

# **PRACTICE EXAM 9: AUTOMOTIVE SERVICE TECHNICIAN (125 QUESTIONS)**

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*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 terminal is recrimped following a movement-dependent fault. What should final checks include?

- A. Only the tool used for crimping.
- B. The required retention and loaded result through relevant movement.
- C. Only closure of the outer connector.
- D. Only an unloaded reading with the wire held still.

**2.** A stated perpendicular service calculation uses 50 N force at 0.3 m. What moment results?

- A. 166.67 N m
- B. 15 N m
- C. 150 N m
- D. 50.3 N m

**3.** A drive joint's noise follows powered steering movement. Inspection finds its protective boot torn, contamination inside, and movement beyond the supplied criterion. What is supported?

- A. Clutch-fluid service as proof of removed contamination.
- B. Alignment adjustment as proof of restored joint condition.
- C. A fault in that inspected joint assembly.
- D. A normal joint proven by adequate engine power.

4. A gasoline reference-circuit wire is repaired after movement damage. What should the installation preserve?

- A. The required conductor, support, and protected movement route.
- B. Only conductor size without the protected movement route.
- C. Only the connector's closest available cavity.
- D. Only the old harness's folded shape.

5. A steering actuator receives a valid command, but its actual drive voltage fails because one power connection is open. The mechanical linkage passes the specified movement check. What warrants correction?

- A. Linkage replacement despite its accepted check.
- B. Acceptance from the valid command alone.
- C. Alignment change as proof of restored voltage.
- D. The demonstrated actuator power path.

6. Cabin heating is uneven between two commanded outlets. The required air-control test finds one broken distribution linkage while both coolant connections meet their thermal criteria. What should be assessed?

- A. Acceptance from adequate heat at one outlet.
- B. Coolant addition despite the accepted supply condition.
- C. Heater-core replacement solely from uneven delivery.
- D. The demonstrated outlet-control mechanism.

7. A stated fuel sample contains 0.035 L. Using 1000 mL per litre, what volume results?

- A. 35000 mL
- B. 3.5 mL
- C. 35 mL
- D. 350 mL

**8.** A stated accessory uses 40 W for 15 seconds at constant power. What input energy results in joules?

- A. 2.67 J
- B. 600 J
- C. 55 J
- D. 1200 J

**9.** A qualified EV repair corrects an identified external isolation branch. What should final testing verify?

- A. The required repaired boundary and affected system condition.
- B. Only physical closure of one panel.
- C. Only a cleared warning display.
- D. Only an unrelated accessory's successful operation.

**10.** In a vehicle with direct tyre-pressure sensing, what does its pressure sensor provide?

- A. The brake disc's measured friction coefficient.
- B. A universal wheel-bearing adjustment value.
- C. The front alignment's mechanical caster value.
- D. A measurement associated with the actual tyre pressure.

**11.** A gasoline engine's pressure-under-load result is deficient. Its specified pump command is present, but a poor ground fails the loaded test and the pump runs correctly on the approved independent setup. What deserves correction?

- A. Pump replacement solely from low pressure.
- B. The pump's installed ground path.
- C. The command source despite its accepted signal.
- D. Acceptance from the independent pump result alone.

**12.** What does a high-voltage isolation monitor assess in its specified design?

- A. Individual cell temperature directly.
- B. The motor's exact mechanical output torque directly.
- C. The electrical isolation relationship to the chassis.
- D. Individual cell chemical capacity directly.

**13.** A source module transmits its required message, but the destination branch receives none. A verified open connector separates that branch while the trunk and peers remain active. What should be restored?

- A. The destination communication path.
- B. The working sender replaced solely from the absence.
- C. Acceptance because the trunk remains active.
- D. Every peer module despite their responses.

**14.** A stated HVAC gauge pressure is 200 kPa and atmosphere 100 kPa. What absolute pressure results?

- A. 100 kPa
- B. 300 kPa
- C. 2 kPa
- D. 200 kPa

**15.** Two modules report inconsistent values for one physical condition. The source's verified value is current, while the other uses a confirmed stale message because its update route is disabled. What is indicated?

- A. Source-sensor replacement despite its verified value.
- B. A physical condition changing independently in each module.
- C. Acceptance because both values are plausible individually.
- D. An information-update path or configuration fault.

**16.** A repair changes from inspection to disassembly of a loaded mechanism. What should be reviewed before the new operation?

- A. The actual stored-energy sources and required support method.
- B. Only the number of fasteners visible.
- C. Only the earlier inspection's completed status.
- D. Only the part's original delivery record.

**17.** Why does an alignment repair verify the final measured geometry rather than only adjuster position?

- A. The adjuster's position directly measures tyre pressure.
- B. Any visible adjustment guarantees every angle is correct.
- C. The installed relationship must meet the actual specified result.
- D. A new component makes final measurement unnecessary.

**18.** A drive-joint contamination repair requires replacing identified protective components. What should assembly restore?

- A. The specified internal preparation, protection, and retention.
- B. Only the boot's outside appearance.
- C. Only clearing a driveline message.
- D. Only the joint's original part label.

**19.** A communication repair restores data in the bay, but its mandated movement test still interrupts the branch at a remaining damaged terminal. What is outstanding?

- A. Acceptance from a cleared communication history alone.
- B. Acceptance from the bay scan alone.
- C. The actual intermittent connection and final verification.
- D. Acceptance from the new wire alone.

**20.** An EV charging status reports the wrong connection state after service. Physical inspection complies, but its required signal test fails at an incorrectly assigned low-voltage terminal. What is supported?

- A. A physically incorrect connection disproved by inspection.
- B. Battery-cell replacement solely from charge refusal.
- C. Acceptance from connector-shell fit alone.
- D. A charging-status circuit assignment fault.

**21.** What does an alignment thrust-angle measurement concern?

- A. The steering axis's side-view caster alone.
- B. The rear axle's directional relationship to the vehicle reference.
- C. The tyre's rolling circumference alone.
- D. The wheel's front-view camber tilt alone.

**22.** A current measurement requires an appropriate range and connection under the circuit procedure. What should be established first?

- A. Only the connector's physical size.
- B. Only whether the meter displays any number.
- C. Only selecting the connector without the current arrangement.
- D. The expected current and correct instrument/test arrangement.

**23.** A starter command is absent although the input request is correct. The applicable intermediate switch fails its defined closed-state test and interrupts that path. What should be assessed?

- A. Battery replacement solely from no crank.
- B. Starter replacement before restoring the command.
- C. The demonstrated command-path switch condition.
- D. Acceptance from the request display alone.

**24.** A contaminated bearing repair includes replacement of its required protective component. What should service preserve?

- A. Only matching the old package's product name.
- B. The specified internal preparation, sealing, and final bearing checks.
- C. Only the wheel's pressure reading.
- D. Only the outer component's new appearance.

**25.** A release-mechanism connection is reseated after incorrect assembly. What should verification include?

- A. Its required mechanical position and actual clutch-release response.
- B. Only a detached actuator's travel.
- C. Only the selector's visible gear label.
- D. Only the hydraulic reservoir quantity.

**26.** An engine's poor running is accompanied by a compression deficiency. Inspection reports a foreign object and impact damage inside the affected cylinder, while fuel-delivery checks comply. What warrants mechanical assessment?

- A. The actual cylinder damage and its cause.
- B. Fuel-pump replacement despite accepted delivery.
- C. An oxygen-sensor fault proven by the impact marks.
- D. Acceptance because the engine still runs.

**27.** A brake sensor connector is repaired near a moving wheel assembly. What should the final route preserve?

- A. Only conductor continuity with the wheel stationary.
- B. The required electrical connection and protected movement clearance.
- C. Only closure of a nearby trim panel.
- D. Only the sensor's identification number.

**28.** A stated charging input is constant at 100 kW for 30 minutes. Ignoring losses and other changes, what energy is received?

- A. 3000 kWh
- B. 3.33 kWh
- C. 100 kWh
- D. 50 kWh

**29.** Why is final assembled end play checked when a driveline procedure requires it?

- A. It directly measures the fluid's chemical compatibility.
- B. It replaces every prescribed retention step.
- C. It verifies the actual installed axial-clearance relationship.
- D. It directly establishes every shaft's material grade.

**30.** An injector is replaced after excessive flow and leakage are confirmed. What should final verification assess?

- A. Only the injector's electrical command.
- B. The specified sealing, delivery, and affected cylinder operation.
- C. Only the removed part's code history.
- D. Only the replacement's outside shape.

**31.** Two instruments agree on a verified reference, but only one vehicle reading changes when its loose adapter is moved. The service connection itself remains intact. What should be corrected?

- A. Vehicle replacement solely from the changing number.
- B. The reference as proven wrong by adapter movement.
- C. The unstable instrument adapter and measurement setup.
- D. Averaging the unstable value as the required result.

**32.** A transmission input parameter is used in a gear-ratio test. What should be verified about that parameter?

- A. Only the displayed parameter name.
- B. Only the tool's successful connection to another module.
- C. Only the vehicle's parked selector position.
- D. Its actual source, units, and valid response under the test.

**33.** Why must isolation-monitor information be interpreted with the actual EV diagnostic procedure?

- A. The relevant boundaries and specifications depend on the vehicle design.
- B. A low-voltage accessory test replaces all isolation assessment.
- C. One status universally identifies the same failed part.
- D. A correct display automatically permits pack opening.

**34.** An electrical load fails only at its higher demand. Its feed test complies, but the ground voltage exceeds the provided limit at that demand and the failure disappears with the approved verified ground setup. What is supported?

- A. Supply replacement despite accepted feed measurements.
- B. A ground-delivery fault under load.
- C. Load replacement before correcting the demonstrated return path.
- D. A normal ground proven by lower-demand operation.

**35.** A stated nominal tyre diameter model is rim diameter plus twice sidewall height. Rim is 17 inches, 1 inch=25.4 mm, width=205 mm, and height=55% of width. What diameter results?

- A. 863.6 mm
- B. 544.55 mm
- C. 657.3 mm
- D. 431.8 mm

**36.** A noise complaint is believed to originate in a drive joint. What should diagnosis compare before selecting its repair?

- A. The reproduced condition and the joint's required mechanical checks.
- B. Only the joint's age.
- C. Only the customer's chosen replacement.
- D. Only whether the component can be photographed clearly.

**37.** A lamp flickers only when a repaired connector is moved. The specified loaded test fails at its insufficiently crimped terminal, while bulb and upstream supply checks comply. What should be corrected?

- A. Bulb replacement despite its accepted comparison.
- B. Supply-unit replacement despite correct upstream output.
- C. Acceptance from stationary illumination alone.
- D. The repaired terminal's actual contact condition.

**38.** After restoring a parking-brake connection, what should its service check include?

- A. Only a disconnected wheel-end test.
- B. The defined actuation, holding, and release functions.
- C. Only the brake-warning lamp's illumination.
- D. Only the cabin control's appearance.

**39.** A remote body-accessory request is absent, but local control works. The applicable receiver test fails at its disconnected supply and restoring that feed restores the request. What did the comparison support?

- A. The receiver-supply fault in the remote command path.
- B. A universal software failure despite restored request.
- C. A mechanical body fault proven by remote silence.
- D. A common actuator defect despite local operation.

**40.** A network interface replacement has specified equipment-variant settings. What should be loaded?

- A. Only the tool's default optional-module list.
- B. Any configuration with a successful prior download.
- C. The verified settings for the actual installed vehicle arrangement.
- D. Only the replaced interface's outer dimensions.

**41.** A pressure instrument needs a functional check before a diagnostic comparison. What should that check use?

- A. Only whether the display powers up.
- B. Only the last vehicle's historical reading.
- C. Only its largest printed pressure number.
- D. The specified known condition and verification method.

**42.** A driveline repair changes an assembly for which updated service information specifies a new tightening method. What should be used?

- A. The current applicable component and assembly instructions.
- B. Only the former repair's torque record.
- C. Only the technician's preferred legacy method.
- D. Only the removed fastener's breakaway effort.

**43.** After correcting a fuel-pump ground, what should the required verification reproduce?

- A. Only an unpowered continuity result.
- B. Only deletion of the former fuel-pressure message.
- C. Only a pressure reading with no demand.
- D. The loaded voltage delivery and fuel condition relevant to the complaint.

**44.** What distinguishes use of closed-loop mixture feedback in its applicable gasoline strategy?

- A. The fuel command ignores that feedback by definition.
- B. Every injector opens continuously regardless of demand.
- C. The controller uses the specified feedback to adjust fuelling.
- D. The mixture is set only by the engine's geometric displacement.

**45.** A stated resistive calculation uses 100 V and 0.0001 A. Using  $R=V/I$ , what result in megohms follows, with 1000000 ohms per megohm?

- A. 0.1 megohm
- B. 1 megohm
- C. 10 megohms
- D. 100 megohms

**46.** A power tailgate reaches the expected physical endpoint, but its position input stays unchanged because the sensor mount is loose and fails inspection. What should be assessed?

- A. Motor replacement solely from the stale input.
- B. A mechanical endpoint fault disproved by inspection.
- C. Acceptance from physical arrival alone.
- D. The sensor's actual mounting and feedback relationship.

**47.** A rear alignment result gives an excessive thrust angle under its supplied criterion. Inspection identifies one rear toe connection misadjusted while the front measurements comply. What should be corrected?

- A. The demonstrated rear alignment condition.
- B. Front adjustment solely from steering-wheel appearance.
- C. Acceptance because front measurements meet their criteria.
- D. Tyre pressure as proof of corrected rear direction.

**48.** A diesel starter-feed repair is completed before repeat no-start diagnosis. What should be verified next under the service method?

- A. Only unloaded voltage at the repaired terminal.
- B. Actual cranking state and required start inputs.
- C. Only an unpowered continuity display.
- D. Only starter command without a crank-speed measurement.

**49.** A wheel-speed value becomes erratic during the required harness movement, but its waveform is correct at the sensor before a connector where the signal path opens. What should be restored?

- A. Sensor replacement despite its valid local output.
- B. Controller calibration without correcting the open path.
- C. The demonstrated signal delivery through that connector.
- D. Acceptance from correct average speed alone.

**50.** A suspension joint fails its specified movement criterion and noise is reproduced at that location. The fitted shock and spring pass their relevant checks. What deserves correction?

- A. The demonstrated joint condition.
- B. Shock replacement despite its accepted test.
- C. Acceptance from normal parked height alone.
- D. Spring replacement despite its accepted test.

**51.** Using the supplied relation  $P = T \text{ times } 2 \pi n / 60$ , torque is 100 N m, speed 1800 rpm, and  $\pi = 3.1416$ . What power results in kW to two decimals?

- A. 9.42 kW
- B. 1884.96 kW
- C. 180.00 kW
- D. 18.85 kW

**52.** After completing an omitted coolant preparation routine, what should verification include?

- A. Only visible fluid quantity without the air-removal check.
- B. Only clearing an overheating message.
- C. The specified fill condition and affected thermal functions.
- D. Only a closed pressure cap.

**53.** A cooling fan's command is present and its source feed is correct, but the ground path fails its loaded criterion and the fan's independent test complies. What is indicated?

- A. Motor replacement despite the successful comparison.
- B. A fan-ground delivery fault.
- C. Acceptance from source voltage alone.
- D. A missing request disproved by data.

**54.** Three stated brake-disc measurements are 22.4, 22.3, and 22.5 mm. What arithmetic mean results?

- A. 22.3 mm
- B. 22.4 mm
- C. 22.5 mm
- D. 67.2 mm

**55.** After a mechanical engine repair, one required measured clearance still exceeds its provided limit. Related components are new and the engine turns freely. What is outstanding?

- A. Acceptance from free rotation alone.
- B. Acceptance from the original repair estimate alone.
- C. Acceptance from new components alone.
- D. The deficient final clearance and approved correction.

**56.** A hybrid cooling request is present, but its pump operates only on the approved independent setup because the vehicle feed is open. Thermal performance fails under the supplied test. What should be restored?

- A. The demonstrated pump delivery path.
- B. Sensor replacement solely from the thermal result.
- C. Acceptance from the request value alone.
- D. Pump replacement despite its successful comparison.

**57.** A procedure requires absolute pressure, while the connected gauge reports gauge pressure and the technician uses its number unchanged. What is missing from the comparison?

- A. The service requirement altered to gauge units by assumption.
- B. Sensor replacement solely from the different number.
- C. The correct pressure-reference relationship.
- D. A larger gauge range as the sole correction.

**58.** A heavy assembly is removed from a raised vehicle, leaving the remaining support balance outside the hoist procedure's stated arrangement. The original pickup points were correct. What requires reassessment?

- A. Acceptance from the original pickup positions alone.
- B. The changed supported load distribution.
- C. Acceptance from the removed assembly's low height alone.
- D. Acceptance from the technician's earlier stability check alone.

**59.** A fuse repeatedly opens. The approved downstream isolation test localizes an actual conductor short to one damaged branch; the load passes its independent check. What should be corrected?

- A. The demonstrated branch short.
- B. Controller coding as proof that the conductor is repaired.
- C. Load replacement despite its accepted test.
- D. Acceptance because the fuse can be replaced.

**60.** A seat relay replacement restores output, but the required installed motor test still fails at a remaining mechanically bound rail. What is outstanding?

- A. Acceptance from voltage recovery alone.
- B. Acceptance from the control request alone.
- C. Acceptance from relay identity alone.
- D. The actual seat-motion load fault.

**61.** A gasoline misfire is confined to one cylinder. Compression and ignition comparisons comply, but its injector's prescribed flow measurement is excessive and its leakage check fails. What is supported?

- A. A mechanical compression fault disproved by testing.
- B. A shared low-pressure supply failure proven by excessive local flow.
- C. A fault in the identified injector's delivery or sealing.
- D. Acceptance from a present injector command alone.

**62.** An accessory network interface was added, and its messages now conflict with the vehicle's required identifier arrangement. The original traffic returns when the interface is removed. What should be assessed?

- A. Every original sender as proven defective.
- B. Acceptance because the interface physically fits.
- C. The interface's communication compatibility and setup.
- D. The vehicle's mechanical timing as proven altered.

**63.** An EV's isolation status fails its defined check. The approved qualified diagnostic method localizes the deficiency to one external branch, while the remaining checked boundary complies. What should be assessed?

- A. A tyre-sensor replacement as proof of isolation recovery.
- B. The identified branch and its actual isolation condition.
- C. Automatic complete battery replacement solely from the initial status.
- D. Acceptance because another boundary complies.

**64.** A restored parking-brake connection holds correctly, but its required release test leaves the wheel dragging because a confirmed return link remains bound. What is outstanding?

- A. Acceptance from a functioning warning lamp alone.
- B. Acceptance from holding performance alone.
- C. Acceptance from a new connection alone.
- D. The separate release-path fault.

**65.** A replacement injector meets its flow criterion, but its recorded configuration belongs to a different installed cylinder and the required setup check fails. What remains unresolved?

- A. The actual injector-to-cylinder configuration relationship.
- B. Acceptance from flow alone.
- C. Acceptance from connector fit alone.
- D. Acceptance from the replacement's part number alone.

**66.** A seat-adjustment motor runs during an approved independent test but its normal drive output is absent at a failed relay contact. The input command is valid. What warrants correction?

- A. Acceptance because the motor can turn separately.
- B. Motor replacement despite its successful operation.
- C. The seat motor's switched supply path.
- D. Switch replacement despite valid command.

**67.** A stated ideal battery-service calculation has a constant 0.2 A draw over 10 hours. What charge quantity is removed?

- A. 10.2 Ah
- B. 50 Ah
- C. 0.02 Ah
- D. 2 Ah

**68.** A transmission selects correctly cold but loses its required engagement hot. The defined hot-pressure test fails, and its control input still commands the correct state. What should diagnosis investigate?

- A. A wheel sensor fault proven by low application pressure.
- B. The actual engagement-pressure and application path.
- C. Acceptance from the correct control request.
- D. Selector replacement solely from the hot symptom.

**69.** An HVAC recirculation request changes, but the observed intake door remains stationary because its actuator connector has no required supply. The door moves correctly on the approved mechanical check. What should be restored?

- A. The actuator's actual supply path.
- B. Compressor replacement solely from intake-door inactivity.
- C. Acceptance from the request value alone.
- D. Door replacement despite its movement check.

**70.** What is a constant-velocity drive joint intended to accommodate in its specified design?

- A. Direct measurement of hydraulic clutch pressure.
- B. A rigid connection that cannot change its operating angle.
- C. Drive transmission through the required angular movement.
- D. Direct selection of the transmission's internal gear.

**71.** A hybrid thermal-pump feed is repaired after an opening. What should return-to-service verification include?

- A. The prescribed electrical delivery and actual thermal response.
- B. Only deletion of the former temperature status.
- C. Only the pump's part marking.
- D. Only an unpowered wire-continuity result.

**72.** What does an HVAC recirculation door principally select in its normal design?

- A. The floor, face, and defrost outlet path.
- B. The refrigerant inlet-metering path.
- C. The warm and cool air blending path.
- D. The defined cabin or outside-air intake path.

**73.** After a loose position-sensor mount is corrected, what should the accessory test establish?

- A. Only the mount's tightened appearance.
- B. The required physical-to-feedback relationship through its range.
- C. Only a cleared fault history.
- D. Only the drive motor's part identity.

**74.** A gearbox ratio complaint depends on one reported speed. Independent speed measurement is stable, but the identified sensor circuit fails under connector movement and supplies the inconsistent parameter. What should be assessed first?

- A. The demonstrated speed-information fault.
- B. Fluid addition solely from the inconsistent parameter.
- C. A normal sensor proven by mechanical rotation.
- D. Gear replacement solely from the reported ratio.

**75.** A wheel-bearing noise follows vehicle speed. Its inspected bearing is rough, and the required lubricant-protection component is damaged with contamination confirmed inside. What should be assessed?

- A. Alignment adjustment as proof of clean bearing internals.
- B. The actual bearing damage and protective boundary.
- C. Engine repair solely from speed-related noise.
- D. Acceptance because the wheel fasteners are tight.

**76.** A cooling complaint starts after service. The required air-removal routine was omitted, the prescribed test identifies retained air, and the external boundary is tight. What should be corrected?

- A. A sensor replacement solely from omitted air removal.
- B. Acceptance from leak tightness alone.
- C. Head-gasket replacement solely from overheating.
- D. The incomplete coolant-circuit preparation.

**77.** A heater load receives command and correct source voltage but no current. An independent element test identifies an open internal path, while the wiring complies. What is indicated?

- A. Command-source replacement despite the valid request.
- B. Acceptance because voltage is present.
- C. The heating element's actual electrical fault.
- D. Harness replacement despite its accepted checks.

**78.** A diesel pressure signal disagrees with its independent reference. The sensor's supply is correct, but its ground connection exceeds the given loaded criterion and repairing that path restores agreement. What did the comparison support?

- A. A normal ground proven by supply voltage alone.
- B. A real pressure deficiency proved by the former display.
- C. A sensing-ground fault affecting the pressure report.
- D. High-pressure pump replacement despite restored agreement.

**79.** A defined pressure comparison starts at 250 kPa and falls by 50 kPa. What percentage of the starting pressure is lost?

- A. 5%
- B. 20%
- C. 80%
- D. 25%

**80.** An electrical load is replaced after an independent failure is confirmed. What should final installation preserve?

- A. Only matching load rating without wiring verification.
- B. Only a cleared diagnostic message.
- C. Only whether the load turns by hand.
- D. Installed connections and required function.

**81.** An engine will be run indoors for an authorized test. What should the setup provide?

- A. The required exhaust control and work-area protection.
- B. Only an open vehicle window.
- C. Only a shorter test period chosen by preference.
- D. Only a clear view of the instrument panel.

**82.** A diagnostic log defines 600 ms containing four complete equal periods. What period results?

- A. 150 ms
- B. 4 ms
- C. 2400 ms
- D. 600 ms

**83.** A stated service calculation targets 6.0 L total and defines 2.6 L retained. What added volume reaches that total?

- A. 2.6 L
- B. 8.6 L
- C. 3.4 L
- D. 6.0 L

**84.** An HVAC ground repair restores motor current, but the required mechanical fan clearance check fails at an incorrectly fitted shroud. What remains outstanding?

- A. Acceptance from new electrical parts alone.
- B. The final fan-and-shroud installation.
- C. Acceptance from the motor's correct label alone.
- D. Acceptance from current recovery alone.

**85.** A corrected rear adjustment improves handling, but the final thrust-angle measurement still fails its provided requirement. What remains necessary?

- A. Acceptance from symptom improvement alone.
- B. Acceptance from new tyre status alone.
- C. Acceptance from adjuster movement alone.
- D. The actual final alignment correction and verification.

**86.** What is the relevant role of a buckle-state input in its defined restraint arrangement?

- A. Measure seat occupancy through the seat-base input.
- B. Prove every deployment component is undamaged.
- C. Report the sensed buckle condition to the applicable control system.
- D. Directly measure crash-sensor acceleration.

**87.** A buckle-input wire is repaired under the applicable restraint procedure. What should its final verification include?

- A. Only an unpowered test chosen without instructions.
- B. The required state reporting and complete approved system checks.
- C. Only the seat motor's operation.
- D. Only the buckle's visible mounting bolt.

**88.** A repaired release system passes its movement test but the required retaining clip is incorrectly fitted and fails inspection. What is outstanding?

- A. The actual connection retention requirement.
- B. Acceptance from correct hydraulic fluid alone.
- C. Acceptance from movement alone.
- D. Acceptance from a new linkage part alone.

**89.** A buckle-state value is absent after its harness is serviced. The approved nonpyrotechnic input test identifies an open connection there, while the actual buckle mechanism passes its inspection. What should be restored?

- A. Acceptance from visible buckle movement alone.
- B. Deployment-unit replacement solely from the value.
- C. Mechanical buckle replacement despite its passed inspection.
- D. The buckle input's signal path.

**90.** A parking brake will not hold in its prescribed test. The control moves, but a detached wheel-end connection prevents force reaching one mechanism and that mechanism passes its separate check. What is supported?

- A. A tyre-pressure fault proven by the detached connection.
- B. Wheel-end replacement despite its successful comparison.
- C. An incomplete parking-brake actuation path.
- D. Acceptance from cabin-control travel alone.

**91.** A communication connector repair specifies restoring secondary terminal retention. What should assembly include?

- A. The complete required internal and external locking arrangement.
- B. Only closure of the outer latch.
- C. Only a photograph of the connector.
- D. Only a single unpowered continuity check.

**92.** A steering-input linkage is restored after detachment. What should final testing establish?

- A. Only the component's original package identity.
- B. The required mechanical travel and accurate input response.
- C. Only a cleared control message.
- D. Only whether the linkage can be touched.

**93.** A tyre-pressure display disagrees with a verified gauge only at one wheel. Its sensor's approved comparison fails while the other sensors agree. What should be assessed?

- A. Receiver replacement without evaluating the localized sensor.
- B. Inflation changes solely to match the faulty display.
- C. Acceptance because the other wheel readings agree.
- D. The identified pressure-sensing function and setup.

**94.** After branch repair, protection no longer opens but the final movement test still exposes an unprotected conductor against the damage source. What needs correction?

- A. Acceptance from protection recovery alone.
- B. Acceptance from new conductor material alone.
- C. The remaining installed exposure and mechanical protection.
- D. Acceptance from one stationary operating test alone.

**95.** A stated tightening record has a 60-degree angle stage followed by a further 90-degree stage. What total recorded angle results?

- A. 30 degrees
- B. 5400 degrees
- C. 90 degrees
- D. 150 degrees

**96.** A steering travel check spans minus 20 degrees to plus 10 degrees on its stated reference. What total angular range results?

- A. 200 degrees
- B. 30 degrees
- C. 15 degrees
- D. 10 degrees

**97.** A diesel injector-return test has one excessive result while its peer values and verified supply meet the provided criteria. The affected cylinder's contribution is also deficient. What warrants focused assessment?

- A. The identified injector and its return condition.
- B. Acceptance because the engine runs on the other cylinders.
- C. Replacement of every injector regardless of values.
- D. A low-pressure supply fault disproved by testing.

**98.** A stated load requires 48 W at 12 V under the ideal test. What current results?

- A. 576 A
- B. 4 A
- C. 12 A
- D. 0.25 A

**99.** After a loose driveline mount is corrected, what should final inspection preserve?

- A. Only its cold position without movement checks.
- B. Only the mount's part number.
- C. Only removal of the tested noise.
- D. Complete support, retention, and clearance checks.

**100.** A broken HVAC distribution link is replaced. What should reassembly verify?

- A. Only erasure of the former complaint message.
- B. Only a correct coolant gauge reading.
- C. Its specified position, retention, and actual outlet response.
- D. Only that the replacement is visibly new.

**101.** A reported airflow is implausible. Independent flow behaviour meets the test condition, but several sensors sharing a supply fail when the common reference conductor shorts under movement. What should be addressed?

- A. The demonstrated common reference-path fault.
- B. A real flow deficiency disproved by comparison.
- C. Replacement of each sensor without circuit correction.
- D. Acceptance because one value is plausible at rest.

**102.** After a diesel injector-return fault is corrected, what should acceptance include?

- A. The specified return, integrity, configuration, and cylinder checks.
- B. Only the old return measurement.
- C. Only the replacement's part identity.
- D. Only a successful scan-tool connection.

**103.** A brake-control input reports zero pedal application while a verified mechanical check confirms pedal movement. The input linkage is disconnected and its local signal remains unchanged. What is supported?

- A. Hydraulic leak repair solely from the zero signal.
- B. A stationary pedal disproved by the physical test.
- C. Acceptance from normal pedal motion alone.
- D. A pedal-input measurement-path fault.

**104.** What does the prefix milli represent in a stated engineering unit?

- A. One thousand base units.
- B. One-hundredth of the base unit.
- C. One-thousandth of the base unit.
- D. One million base units.

**105.** A damaged conductor is replaced after a confirmed branch short. What should repair verification cover?

- A. Only whether a panel can be installed.
- B. The restored insulation, route, protection, and required circuit operation.
- C. Only conductor size without testing the restored insulation.
- D. Only a replacement fuse.

**106.** What does valve overlap describe in the applicable engine timing design?

- A. The piston-ring ends overlapping physically.
- B. Both valves remaining open through every compression stroke.
- C. A direct measurement of fuel-rail pressure.
- D. A transition interval when intake and exhaust opening overlap.

**107.** A clutch does not release after service. Its hydraulic travel meets the requirement, but inspection finds the release connection installed outside its specified mechanical seat. What remains unresolved?

- A. Selector calibration as proof of corrected seating.
- B. Hydraulic bleeding solely from nonrelease despite accepted travel.
- C. The actual release-mechanism installation.
- D. Acceptance from actuator travel alone.

**108.** A mechanical oil-pressure comparison was made at a temperature outside the procedure's required condition. The gauge passes its reference check, but the result is labelled a failed pump without another valid test. What is unsupported?

- A. The need to establish the prescribed measurement state.
- B. The pump-failure conclusion from the mismatched test condition.
- C. The relevance of recording oil temperature.
- D. The gauge's confirmed reference response.

**109.** A command-switch replacement requires verifying its actual operating states. What should be checked?

- A. The prescribed inputs and resulting control-path response.
- B. Only the vehicle's parked appearance.
- C. Only the removed part's resistance record.
- D. Only the switch's outer mounting fit.

**110.** A communication fault occurs with high current demand. Module supply is correct, but the shared ground splice fails its loaded criterion at the same time and peers using that ground reset. What is supported?

- A. Acceptance from supply voltage alone.
- B. Independent software failure of every resetting module.
- C. A common loaded ground-delivery fault.
- D. A sender defect proven by shared-ground voltage loss.

**111.** What does a receiving module's available network value represent?

- A. Proof that the physical source is always accurate.
- B. A universal replacement identity for every sender.
- C. Proof that all wiring segments are undamaged.
- D. The data it receives or reports under the actual communication design.

**112.** Using the supplied relation  $C=(F-32)/1.8$ , what Celsius value corresponds to 86 degrees F?

- A. 122 degrees C
- B. 30 degrees C
- C. 54 degrees C
- D. 47.78 degrees C

**113.** A module communicates with a relaxed harness but stops when the approved installed position pulls a poorly retained data pin out of contact. What should be corrected?

- A. The actual terminal retention and routing condition.
- B. A scan-tool battery fault proven by harness movement.
- C. Acceptance from the relaxed test alone.
- D. Replacement of every branch module.

**114.** Why can a compressed mechanical spring remain hazardous after electrical power is isolated?

- A. Its energy exists only while a motor turns.
- B. Power isolation automatically removes every mechanical load.
- C. Its elastic loading can retain mechanical energy.
- D. A stationary spring cannot transfer force to another component.

**115.** Why can a time-resolved electrical trace add information beyond one averaged reading?

- A. It makes correct terminal identification unnecessary.
- B. It can show changes during the recorded interval.
- C. It provides every vehicle's universal acceptance limit.
- D. It proves every physical component is sound automatically.

**116.** A replacement gateway supplies normal traffic on one segment but not the other. Its loaded configuration is confirmed for a vehicle lacking the second segment. What must be reconciled?

- A. The actual vehicle-specific gateway configuration.
- B. A universal physical bus short proven by configuration mismatch.
- C. Acceptance because the gateway communicates once.
- D. Replacement of every sender on the working segment.

**117.** A drivetrain clunk is reproduced as a loose mount shifts under torque reversal. The joint and gear comparisons comply, and securing the mount correctly removes the tested clunk. What is supported?

- A. Gear overhaul despite accepted comparisons.
- B. A fuel-control fault proven by mounting movement.
- C. Joint replacement despite its accepted checks.
- D. The mount's contribution to the reproduced fault.

**118.** Two stated 80-ohm resistors are in parallel with no other paths in the calculation. What resistance results?

- A. 20 ohms
- B. 80 ohms
- C. 40 ohms
- D. 160 ohms

**119.** A stated seat mechanism moves 3 mm per drive revolution. What travel results from 15 revolutions?

- A. 45 mm
- B. 5 mm
- C. 0.2 mm
- D. 18 mm

**120.** An intake-door actuator supply is repaired after an open connection. What should the final HVAC test establish?

- A. Only input voltage without observing the door.
- B. Actual door response and required air paths.
- C. Only a powered display.
- D. Only a stationary continuity result.

**121.** A stated piston installation uses cylinder diameter 90.04 mm and piston diameter 89.98 mm. What diametral difference results?

- A. 0.12 mm
- B. 0.04 mm
- C. 0.03 mm
- D. 0.06 mm

**122.** A cylinder repair identifies impact damage requiring an approved parts disposition. What should reassembly follow?

- A. The complete inspected-component and assembly requirements.
- B. Only a compression reading taken before dismantling.
- C. Only replacement of the most visibly marked part.
- D. Only the old parts' original identification.

**123.** A stated differential model uses  $\text{carrier} = (\text{left} + \text{right}) / 2$ . Left output is 760 rpm and right output 840 rpm. What carrier speed results?

- A. 1600 rpm
- B. 80 rpm
- C. 800 rpm
- D. 100 rpm

**124.** A diesel cranks below its provided minimum speed. The starter's loaded feed loses excessive voltage at a loose terminal, while its approved independent function check passes. What should be addressed first?

- A. Acceptance because the starter moves the engine.
- B. Compression overhaul before correcting cranking conditions.
- C. Fuel-pump replacement solely from no-start.
- D. The demonstrated starting supply-path fault.

**125.** After correcting a disabled message route, what should final checks establish?

- A. Only closure of the configuration screen.
- B. Current data at the required destinations.
- C. Only one gateway response.
- D. Only the message at its source connection.

## Practice Exam 9: Answer Key and Explanations

**1. B** — The repair must maintain its contact and retention under the condition that exposed the fault. Complete the specified assembly and operating checks. Tool identity and a closed housing cannot establish that the terminal actually carries current reliably through its installed movement.

**2. B** — For the supplied perpendicular geometry, moment equals force multiplied by its lever arm. Fifty times 0.3 equals 15 N m. The result is a calculation from stated values, not a substitute for a calibrated fastener-tightening method or proof of an unspecified connection's assembly condition.

**3. C** — The operating pattern is paired with direct contamination and failed movement evidence at the joint. Assess and disposition it through the service procedure. Engine output and another system's adjustment cannot restore the demonstrated internal condition or satisfy its mechanical requirement.

**4. A** — The repair must maintain the correct circuit identity and avoid the exposure that interrupted the reference. Restore suitable support and routing through the actual range. Colour and an available cavity do not establish the required terminal or mechanical arrangement of the restored path.

**5. D** — The drive cannot receive its required power through the open connection even though its command and mechanical path are suitable. Restore and verify that supply. An intended request does not establish actual actuator force, and the electrical observation does not demonstrate an alignment cause.

- 6. D** — The thermal source meets its checks, while a specific linkage fails the air-distribution test. Restore and verify that mechanism. Adequate heat at one path does not establish the other required outlet response, and the comparison does not prove an insufficient coolant supply.
- 7. C** — Multiply the stated litre quantity by 1000 to obtain 35 mL. The conversion preserves the actual sample quantity. Sampling, identification, and safe handling still use the applicable method; a numerical volume alone does not establish fuel quality or whether the sample represents the tested system.
- 8. B** — Multiply the stated power by elapsed seconds: 40 W times 15 seconds equals 600 J. The constant-power condition defines the result. It measures supplied energy over that interval, not mechanical work or efficiency without additional information about the accessory's output and losses.
- 9. A** — The completed repair must meet the actual isolation and functional requirements of its defined boundary. Verify them using the approved qualified procedure. A cleared display or working accessory cannot establish the electrical condition that originally failed, and panel closure is not its measurement evidence.
- 10. D** — The direct-sensing system obtains pressure information through the applicable sensor and reporting arrangement. It does not directly measure alignment or bearing settings. Verify the actual sensor identity, operating conditions, and independent pressure comparison rather than assuming one reported value establishes every wheel-end condition.
- 11. B** — The pump can operate on a suitable setup but its installed return path loses the required condition under demand. Correct and test that connection before condemning the pump. A command and independent result do not establish actual in-vehicle power delivery through an unacceptable ground.
- 12. C** — The monitor evaluates the defined isolation relationship between the relevant high-voltage system and chassis reference. Its data is not a mechanical dimension or engine-pressure test. Interpret it with the actual vehicle architecture and qualified diagnostic procedure rather than treating one status as every component's final disposition.
- 13. A** — The message exists at its source and the branch has an identified physical interruption. Restore and verify that route before blaming the sender or peers. Active traffic elsewhere does not establish availability of the particular disconnected destination path.
- 14. B** — Add the supplied atmospheric pressure to gauge pressure: 200 plus 100 equals 300 kPa absolute. The conversion changes the reference basis, not the physical condition. Use matching references and the actual service method when comparing refrigerant pressure with the relevant property or diagnostic data.
- 15. D** — The source agrees with the physical comparison, while the destination receives outdated information through a disabled route. Restore and verify that update relationship. Individual plausibility cannot establish agreement with the current condition or justify replacing the source that already passes verification.

- 16. A** — Disassembly can remove the connections that currently retain a load. Assess the actual sources and establish the appropriate support before loosening them. Completion of an inspection does not authorize a different task or demonstrate that stored mechanical energy has been controlled for component removal.
- 17. C** — The adjuster is a means of changing the relationship, while the required geometry is the acceptance result. Measure it under the prescribed setup after the repair. Visible movement and new parts cannot independently establish the values delivered by the final assembled steering or suspension arrangement.
- 18. A** — The joint must have its required internal condition and restored protection as well as suitable mechanical components. Follow the complete repair method and final checks. A new-looking exterior cannot establish cleanliness or retention inside the assembly, and message clearing does not verify its operation.
- 19. C** — The required movement reproduces a known remaining interruption, so the stationary result is incomplete acceptance evidence. Correct the terminal and repeat relevant verification. Replacing a wire and clearing history do not remove a physical contact defect that continues to fail in the installed range.
- 20. D** — The actual connection is suitable while the signal reaches the wrong terminal under the verified diagram. Correct and verify that supporting input through the qualified procedure. Shell fit cannot establish circuit identity, and refusal alone does not demonstrate a traction-battery defect.
- 21. B** — Thrust angle concerns the directional relationship established by the rear alignment to the vehicle reference. Camber, caster, and rolling geometry describe other quantities. Use the applicable measurement setup and specification rather than interpreting every alignment angle as the same physical relationship.
- 22. D** — The arrangement must suit the actual circuit and expected demand so the prescribed measurement is valid. Lead colour and a visible reading cannot establish the correct current path or equipment capability. Follow the procedure rather than treating every meter connection as interchangeable.
- 23. C** — The request does not reach the starter because the tested intermediate switch fails its required state. Correct and verify that path under the vehicle method. A no-crank symptom cannot establish starter or battery failure when the actual command path is incomplete at an identified component.
- 24. B** — The bearing and protection must be restored as a complete assembly with suitable internal condition and required verification. A new-looking cover cannot demonstrate the state it encloses. Pressure and packaging establish other information rather than the bearing's accepted mechanical and sealing result.
- 25. A** — The repair corrects the mechanical relationship beyond the actuator. Verify both its seating and the resulting release function under the defined method. A suitable reservoir level and detached travel cannot establish that the installed linkage transfers that motion correctly to the clutch.

- 26. A** — The deficient mechanical result and direct inspection provide corroborating evidence in the cylinder. Assess the damage and source using the engine procedure before further operation or repair selection. An engine can run despite damage, and these findings do not prove an unrelated oxygen-sensing fault.
- 27. B** — The sensor's information must remain available as the wheel and suspension move through their required range. Restore routing and protection as well as the connection. Stationary continuity and closed trim do not establish clearance at another operating position.
- 28. D** — Convert 30 minutes to half an hour, then multiply by 100 kW for 50 kWh. The constant-rate and no-loss assumptions are explicitly supplied. Actual charging may change rate, but those unprovided changes must not be added to this defined energy-balance calculation.
- 29. C** — The measurement describes the completed axial relationship under the defined assembly state. Component identity and uninstalled dimensions do not substitute for it. End play is also distinct from fluid suitability and retention, which retain their own applicable requirements in the final repair.
- 30. B** — The repair must correct both identified fluid functions and the related operating complaint. A present command establishes an electrical input, not accepted flow or sealing. Complete the actual replacement and configuration requirements before verifying the delivered cylinder condition.
- 31. C** — The independent reference checks and movement relationship identify a field-setup problem at one adapter. Restore and verify that connection before interpreting the vehicle value. Agreement at a reference does not validate an accessory that cannot maintain reliable communication with the tested system.
- 32. D** — The ratio comparison must use the intended valid speed input rather than an unrelated or implausible value with a similar label. Verify its definition and behaviour with the specified method. General tool communication and a parked selector do not establish the parameter's actual operating accuracy.
- 33. A** — The procedure defines which boundary is monitored and how its result is evaluated by qualified personnel. A status does not universally name one failed component or authorize unrelated exposed work. Use the actual design and prescribed verification rather than transferring another vehicle's assumptions to the repair.
- 34. B** — The actual high-demand condition fails at the ground, and the controlled comparison restores operation on a suitable return. Repair and verify that path before condemning the load. A lower-current pass cannot establish current delivery at the demand that exposes the original complaint.
- 35. C** — Convert the rim to 431.8 mm. Each stated sidewall is 205 times 0.55, or 112.75 mm, so add two for 657.3 mm nominal diameter. The supplied model does not independently establish loaded rolling radius or suitability of a replacement tyre on the actual vehicle.
- 36. A** — A noise description should be tied to its operating condition and a verified component finding. Follow the appropriate inspection and comparison method before disposition. Age can inform context but does not establish the joint as the cause, and a selected replacement is not diagnostic evidence.

- 37. D** — The reproduced movement and failed loaded terminal check localize the interruption at the repair. Reassemble and verify the connection using the approved method. A lamp that works stationary does not establish contact reliability through the actual movement that revealed the complaint.
- 38. B** — The connection must transmit force in the installed system and permit its specified release. Verify the complete holding and release procedure. An independent component pass is useful but does not establish the final connected assembly, while an indicator cannot measure its actual holding result.
- 39. A** — The remote path responds after its actual supply is restored, linking the previous absence to that feed. Verify final feature operation and connection security. Local success helped distinguish shared actuator function from the remote-input fault rather than proving every body component defective.
- 40. C** — The settings must represent the actual network and equipment that the interface supports. Download success elsewhere does not establish applicability here. Defaults and dimensions cannot determine which messages or routing relationships the delivered vehicle requires from the replacement.
- 41. D** — The check must establish the instrument's response to a suitable known condition under its required method. A powered display does not prove measurement accuracy. The scale range and an unverified historical value cannot replace the applicable reference used to validate the current diagnostic setup.
- 42. A** — The updated applicable instructions govern the actual repaired assembly. Confirm its component requirements and complete method rather than copying a superseded number. Removal effort measures a different condition and cannot establish the prescribed preload or retention of the replacement connection.
- 43. D** — The original deficiency appeared under load, so repeat the prescribed electrical and fuel checks at that condition. Unpowered continuity may not expose residual loss, and static pressure does not establish required delivery. Message clearing cannot demonstrate the completed repair's operating result.
- 44. C** — The closed-loop strategy uses its defined feedback relationship to modify fuelling under the applicable conditions. This does not mean every operating state uses the same control. Identify the strategy and prerequisites before interpreting a correction or assuming that a displayed sensor value must govern every fuel command.
- 45. B** — Divide 100 V by 0.0001 A to obtain 1000000 ohms, then divide by the supplied million-ohm conversion for 1 megohm. These arithmetic givens do not prescribe an insulation-test setting or acceptance limit. Actual high-voltage service follows its vehicle-specific qualified method and required equipment.
- 46. D** — The mechanism reaches its required location while the sensor cannot maintain its intended reference. Correct and verify the mounting and feedback. Physical arrival does not establish accurate reporting to the controller, and a stale input does not prove the motor failed to move.
- 47. A** — The rear directional measurement and local toe finding identify the alignment relationship requiring correction. Compliant front values do not establish the rear geometry. Use the actual service

method and verify the complete result rather than selecting an unrelated front or pressure change from the general handling symptom.

**48. B** — The repaired feed must provide its required current delivery and establish the speed condition used by subsequent diagnosis. Unloaded readings and continuity alone cannot demonstrate loaded operation. Record the actual cranking result and relevant inputs before using remaining symptoms to select another diesel repair.

**49. C** — The local waveform shows the sensor producing information, while movement interrupts its path beyond the connector. Repair retention and continuity and verify installed response. A plausible average value cannot establish that the control system receives an intact signal throughout the movement that exposes the fault.

**50. A** — The local movement and reproduced noise provide specific evidence beyond a broad suspension complaint. Correct and verify the joint through the required method. Other components' compliant results narrow the investigation but cannot establish acceptability of the separately deficient connection.

**51. D** — The supplied relation gives  $100 \times 2 \times 3.1416 \times 1800$  divided by 60, or 18849.6 W. Divide by 1000 and round for 18.85 kW. The calculation uses the stated shaft condition and does not add a transmission-efficiency assumption not provided.

**52. C** — The routine must establish the required actual circuit condition and restore relevant operating behaviour. A closed cap and a coloured fluid surface cannot demonstrate removal of retained air. Verify the system under its specified test rather than accepting solely from a cleared indication.

**53. B** — The complete circuit fails at its return path while the motor and positive-side observations comply. Correct and verify the installed ground under the required demand. A correct source voltage cannot establish fan operation through a deficient electrical reference at the load.

**54. B** — Add the measurements for 67.2 mm and divide by three to obtain a 22.4 mm arithmetic mean. This requested average does not replace criteria that use minimum thickness or variation. Apply the actual disc procedure before deciding whether the complete component is suitable for service.

**55. D** — The final measured relationship fails its stated requirement despite other satisfactory observations. Correct or disposition it through the approved method and recheck. Free rotation and new parts do not establish every dimensional fit, and the estimate cannot substitute for acceptance evidence of the completed assembly.

**56. A** — The independent test establishes pump capability while the installed feed prevents its required operation. Restore and verify that path and the actual thermal function. A request is not coolant movement, and the temperature result alone cannot prove sensor failure when a physical supply defect is identified.

**57. C** — Gauge and absolute pressure use different references even when their units are the same. Establish and apply the appropriate relationship before comparison. A wider scale does not change that

basis, and an apparent difference cannot prove sensor failure when the numerical references were not reconciled.

**58. B** — The removal changes the condition on which the supported balance depends. Reconcile the actual remaining load with the prescribed support arrangement before further work. Correct initial pickup and an earlier stable condition cannot establish balance after a major mass has left the vehicle.

**59. A** — The circuit-protection event is paired with a specific measured short in the branch. Repair and verify the damaged conductor and correct protective arrangement. A replacement fuse does not remove the fault, while a working independent load reduces support for condemning it from the protection symptom alone.

**60. D** — The electrical repair delivers power but does not remove the demonstrated mechanical obstruction. Correct and verify the rail condition under the service method. A valid command and restored voltage cannot establish movement of an assembly whose actual load path remains bound.

**61. C** — The localized delivery and leakage results identify a component fault despite acceptable supporting comparisons. Correct and verify that injector under the applicable procedure. A valid electrical command does not establish correct liquid delivery or tight sealing of the actual injector.

**62. C** — The traffic change follows the added interface and its incompatible identifiers. Reconcile the installation and configuration using the applicable information before restoring it. Connector fit cannot validate message behaviour, and removal of the disturbance does not prove a mechanical engine change.

**63. B** — The approved localization identifies a specific electrical boundary requiring qualified assessment. Follow that diagnostic and corrective procedure rather than treating the initial status as proof of whole-pack failure. A compliant comparison boundary narrows the fault but cannot make the separately deficient branch acceptable.

**64. D** — Holding and release are distinct required operating states. The bound return link still fails the release condition and must be corrected and verified. A successful hold cannot establish that the wheel is free for normal operation afterward or validate the remaining mechanical fault.

**65. A** — Mechanical flow and control configuration are separate required attributes. Reconcile the actual identifier relationship using the procedure and verify affected operation. A suitable part can still be represented incorrectly to the controller, so a flow pass cannot establish completion of the installed setup.

**66. C** — The drive works on a proper test setup but does not receive power through its installed relay contact. Restore and verify that output path. An available command and independent motor capability cannot establish operation through a contact that fails its required switching condition.

**67. D** — Multiply current by elapsed hours: 0.2 A times 10 hours equals 2 Ah. This is the defined charge quantity, not watt-hours of energy without voltage information. Actual battery assessment and charging still use the relevant procedure rather than this arithmetic as a universal service instruction.

- 68. B** — The failed hot-pressure condition provides evidence beyond the valid command. Follow the transmission's specified hydraulic and mechanical diagnosis at the relevant temperature. A control request is an intended state and cannot establish that the applying elements receive their required operating pressure.
- 69. A** — The door can move but its installed drive lacks a required electrical supply. Restore and verify that path before condemning the mechanism. A command is not proof of delivered actuator power, and the recirculation fault cannot establish a compressor problem from these observations.
- 70. C** — The joint transmits drive while accommodating the geometry and movement allowed by its design. Selection and inspection must reflect that actual duty. Its mechanical function does not operate the gear selector or measure another system's hydraulic condition, and angular capability is not unlimited by definition.
- 71. A** — The repair must operate the installed pump and restore the required thermal behaviour under the applicable procedure. Continuity at rest does not establish loaded delivery or circulation. Identification and message clearing cannot demonstrate the actual functional result of the restored system.
- 72. D** — The door controls the intended air intake route within the HVAC design. Its actual position should match the command and required airflow. That function is different from temperature blending or outlet distribution, which must be diagnosed through their own mechanisms and feedback relationships.
- 73. B** — The sensor must follow the actual mechanism correctly after its reference is restored. Verify response through the applicable range, not just at one endpoint. Tight appearance and erased records cannot demonstrate the continuous information relationship required by the accessory controller.
- 74. A** — The ratio result uses an unreliable input whose physical cause is reproduced at the connector. Restore and verify that information before interpreting the calculated relationship as a gear fault. Actual rotation can be correct while its sensing path intermittently reports another value.
- 75. B** — The roughness and contamination provide direct mechanical findings at the bearing related to the speed complaint. Follow its approved disposition and protection requirements. Tight wheel fasteners establish another attribute, not a clean or acceptable bearing interior after its boundary is damaged.
- 76. D** — The identified air and missing preparation provide a specific condition relevant to coolant circulation. Complete the prescribed routine and verify performance. A tight external boundary does not establish proper internal fill, and the broad temperature complaint alone cannot prove a head-gasket or sensor defect.
- 77. C** — The open element prevents current and heat delivery despite suitable supporting circuits. Repair or disposition the component and verify its function. Voltage availability does not prove a continuous load path, and the absent current cannot justify replacing wiring that already meets its required tests.

- 78. C** — The controlled ground correction restores the measurement relationship, tying the former disagreement to that supporting circuit. Verify the final sensing and operating conditions. Correct supply alone did not establish a suitable reference, and an inaccurate former display cannot independently prove a hydraulic pump fault.
- 79. B** — Divide the stated 50 kPa decrease by the starting 250 kPa and multiply by 100 to obtain 20 percent loss. The denominator is the supplied starting value, not the final reading. This is a comparison calculation rather than a universal tyre-pressure-warning or replacement threshold.
- 80. D** — The delivered component must be assembled in its correct circuit and demonstrate the required operation. A matching rating establishes one selection attribute, not complete installation. Hand movement and message clearing cannot verify loaded electrical performance or the protective arrangement of the replaced assembly.
- 81. A** — The running engine introduces exhaust exposure that must be controlled through the workplace's appropriate equipment and procedures. A vehicle window does not establish safe bay air. Short duration and panel visibility cannot replace the required extraction and protection of personnel around the test.
- 82. A** — Divide the supplied span by its four defined periods: 600 divided by four equals 150 ms. The test specifies complete intervals, which avoids assuming that a simple event count always represents the same number of periods. Use the actual timing definition when judging network updates.
- 83. C** — Subtract the defined retained 2.6 L from the supplied 6.0 L total to obtain 3.4 L addition. The calculation depends on knowing the starting quantity. Actual transmission fill still follows its specified level procedure rather than using this example for an unknown retained volume.
- 84. B** — The electrical path is repaired, while the shroud introduces a separate assembly fault that fails its required clearance. Correct and verify it before acceptance. Delivered current cannot make an incorrectly positioned surrounding component suitable for the fan's actual running geometry.
- 85. D** — The required measured geometry remains deficient despite an improvement in the broad complaint. Complete the approved correction and repeat the final comparison. Subjective recovery does not replace the objective acceptance criterion, and moving an adjuster is not proof of achieving its required result.
- 86. C** — The input supplies information about the buckle state within the actual restraint design. Its presence does not certify every deployment component or accessory function. Diagnose its approved circuit and physical relationship using the manufacturer's method rather than inferring overall system condition from one available value.
- 87. B** — The repaired input must accurately represent its required states under the vehicle's approved restraint method. Other seat functions do not validate that path. Complete the specified checks without substituting an unrelated test or assuming that visible mechanical mounting establishes electrical reporting.

- 88. A** — Movement verifies one functional attribute, while the failed clip inspection leaves the mechanical security incomplete. Correct and verify the required retention before acceptance. Suitable fluid and new parts cannot establish that the connection remains secured through the intended service motion.
- 89. D** — The physical mechanism is suitable, but the control input cannot receive its state through the demonstrated opening. Repair and verify the signal using the approved restraint method. Movement by itself does not establish electrical reporting, and the result does not prove a deployment-unit fault.
- 90. C** — The wheel-end can function separately, but the detached path prevents the installed control from applying it. Restore and verify the complete arrangement. Visible cabin travel does not establish transmitted force, and the actual disconnected mechanism supplies evidence unrelated to tyre inflation.
- 91. A** — The secondary feature maintains the intended terminal position and must be restored with the rest of the connection. Outer closure does not automatically establish internal retention. Verify the actual circuit and required movement rather than accepting solely from a static photograph or conductive moment.
- 92. B** — The repair must make the sensor or control mechanism follow the actual steering-related movement in the specified relationship. Verify both physical motion and reported response. Message clearing and identification do not establish that the installed link transmits the intended range correctly.
- 93. D** — The independent measurement and localized failed comparison separate actual pressure from the affected report. Diagnose the sensor and applicable identity or configuration. Peer agreement establishes their tested condition but cannot validate a single input that fails its own reference comparison.
- 94. C** — The immediate short may be removed, but the same contact exposure remains outside the installation requirement. Correct and verify routing before acceptance. Current operation and intact protection do not demonstrate suitability of a conductor still exposed to the original damaging surface.
- 95. D** — The two sequential stated rotations add to 150 degrees. This reports their combined angular movement, not a replacement for the full tightening procedure. Required initial torque, hardware, lubrication, and stage conditions still follow the actual vehicle assembly information rather than this arithmetic alone.
- 96. B** — Subtract the minimum signed position from the maximum: plus 10 minus negative 20 equals 30 degrees. The range crosses zero, so adding the magnitudes is equivalent here. The result must still be interpreted against the actual mechanism's required positions and service criterion.
- 97. A** — The local return deficiency and reduced contribution provide correlated evidence at one injector. Follow the prescribed confirmation and disposition method. Compliant peer and supply results do not make the affected unit acceptable, but neither do they justify indiscriminate replacement of every injector.

**98. B** — Divide stated power by voltage: 48 divided by 12 equals 4 A. The result applies to the defined ideal point and does not account for unprovided circuit losses or a changing load. Installation acceptance uses its actual specified conditions rather than assuming this current applies universally.

**99. D** — Symptom recovery is relevant, but the mount must also meet its complete structural and installation requirements. Verify retention and required clearances through the applicable movement. Correct identity and cold position cannot demonstrate the final load path is assembled and secured as specified.

**100. C** — The link must transfer actuator movement to the intended distribution arrangement and remain secured as specified. Correct coolant temperature confirms another condition, not this mechanical route. Verify actual air delivery under the applicable commands after the link is fitted.

**101. A** — The shared conductor fault affects the supporting electrical condition for several inputs, explaining their movement-related error. Restore and verify the common path before separate sensor decisions. One resting value cannot establish stable reference delivery through a conductor that demonstrably shorts during its installed motion.

**102. A** — The completed assembly must correct the identified leakage or delivery condition and meet its applicable setup requirements. Correct identity is necessary but not proof of final operation. Verify the actual repaired injector and affected cylinder rather than relying on data from the removed or failed condition.

**103. D** — The pedal moves, but the input cannot follow it through the disconnected linkage. Restore and verify the measurement arrangement under the brake-system procedure. Physical motion alone does not establish accurate control information, and the absent input does not prove a hydraulic leak.

**104. C** — The prefix represents a factor of 0.001 relative to the base unit, as in millimetres or milliamperes. Keep the quantity and base unit identified during conversion. A prefix change modifies the numerical expression, not the physical dimension or the applicable service criterion.

**105. B** — The repair must remove the short and prevent the identified mechanical exposure from recurring. Restore suitable conductor and protection details and verify the circuit. A new fuse and panel fit cannot establish insulation integrity throughout the installed branch under service movement.

**106. D** — Overlap refers to the relationship of intake and exhaust valve events around the specified cycle transition. Its amount and timing depend on design. It is not a statement that compression occurs with both valves fully open or a measurement of another system's fluid pressure.

**107. C** — The hydraulic input reaches its prescribed travel, while the mechanical connection does not occupy its required position. Correct and verify that seating and actual clutch response. Adequate actuator travel cannot establish release when the next mechanical link is assembled incorrectly.

**108. B** — The comparison does not use the condition for which the service criterion is defined. Repeat the applicable measurement before concluding the pump failed. A reliable gauge establishes the instrument's response but cannot make a pressure reading taken under the wrong operating state equivalent to the required test.

- 109. A** — The replacement must provide the required states in its installed circuit, not merely attach mechanically. Test them with the applicable method and verify the affected command. Historical data from the removed component cannot establish the new switch's response to the actual vehicle input.
- 110. C** — The shared ground deficiency coincides with resets across its consumers under the relevant demand. Correct and verify that path before treating the group as separate software failures. A suitable positive feed cannot establish the complete electrical reference needed by those modules.
- 111. D** — The value belongs to a specific source, route, and interpretation that must be understood during diagnosis. Communication does not certify the original measurement's accuracy. Correlate it with physical conditions and the applicable network design before selecting a repair from one displayed parameter alone.
- 112. B** — Subtract 32 from the stated 86-degree F reading to obtain 54, then divide by 1.8 for 30 degrees C. Both offset and scaling are required. The conversion makes units comparable but does not by itself establish the accuracy or location of the temperature measurement.
- 113. A** — The final position exposes a connection defect that the relaxed setup does not represent. Restore retention and suitable allowance, then verify communication through movement. A passing bench or temporary arrangement cannot establish reliability of the delivered harness at its actual installed geometry.
- 114. C** — Electrical isolation controls a defined electrical source, while the compressed spring retains a separate mechanical condition. The applicable restraint and release procedure must address that stored energy. Stationary appearance does not establish that removing a retaining connection cannot cause movement or force transfer.
- 115. B** — The trace shows how the measured quantity changes over its recorded time and setup. That can expose an interruption hidden by a single aggregate value. Its validity still depends on correct connection, settings, and the actual service requirement; it does not certify every related component by itself.
- 116. A** — The configuration does not represent the installed second segment, providing a relevant explanation for its missing routed traffic. Correct applicability and verify both required paths. One successful response does not establish all gateway functions for an equipment variant different from the loaded information.
- 117. D** — The controlled correction links the tested symptom to the demonstrated loose mount while other comparisons remain compliant. Verify the final supported arrangement and document the condition reproduced. A broad clunk complaint does not alone justify internal gearing or fuel repairs when a specific support fault is confirmed.
- 118. C** — For two identical resistors in parallel, equivalent resistance is half the individual value, giving 40 ohms. The question expressly defines the network. A series arrangement would instead add the values, and actual vehicle circuitry must be identified rather than inferred from component count alone.

**119. A** — Multiply the supplied travel per revolution by the turn count: 3 times 15 equals 45 mm. This linear relation is expressly defined for the example. Actual service must use the installed mechanism's specifications and required clearance or initialization checks rather than applying this rate universally.

**120. B** — The repaired circuit must make the actual door follow the intended control through its prescribed states. Verify intake behaviour rather than only a signal or input reading. A static conductive reading cannot demonstrate the installed electrical and mechanical chain's complete operating result.

**121. D** — Subtract the specified piston measurement from the cylinder measurement: 90.04 minus 89.98 gives 0.06 mm. This is the diametral result for the supplied locations. Fit acceptance and installation must still follow the actual engine's tolerance and measuring method rather than a universal clearance assumption.

**122. A** — The damage assessment must determine which actual components remain suitable and how the engine is restored. Follow the approved disposition and final assembly checks. A pre-repair reading and original identification cannot establish the condition of parts after the confirmed impact exposure.

**123. C** — Add the supplied output speeds and divide by two as the stated model requires. The sum is 1600 rpm, giving 800 rpm carrier speed. The result depends on the provided arrangement and sign convention rather than a universal rule for an unidentified gearing design.

**124. D** — The low cranking speed is paired with a measured delivery fault at the starter. Correct it and establish the required test condition before interpreting pressure or compression. Turning the engine is not proof of sufficient speed, and no-start alone cannot locate a fuel or internal mechanical cause.

**125. B** — The repair must deliver the updated message where the vehicle requires it, not merely leave the gateway accessible. Verify the destination information and affected operation. A successful menu operation or source message cannot establish that the complete routing relationship now works.