch assembly through its repair method. Reaching full engagement afterward does not establish acceptable behaviour during the transition where the vibration appears.

64. D — The local comparison proves one path can operate the load, but the remote request fails to reach it through the specified route. Resolve the configuration and verify delivery. Successful local operation does not establish every command path, while a common supply explanation conflicts with the working controlled comparison.

65. A — The physical connections fail the supplied arrangement even though electrical command and supply pass. Restore the prescribed port relationships before broader diagnosis. Hoses fitting their ends cannot establish intended flow, and a correct command does not compensate for a hydraulic connection made to the wrong function.

66. D — The difference is 150 turns. Divide by the predicted 1,500 turns and multiply by one hundred to obtain a ten-percent shortfall. This quantifies the measurement comparison; the actual driveline cause still depends on validating the counters and following the relevant torque-transfer and selection tests.

67. A — The pressure meets the supplied requirement while the affected element cannot hold under its separate test. Investigate that localized friction condition. Correct control request and hydraulic pressure do not independently establish that a worn or damaged mechanical element transfers the required torque.

68. B — The cooler route must be mechanically secure and suitable for its intended flow before the operating test. Case fit and extra fluid cannot replace connection and support requirements. An initial

leak-free view does not establish that unsupported lines remain protected under load, movement and temperature.

69. C — The geometry must be checked after the physical repair using the actual alignment method. A single angle or software reset cannot establish all required relationships. Resolve installation and specification through the approved process instead of introducing another unverified component alteration to conceal a remaining discrepancy.

70. D — The installation depth is a defined geometric requirement, which the prescribed tool and check establish. Diameter fit does not prove position. Greater force and maximum insertion can leave the seal outside its intended interface rather than demonstrate the actual repair method has been followed.

71. C — The required inputs are present, but the control state prevents the specified request. Resolve its configuration under the vehicle method before assigning the complaint to an apply circuit that passes. A mechanical response cannot be expected from a command withheld by an incorrect control arrangement.

72. A — The interference places an abnormal mechanical demand on the powered assembly and is compatible with the high-current finding. Restore clearance under the component method, then verify electrical operation. Correct supply and identity do not establish free blade movement or an acceptable installed load.

73. B — The work needs a suitable supported state and access path, not just enough hoisting capacity. Establish the approved arrangement before reaching the mount area. A rated hoist does not independently authorize working in the load's fall or pinch path, and faster work cannot remove that exposure.

74. D — The lead needs protection throughout the movement range specified by the vehicle, not merely a sound static circuit. Restore the intended slack and support. Stretching can create contact or separation elsewhere, and one centred view cannot prove clearance during steering and suspension travel.

75. C — The controlled separation makes the latch move freely but identifies binding in the cable path. Restore and verify that path before replacing the latch solely from the original symptom. Physical closure by pushing does not establish the mechanism's required return or correct release behaviour.

76. B — The operating waveform fails and recovers with a controlled disconnection, despite a passing static check. Investigate that module and connection under the procedure. Static resistance tests one aspect of the system and cannot override a captured live fault or certify every connected component's behaviour.

77. A — The temperature door controls the intended cabin air routing or heat-mixing relationship. Refrigerant metering, heat rejection and compression are other HVAC functions. Verify the actual mechanical response and control strategy, because actuator command or rotation alone cannot prove that a disconnected or restricted door reaches the required air-path position.

78. D — The cable must move and remain protected through the intended route after panel closure. Verify release and return functions as specified. A flush panel can conceal interference, and one

electrical lock command cannot establish a mechanical cable's acceptable movement through a changed bend.

79. B — The source messages arrive, while the local invalid input invokes the supplied fallback strategy. Interpret that state and test the failed prerequisite rather than assuming any displayed number represents current live data. A condition at this destination does not automatically identify a fault at every other recipient.

80. C — The bearing's approved force path controls how installation load reaches its components. Provide that support before pressing and verify the result. Greater force cannot correct an unsuitable reaction arrangement, and final appearance alone does not establish that the installation avoided damage through unintended interfaces.

81. A — The target is not achieved with a physical travel failure while the competing air-path check passes. Localize the actuator and linkage under the test sequence. A displayed request describes intent, not completed movement, so it cannot establish normal boost control when the mechanism fails its specified range.

82. C — The sensor must be assessed against its own calibration and installed operating conditions. Connector shape does not establish that response, and another sensor's value may describe a different relationship. Use the relevant method rather than accepting a cleared warning as proof of accurate measurement.

83. A — Eight hundred ohms is halfway between the two supplied resistances, so the specified linear model places temperature halfway from eighty to one hundred degrees: ninety degrees Celsius. This interpolation applies only to the stated segment and assumption, not to every real temperature sensor's complete response curve.

84. D — The actual signal matches its supplied physical model while the configured interpretation uses another count. Resolve that configuration before condemning mechanical gearing. Updated software is not proof of correct vehicle-specific parameters, and a valid waveform can still produce an incorrect reported speed through an unmatched definition.

85. B — Multiply the supplied seven-twelfths fraction by the full-turn value of 360 degrees to obtain 210 degrees. The fraction describes one complete revolution's proportion. Treating seven twelfths as a number of whole turns or selecting a familiar half-turn value would misread the stated measurement.

86. D — The sequence separates readiness inputs from traction-component conditions. Verify the stated prerequisites rather than assigning the complaint to the pack from no-ready status alone. Nameplate voltage and silence do not establish that the controller receives the required key or selector information for the actual readiness attempt.

87. A — The repair must provide the designated retention relationship, not merely a fastener that resembles the original. Replace the specified damaged parts and follow the method. Extra force and unverified substitutes cannot establish the approved locking function or installed condition.

- 88. C** — The fault coincides with the return path failing its loaded criterion while the positive feed stays stable. Investigate that ground before condemning the unit itself. A rest measurement can pass while the actual current demand exposes resistance, so compare readings under the relevant activation condition.
- 89. B** — The load can work, while the normal return path fails its criterion under operating demand. Investigate that local ground before treating partial illumination as acceptance. Present feed voltage does not prove the complete circuit carries current with the required losses, and some output cannot override the failed measurement.
- 90. B** — Usable starting thickness is twelve minus three, or nine millimetres. The remaining usable portion is eight minus three, or five millimetres; five divided by nine gives 55.56%. This interprets the supplied planning model and does not replace the actual brake's complete acceptance and repair criteria.
- 91. D** — The sensor passes the isolated check, but the required connected electrical condition fails. Investigate that reference path before accepting the installed signal or replacing the sensor solely from its displayed value. A component response measured in one state cannot override a failed operating prerequisite in another.
- 92. A** — Divide fifty-four input rotations by twelve output rotations to obtain 4.5 to one. Use the stated input-to-output direction for the range comparison. Reversing the division or substituting a different shaft count would calculate another relationship rather than the actual measured reduction supplied in this test.
- 93. C** — Resistance mode measures the specified test path's opposition to the instrument's measuring current. Live voltage, capacitance and operating-current tests require different arrangements or modes. Follow the actual de-energized and disconnected conditions because an external source or parallel path can prevent a component resistance reading from representing the intended property.
- 94. A** — The reduction expresses fewer output rotations for the specified input rotations under its operating model. The reciprocal describes the opposite comparison. Tire removal is not what creates a gear relationship, and rotation through a selected range must still be interpreted using the actual shafts and any stated slip conditions.
- 95. C** — The drive reduction matches the supplied protection state while its request and power conditions pass. Follow the diagnostic sequence for the temperature condition rather than assuming the controller always provides unrestricted assist. Protective operation explains the command state but does not prove the cause of overheating is normal.
- 96. D** — The loaded supply condition fails at a localized splice while unaffected nodes use a separate path. Restore and verify that feed before condemning the network itself. An unloaded reading does not establish current-carrying performance during the self-check, and correct traffic elsewhere cannot prove this module stays powered.
- 97. B** — The installed current path includes connections and routing not established by a bench inspection alone. Verify them using the actual vehicle method. Length and colour do not prove loaded

contact performance, and a component pass cannot automatically certify the completed path after it is attached.

98. B — The element filters particulate material according to its selected intake design. Exhaust oxygen measurement and injector commands use separate components, while compression ratio is engine geometry. An element must also allow the required airflow; filtering purpose does not prove a blocked intake meets the engine's operating needs.

99. C — The operating check can reveal a condition absent at rest, so complete the stated procedure on the actual repaired assembly. Fill quantity and a static view do not establish its full leakage behaviour. A removed component's record cannot supply evidence for the newly restored boundary.

100. A — The intended current test depends on correct input protection and connection method as well as range. Establish these from the instrument and circuit instructions before use. Physical plug fit and a stable unloaded display do not prove that the selected jack or connection safely measures the requested current.

101. D — The complaint's steering and torque condition is compatible with a joint that fails its internal-play check. The supplied support and hub passes narrow those alternatives. Quiet straight travel cannot establish acceptable operation at the angle and load where the fault occurs.

102. A — Divide the measured 882 g of air by the supplied 14.7-to-one mass ratio to obtain sixty grams of fuel. The ratio is a stated test requirement, not a claim that every blend or operating condition uses it. Compare actual delivery under the same model before interpreting the difference.

103. D — The fan turns at the expected speed, but the missing installation feature and failed airflow test show that useful flow is not established. Restore the air path and verify its condition. Fan speed is one observation, not proof of correct flow through the condenser's required arrangement.

104. B — The support state can change how the joint is loaded, so use the actual procedure before comparing movement with its limit. A convenient condition may hide or exaggerate the relevant path. Another design's threshold cannot supply the acceptance criterion for the component being inspected.

105. C — The interlock supplies its designated status to the vehicle's control strategy. It does not independently certify absence of voltage or replace physical protection. Interpret its actual input and required diagnostic sequence rather than extending one connection-state report into acceptance of every high-voltage work boundary.

106. D — The impact sensor supplies motion-related information defined by the restraint arrangement. Occupant classification, buckle-state reporting and pretensioning are related functions but belong to different devices or paths. Its mounting and signal must meet the actual vehicle requirements; a general sensor role does not prove correct installed orientation or complete restraint readiness.

107. A — The failed movement check and controlled removal produce a matching recovery in output, supporting the physical obstruction. Electrical supply alone cannot establish the load rotates freely. Verify the completed assembly rather than attributing a localized blower restriction to the separate refrigerant charge condition without evidence.

- 108. B** — The valve must be installed in the actual orientation required by its instructions and circuit. Correct hose size does not establish flow-function compatibility. Relabelling a marking cannot change internal geometry, so restore the specified arrangement and verify the relevant response before accepting the repair.
- 109. C** — The code identifies what the system detected under its monitoring strategy, not a complete component verdict. Use the actual diagnostic information and relevant electrical or data checks. Code clearing changes stored information but cannot repair wiring or independently establish that the communication condition is no longer present.
- 110. B** — The clamp condition fails at the localized attachment while competing component tests pass. Restore and verify that joint under the fastening procedure. Bolt presence is not proof of its required installed load, so an apparently complete attachment can still move and produce the complaint.
- 111. C** — The repair must preserve the lead's physical condition as well as signal operation. Restore its support and movement protection under the instructions. A static value cannot prove that a strained or contacting route remains reliable during engine motion, and visual appearance alone cannot establish correct retention.
- 112. D** — The wheel condition coincides with failed mechanical movement while hydraulic release and competing checks pass. Assess the slide and associated assembly under the brake procedure. Absence of a leak cannot prove free release, and the evidence is stronger than assigning the complaint to an alignment result that meets its criterion.
- 113. A** — Subtract the common-clock transmission time from receipt time to obtain 0.0028 seconds, or 2.8 milliseconds. The verified shared clock makes this comparison valid under the supplied model. Using unrelated unsynchronized timestamps would not establish the same interval, and either timestamp alone is not the transmission-to-receipt delay.
- 114. C** — The test boundary needs a compatible rated connection and its prescribed seal. Forcing partial engagement or adding material cannot establish correct thread geometry and pressure suitability. Use the approved adapter before applying the test condition rather than discovering incompatibility after the boundary is pressurized.
- 115. D** — The output exists but does not represent the supplied data relationship, while input values pass. Resolve the gateway's actual configuration under the vehicle method. Message presence is not proof of correct content, and a received but wrongly interpreted value differs from a completely missing electrical path.
- 116. A** — Weight the temperatures by the stated flow quantities: three times ten plus one times fifty, divided by four, gives twenty degrees Celsius. A simple midpoint assumes equal hot and cold flows, contrary to this model. The result applies to the supplied ideal comparison rather than every real HVAC condition.
- 117. B** — The backlash test identifies an unacceptable condition in a path subjected to torque reversal while competing movement checks pass. Investigate and adjust or repair under the axle procedure. Teeth

being present does not establish their specified relationship, and the noise description alone should not override the measured evidence.

118. C — The housing condition affects the terminal's installed retention and protection, so its prescribed replacement is part of the repair. A brief pass cannot override known cavity damage. Exterior tape does not establish the intended internal engagement or environmental barrier supplied by the required new assembly.

119. A — The required identification and setup record helps preserve the actual vehicle configuration through the repair. One physical number or indicator cannot replace data the procedure specifically calls for. Use authorized information rather than copying a donor whose network options may differ from the installed system.

120. B — The vehicle's restraint procedure defines the required state before connector handling. Follow it and use the designated diagnostic method. Exterior condition and ignition status cannot independently verify reserve-energy or circuit requirements, and an ordinary test lamp is not automatically permitted on deployment-related paths.

121. D — Application and release assess different requirements, so verify both as specified after repair. A firm pedal does not prove each wheel releases, and free rotation before operation cannot establish its condition afterward. Use the complete method rather than extending one favourable observation to the whole brake system.

122. B — The actuator achieves its required travel while the friction relationship fails its separate criterion. Restore the affected hardware under the parking-brake procedure and verify holding and release. Motor operation alone cannot establish adequate holding force through worn material or an excessive operating clearance.

123. A — The locking parts and tightening sequence form the joint's approved retention arrangement. Restore them as specified rather than replacing them by exterior similarity or added force. One reading cannot establish every fastener's installed state, and old damaged hardware does not become acceptable through higher torque.

124. C — The observed difference matches the supplied child-lock design and verified setting while the handle checks pass. Explain and verify the intended operation rather than selecting a defect solely from one inhibited input. A control state can account for a complaint without proving a failed mechanical component.

125. D — Each sensor can measure its wheel correctly while incompatible rolling sizes create a system-level difference. Resolve the approved tire arrangement before condemning the electronics. A component waveform pass does not establish that the measured physical relationship across all wheels meets the vehicle's compatibility requirement.