PRACTICE EXAM 20: BUS MAINTAINER GROUP B SIMULATION (100 QUESTIONS)

This practice simulation contains 100 questions covering automotive theory, tool usage, schematics and calculations, vehicle component maintenance, and electrical equipment. It is an independent study aid. Use the current official examination notice for live test dates, timing, scoring, application requirements, and structured-interview details. Choose the best answer, then review the explanation for every missed or guessed question.

1. During a road-call diagnosis, which sequence correctly describes the four-stroke engine cycle?

A. compression, intake, exhaust, power
B. power, exhaust, intake, compression
C. intake, compression, power, exhaust
D. exhaust, power, compression, intake

2. Before using a torque wrench during a road-call diagnosis, the maintainer should select the

A. largest available setting
B. specified torque and correct unit
C. setting used on another vehicle
D. lowest setting regardless of specification

3. A circuit during a road-call diagnosis draws 1.5 amperes through a 4 ohm load. What voltage is indicated by Ohm's law?

A. 5.50 V
B. 2.67 V
C. 9.00 V
D. 6.00 V

4. During a road-call diagnosis, a brake inspection should begin with a safe condition check and then examine

A. the complete brake system
B. only the horn
C. only the seat belt
D. only the radio fuse

5. During a road-call diagnosis, a battery inspection should include terminals, case condition, state of charge, and

A. secure connections
B. tire alignment
C. air-dryer purge color
D. seat fabric

6. A diesel engine produces ignition primarily when fuel enters air that is

A. cooled by expansion
B. mixed with spark energy
C. pressurized by the exhaust
D. heated by compression

7. A feeler gauge is best suited to measure a small

A. battery current
B. air-reservoir volume
C. clearance or gap
D. tire circumference

8. A 12 volt load consumes 240 watts. Approximately how much current does it draw?

A. 2880.00 A
B. 20.00 A
C. 0.05 A
D. 15.00 A

9. A reservoir should be drained according to procedure to remove accumulated

A. tire tread
B. gear teeth
C. moisture and contaminants
D. battery voltage

10. An alternator's primary function is to supply electrical power and

A. apply brake shoes
B. compress suspension springs
C. meter tire pressure
D. restore battery charge while operating

11. If engine load increases while speed is held steady, required torque generally

A. disappears
B. increases
C. reverses direction
D. becomes unrelated to load

12. To measure circuit voltage with a multimeter, the meter is connected

A. in parallel across the points
B. in series with the fuse removed
C. only to the ground side
D. across a rotating tire

13. A hydraulic actuator applies 800 newtons over an area of 20 square centimeters. What average pressure is produced in newtons per square centimeter?

A. 40.00 N/cm2
B. 16000.00 N/cm2
C. 0.03 N/cm2
D. 26.67 N/cm2

14. An air compressor that cannot recover system pressure requires checking output, drive, leaks, and

A. paint thickness
B. seat upholstery
C. the related control components
D. windshield tint

15. A starter circuit requires a sound battery, control path, starter, and

A. a full air reservoir only
B. new tire tread
C. a closed HVAC damper
D. adequate ground and cable connections

16. The main purpose of engine lubrication is to reduce friction and

A. increase tire pressure
B. carry heat and contaminants away

C. replace the cooling system
D. lock moving parts together

17. A current measurement normally requires the meter to be placed

A. in parallel with the source
B. across a closed switch only
C. in series with the circuit
D. inside a tire valve

18. A gear set turns the input at 900 RPM and the output at 300 RPM. What is the input-to-output speed ratio?

A. 1200.00 to 1
B. 0.33 to 1
C. 600.00 to 1
D. 3.00 to 1

19. A brake chamber converts air pressure into

A. fuel vapor
B. mechanical movement
C. electrical resistance
D. coolant color

20. A fuse protects wiring by opening when current exceeds its designed

A. protection level
B. tire pressure
C. fuel octane
D. coolant color

21. A restricted engine air filter most directly limits the engine's

A. brake-reservoir volume
B. air supply
C. wheel alignment
D. battery electrolyte level

22. Resistance testing should normally be performed with the circuit

A. de-energized and isolated
B. at maximum charging voltage
C. connected to a running starter
D. under an unknown short

23. A measured lining is 8 millimeters thick and the service reference is 10 millimeters. What percentage of the reference thickness remains?

A. 125.00 %
B. 0.80 %
C. -2.00 %
D. 80.00 %

24. Brake adjustment should be evaluated against the applicable specification because excessive travel can reduce

A. engine oil viscosity
B. radio volume
C. available braking force or reserve
D. tire sidewall lettering

25. A relay allows a lower-current control circuit to operate a

A. mechanical tire bead
B. higher-current load circuit
C. hydraulic reservoir
D. brake lining

26. A turbocharger uses energy from the exhaust to

A. cool brake fluid
B. adjust wheel toe
C. compress intake air
D. measure battery voltage

27. A pressure gauge should be selected based on the system pressure range and

A. the gauge's color alone
B. the longest hose available
C. the vehicle's paint code
D. the correct connection

28. A technician converts 40 PSI using 6.895 kilopascals per PSI. What is the approximate pressure in kilopascals?

A. 275.80 kPa
B. 5.80 kPa
C. 46.89 kPa
D. 295.80 kPa

29. A brake lining with contamination, cracking, or uneven wear should be

A. covered with paint
B. ignored until the next season
C. evaluated and handled under service procedure
D. lubricated without inspection

30. A poor ground can cause multiple electrical symptoms because it affects the circuit's

A. fuel filter size
B. return path and reference
C. wheel alignment angle
D. air-dryer desiccant

31. A thermostat in a liquid-cooled engine helps regulate

A. fuel injector pulse width only
B. wheel-bearing preload
C. air-brake reservoir pressure
D. coolant flow through the radiator

32. A scan tool can provide diagnostic data, but a code is not automatically proof that

A. the named component has failed
B. the battery is new
C. the tire is aligned
D. the air system is empty

33. Two series resistances of 3 ohms and 5 ohms are connected in one path. What is their total resistance?

A. 15.00 ohms
B. 8.00 ohms
C. 2.00 ohms
D. 0.60 ohms

34. Steering linkage inspection should look for looseness, damage, and

A. refrigerant color
B. fuel octane
C. secure attachment and correct movement
D. battery electrolyte temperature

35. An open circuit is characterized by an unintended interruption that prevents

A. all voltage from existing
B. engine oil from circulating
C. tire pressure from changing
D. the intended current flow

36. An exhaust restriction is most likely to cause a loss of

A. engine power under load
B. tire sidewall height
C. battery terminal size
D. brake-pedal travel only

37. A puller is used when a component must be removed by applying controlled

A. electrical current
B. coolant pressure
C. mechanical force

D. refrigerant charge

38. A circular seal has a radius of 2 centimeters. Using pi as 3.14159, what is its approximate area?

A. 17.57 cm2
B. 12.57 cm2
C. 7.57 cm2
D. 22.57 cm2

39. A wheel-alignment complaint should be investigated with tire wear and chassis condition before

A. changing the radio
B. replacing the battery
C. draining the air dryer
D. making alignment adjustments

40. A short circuit creates an unintended low-resistance path that can produce

A. excessive current
B. lower engine compression
C. higher tire tread
D. more coolant capacity

41. The differential allows driven wheels on the same axle to

A. share one brake chamber
B. turn at different speeds
C. use separate engines
D. avoid all lubrication

42. A vehicle supported for underbody work should rest on approved

A. a hydraulic jack alone
B. a loose wooden block
C. support stands or another rated support system
D. an air hose

43. A shop task requires 45 minutes for each of 3 identical units. What is the total time in minutes?

A. 48.00 minutes
B. 15.00 minutes
C. 90.00 minutes
D. 135.00 minutes

44. Tire inflation should be checked with an accurate gauge and compared with

A. the applicable specification
B. the tire's paint mark
C. a random nearby tire
D. the battery label

45. Voltage-drop testing is useful because it measures unwanted voltage loss while the circuit is

A. operating under load
B. completely disconnected
C. painted for storage
D. filled with coolant

46. A clutch is used to connect or disconnect engine torque from the

A. air dryer outlet
B. steering knuckle only
C. transmission input
D. fuel tank vent

47. Before using an impact tool, inspect the socket for the correct drive size and

A. polished chrome only
B. a missing retaining feature
C. a damaged wall
D. impact-rated construction

48. A measured shaft diameter is 24 millimeters with a tolerance of plus or minus 1.0 millimeters. What is the upper limit?

A. 23.00 mm
B. 25.00 mm
C. 24.00 mm
D. 27.00 mm

49. Wheel fasteners should be tightened in the prescribed sequence and to the specified

A. color
B. temperature only
C. torque
D. radio setting

50. A CAN network allows electronic modules to exchange

A. compressed air through brake lines
B. engine oil through bearings

C. refrigerant through a condenser
D. digital messages over shared communication wiring

51. A higher numerical gear ratio generally provides more torque multiplication and

A. lower output speed
B. higher tire pressure
C. less cooling flow
D. zero driveline load

52. A thread-pitch gauge helps identify the spacing and form of

A. electrical pulses
B. threaded fasteners
C. brake-fluid color
D. tire temperature

53. A vehicle travels 18 miles in 30 minutes. What is its average speed in miles per hour?

A. 36.00 mph
B. 540.00 mph
C. 0.60 mph
D. 46.00 mph

54. Axle lubricant inspection should consider level, condition, contamination, and

A. seat position
B. evidence of leakage
C. headlamp color only
D. air-horn pitch

55. A diagnostic trouble code should be used as a clue that directs testing, not as a substitute for

A. a wheel chock
B. a tire gauge
C. a coolant hose
D. confirmation of the fault

56. A damper in the suspension primarily controls

A. fuel vapor pressure
B. battery chemical reaction
C. spring oscillation
D. air-compressor cut-in

57. A micrometer is selected when the measurement requires greater precision than a

A. basic ruler or coarse scale
B. pressure relief valve
C. battery charger
D. wheel chock

58. A battery receives 25 amperes for 2 hours. What charge, in ampere-hours, is delivered?

A. 27.00 Ah
B. 50.00 Ah
C. 12.50 Ah
D. 75.00 Ah

59. A clutch complaint that includes slipping under load should prompt inspection of torque transfer and

A. tire tread color
B. air-dryer label
C. friction and adjustment conditions
D. windshield washer nozzle

60. A sensor converts a physical condition such as temperature, pressure, or position into

A. a brake shoe
B. a fuel filter
C. a tire bead
D. a signal a control system can interpret

61. Uneven tire wear should be treated as evidence that may involve tire condition and

A. only the radio circuit
B. only fuel octane
C. alignment or suspension condition
D. only coolant color

62. A dial indicator is useful for detecting small changes in

A. fuel octane
B. runout or movement
C. air humidity
D. paint thickness only

63. A 10 percent inspection allowance is applied to a nominal value of 60. What is the allowance amount?

A. 6.00 units
B. 54.00 units

C. 60.10 units
D. 600.00 units

64. Transmission fluid service should use the correct fluid type and verify

A. the battery's paint
B. the tire's sidewall height
C. the horn's tone
D. level under the specified conditions

65. A solenoid uses an electrical signal to create controlled

A. tire inflation
B. mechanical movement
C. coolant chemistry
D. air-filter media

66. The purpose of an engine cooling system is to remove excess heat while maintaining

A. maximum oil contamination
B. zero coolant circulation
C. constant brake pressure
D. a controlled operating temperature

67. A borescope is useful when a visual inspection is needed inside a

A. battery cable terminal
B. tire tread block only
C. confined or obstructed area
D. shop doorway

68. A schematic scale uses 1 centimeter for every 4 centimeters of actual length. A line measures 6 centimeters on the drawing. What actual length does it represent?

A. 24.00 cm
B. 10.00 cm
C. 1.50 cm
D. 18.00 cm

69. A wheelchair lift that moves unevenly should be checked for structure, controls, leaks, and

A. safe travel and support
B. engine compression only
C. radio reception
D. tire brand

70. An LED is a solid-state device that produces light when

A. air pressure drops
B. engine oil thickens
C. a tire rotates
D. current flows in the proper direction

71. A fuel filter restriction can reduce fuel delivery and may cause

A. higher tire tread depth
B. faster air-dryer purge
C. poor power or hard starting
D. stronger wheel alignment

72. A tool with a damaged handle, frayed cord, or cracked socket should be

A. used only at higher speed
B. removed from service and reported
C. stored under the bus
D. shared without comment

73. A voltage-drop test measures 13 volts at the source and 11.0 volts at the load. What is the drop?

A. 2.00 V
B. 24.00 V
C. 0.85 V
D. 3.00 V

74. An HVAC complaint with restricted airflow should include inspection of the filter, duct path, and

A. wheel bearing preload
B. blower or fan operation
C. axle gear ratio
D. brake lining color

75. A charging complaint with a discharged battery should be diagnosed by checking battery condition and

A. only the horn
B. only tire wear
C. charging-system output under appropriate conditions
D. only the HVAC filter

76. Mechanical advantage describes how a machine changes applied force, movement, or

A. only paint color
B. only electrical frequency
C. only coolant chemistry
D. both force and movement

77. Eye protection is required when a task can expose the maintainer to

A. quiet radio signals
B. clean paper records
C. flying particles or fluid spray
D. normal seat movement

78. A reservoir gauge changes from 100 PSI to 80 PSI. What is the percentage decrease from the original reading?

A. 80.00 %
B. 20.00 %
C. 27.00 %
D. 125.00 %

79. A hydraulic leak should be treated as both a fluid-loss problem and a

A. paint-matching issue
B. radio programming issue
C. tire tread pattern
D. pressure and safety hazard

80. A parasitic draw is current consumed when the vehicle is expected to be

A. at rest
B. under maximum acceleration

C. during brake adjustment
D. inside a tire

81. Heat transfer from a hot component to moving air is primarily

A. insulation
B. compression ignition
C. electrical continuity
D. convection

82. When a tool procedure conflicts with memory, the maintainer should use the

A. current approved service information
B. oldest available shortcut
C. nearest unrelated vehicle
D. guess that avoids measurement

83. A repair uses 2 technicians for 6 hours. What is the total labor time in technician-hours?

A. 8.00 technician-hours
B. 3.00 technician-hours
C. 12.00 technician-hours
D. 14.00 technician-hours

84. Preventive maintenance is scheduled to reduce failure risk by addressing condition before

A. the vehicle receives a VIN
B. a breakdown occurs
C. the radio is turned on
D. the tire is painted

85. Before work on a hybrid or other high-voltage system, follow the specified isolation and

A. verification procedure
B. paint-polishing procedure
C. tire-rotation shortcut
D. radio-volume reset

86. A wheel bearing with excessive play can affect wheel support and may contribute to

A. higher fuel octane
B. faster battery charging
C. lower refrigerant pressure only
D. unstable tracking or abnormal wear

87. Before servicing equipment with stored hazardous energy, apply the required

A. paint inspection
B. tire rotation only
C. energy-control procedure
D. radio reset

88. A circuit contains a 2 ampere load and a second 3 ampere load on separate parallel branches. What is the source current if losses are ignored?

A. 6.00 A
B. 5.00 A
C. 1.00 A
D. 0.67 A

89. A maintenance record should identify the finding, action, parts or measurements, and

A. only the weather
B. only the technician's initials
C. only the vehicle color
D. the verification or disposition

90. A continuity test indicates whether an electrical path is complete, but it does not by itself prove

A. the tire is balanced
B. the circuit can carry its required load
C. the engine is lubricated
D. the brake shoe is new

91. Engine speed measured in revolutions per minute describes rotational speed of a

A. shaft or rotating assembly
B. brake lining compound
C. coolant additive
D. tire sidewall

92. A clean measuring surface matters because dirt can change the apparent

A. fuel grade
B. electrical frequency
C. dimension or contact
D. air-brake color

93. A rectangular gasket measures 10 centimeters by 4 centimeters. What is its area?

A. 40.00 cm2

B. 14.00 cm2
C. 6.00 cm2
D. 50.00 cm2

94. A road test after repair should be performed only when the vehicle is safe and the test can

A. replace all inspection data
B. avoid using service information
C. confirm the original complaint and repair
D. prove every component is new

95. Corrosion at a connector can increase resistance and cause intermittent operation by disturbing

A. the fuel octane
B. the electrical contact
C. the wheel camber only
D. the air-reservoir volume

96. When a symptom changes with engine temperature, diagnosis should consider

A. only wheel paint
B. only seat adjustment
C. only windshield shape
D. temperature-sensitive components and conditions

97. A tool inventory helps the maintainer confirm that tools are accounted for and

A. the engine is overfilled
B. the tire is softer
C. not left in the vehicle
D. the radio is louder

98. A 24 volt actuator draws 3 amperes. What electrical power does it consume?

A. 72.00 W
B. 27.00 W
C. 8.00 W
D. 96.00 W

99. Before returning a vehicle to service, the maintainer should confirm tools are removed, guards are restored, and

A. all warning lights are hidden
B. the original complaint is undocumented
C. the vehicle is moved without inspection
D. required tests and documentation are complete

100. A wiring diagram helps the maintainer trace source, protection, control, load, and

A. tire tread depth
B. return path
C. coolant color
D. seat adjustment

Practice Exam 20: Answer Key and Explanations

1. C — intake, compression, power, exhaust is correct because the cycle proceeds through intake, compression, power, and exhaust in that order. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

2. B — specified torque and correct unit is correct because torque must be applied with the correct tool range, unit, and service specification. Other choices omit a needed step or confuse a component with its

function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

3. D — 6.00 V is correct because voltage equals current multiplied by resistance. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

4. A — the complete brake system is correct because braking performance depends on the complete path from control input to wheel-end force. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

5. A — secure connections is correct because battery performance depends on condition, charge, and low-resistance connections. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

6. D — heated by compression is correct because diesel ignition begins when compressed air reaches a temperature sufficient to ignite injected fuel. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

7. C — clearance or gap is correct because feeler-gauge blades provide a direct comparison for small mechanical clearances. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

8. B — 20.00 A is correct because current equals power divided by voltage. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

9. C — moisture and contaminants is correct because compressed-air systems can collect moisture and contaminants that must be managed. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

10. D — restore battery charge while operating is correct because the charging system supports loads and replenishes energy used during starting. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

11. B — increases is correct because more turning force is required to maintain speed against a greater resisting load. Other choices omit a needed step or confuse a component with its function. Use approved

service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

12. A — in parallel across the points is correct because voltage is a potential difference between two points, so the meter bridges those points. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

13. A — 40.00 N/cm2 is correct because pressure equals force divided by area. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

14. C — the related control components is correct because poor recovery can result from the compressor or from leaks and control conditions elsewhere. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

15. D — adequate ground and cable connections is correct because the starter needs a complete high-current circuit to produce cranking torque. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

16. B — carry heat and contaminants away is correct because lubricant forms a separating film while transporting heat and suspended contaminants toward service points. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

17. C — in series with the circuit is correct because current flows through the meter when the meter is inserted in the circuit path as directed. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

18. D — 3.00 to 1 is correct because the ratio compares input speed with output speed by division. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

19. B — mechanical movement is correct because the chamber uses diaphragm or piston movement to apply the foundation brake mechanism. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

20. A — protection level is correct because a fuse interrupts excessive current before wiring or components are damaged. Other choices omit a needed step or confuse a component with its function.

Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

21. B — air supply is correct because an intake restriction reduces the amount of air available for the engine's operating cycle. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

22. A — de-energized and isolated is correct because an energized circuit can damage the meter and produce misleading resistance readings. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

23. D — 80.00 % is correct because the measured value is divided by the reference and multiplied by one hundred. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

24. C — available braking force or reserve is correct because excessive actuator travel can consume movement that should be available for effective braking. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

25. B — higher-current load circuit is correct because the relay separates the control signal from the power path while switching the load. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

26. C — compress intake air is correct because the turbine uses exhaust energy to drive a compressor that increases intake-air density. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

27. D — the correct connection is correct because range and connection compatibility protect the instrument and make the reading meaningful. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

28. A — 275.80 kPa is correct because the stated conversion factor is multiplied by the PSI value. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

29. C — evaluated and handled under service procedure is correct because friction material defects can change braking behavior and require a controlled disposition. Other choices omit a needed step or

confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

30. B — return path and reference is correct because current needs a reliable return path and control systems need a stable reference. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

31. D — coolant flow through the radiator is correct because the thermostat controls when coolant is routed through the radiator so operating temperature can be managed. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

32. A — the named component has failed is correct because a code identifies a monitored condition and must be interpreted with symptoms and tests. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

33. B — 8.00 ohms is correct because series resistances add because the same current passes through each resistance. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

34. C — secure attachment and correct movement is correct because steering components must transfer driver input without unsafe looseness or binding. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

35. D — the intended current flow is correct because a break in the conducting path stops or limits current through that branch. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

36. A — engine power under load is correct because back pressure can prevent efficient cylinder emptying and reduce power, especially as load rises. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

37. C — mechanical force is correct because a puller transfers force to separate a fitted component while reducing damage from improvised striking. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

38. B — 12.57 cm2 is correct because a circle's area is pi multiplied by radius squared. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify

the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

39. D — making alignment adjustments is correct because alignment readings may be affected by worn or damaged components. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

40. A — excessive current is correct because current may rise sharply when resistance is bypassed, creating heat or protection-device operation. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

41. B — turn at different speeds is correct because inside and outside wheels travel different distances during a turn and therefore need different rotational speeds. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

42. C — support stands or another rated support system is correct because a jack may lift a vehicle, but rated supports are required for stable service access. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

43. D — 135.00 minutes is correct because equal task times are multiplied by the number of units. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

44. A — the applicable specification is correct because inflation affects handling, wear, and load support and must be evaluated against the correct reference. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

45. A — operating under load is correct because a connection can appear intact with no load yet lose excessive voltage during current flow. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

46. C — transmission input is correct because the clutch controls torque transfer between the engine and transmission during starts and shifts. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

47. D — impact-rated construction is correct because impact tools require compatible sockets that can withstand repeated shock loading. Other choices omit a needed step or confuse a component with its

function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

48. B — 25.00 mm is correct because the upper tolerance limit is the nominal dimension plus the positive tolerance. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

49. C — torque is correct because correct torque and sequence help establish proper clamping and reduce distortion. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

50. D — digital messages over shared communication wiring is correct because networked modules share data through a designed communication system rather than separate control wires for every function. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

51. A — lower output speed is correct because a higher numerical ratio trades rotational speed for greater torque multiplication at the output. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

52. B — threaded fasteners is correct because the gauge compares thread spacing so the correct fastener or tap can be selected. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

53. A — 36.00 mph is correct because minutes are converted to hours before distance is divided by time. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

54. B — evidence of leakage is correct because lubricant loss or contamination can damage gears and bearings. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

55. D — confirmation of the fault is correct because codes identify monitored conditions but do not eliminate the need for symptom-based testing. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

56. C — spring oscillation is correct because the damper dissipates suspension motion so the spring does not continue bouncing excessively. Other choices omit a needed step or confuse a component with

its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

57. A — basic ruler or coarse scale is correct because a micrometer measures small dimensions with a fine, calibrated screw mechanism. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

58. B — 50.00 Ah is correct because ampere-hours equal current multiplied by charging time. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

59. C — friction and adjustment conditions is correct because slip occurs when the clutch cannot transmit expected torque through its friction surfaces. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

60. D — a signal a control system can interpret is correct because sensors provide information used by displays, controllers, and diagnostic routines. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

61. C — alignment or suspension condition is correct because wear patterns can reflect incorrect wheel angles, worn components, inflation issues, or other chassis conditions. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

62. B — runout or movement is correct because the indicator magnifies small displacement relative to a reference surface or rotation. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

63. A — 6.00 units is correct because ten percent is represented by multiplying the nominal value by 0.10. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

64. D — level under the specified conditions is correct because fluid type and level procedure are design-specific and affect lubrication and control. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

65. B — mechanical movement is correct because the energized coil produces magnetic force that moves a plunger or valve. Other choices omit a needed step or confuse a component with its function.

Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

66. D — a controlled operating temperature is correct because cooling must remove heat without allowing the engine to operate outside its intended temperature range. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

67. C — confined or obstructed area is correct because a borescope provides visibility where direct line of sight is limited. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

68. A — 24.00 cm is correct because the drawing length is multiplied by the actual-to-drawing scale. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

69. A — safe travel and support is correct because access equipment must move and support loads reliably throughout its intended travel. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

70. D — current flows in the proper direction is correct because LEDs emit light through semiconductor action and require correct polarity and circuit conditions. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

71. C — poor power or hard starting is correct because limited fuel flow can become most apparent during starting or when the engine demands more fuel. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

72. B — removed from service and reported is correct because damaged tools can create injury or equipment hazards and should not remain in use. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

73. A — 2.00 V is correct because voltage drop is found by subtracting the load-side voltage from source voltage. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

74. B — blower or fan operation is correct because airflow depends on an unobstructed path and a blower capable of moving the required air. Other choices omit a needed step or confuse a component

with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

75. C — charging-system output under appropriate conditions is correct because a weak battery and a charging fault can produce similar symptoms and need separate tests. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

76. D — both force and movement is correct because levers, gears, and other mechanisms trade force and movement to transmit useful work. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

77. C — flying particles or fluid spray is correct because eye protection must match the hazard rather than being chosen for convenience. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

78. B — 20.00 % is correct because the decrease is divided by the original value and expressed as a percentage. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

79. D — pressure and safety hazard is correct because pressurized fluid can injure personnel and reduce component function. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

80. A — at rest is correct because unwanted current at rest can discharge a battery and should be measured using a controlled setup. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

81. D — convection is correct because convection transfers heat through the movement of a fluid such as air across a surface. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

82. A — current approved service information is correct because approved information controls specifications, sequences, and model-specific differences. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

83. C — 12.00 technician-hours is correct because total labor is the number of technicians multiplied by hours worked. Other choices omit a needed step or confuse a component with its function. Use approved

service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

84. B — a breakdown occurs is correct because planned service controls wear and detects developing problems before they become failures. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

85. A — verification procedure is correct because high-voltage energy can remain hazardous unless isolated and absence of voltage is verified by the approved method. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

86. D — unstable tracking or abnormal wear is correct because excessive bearing movement can change wheel position and should be evaluated before continued service. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

87. C — energy-control procedure is correct because energy must be isolated, controlled, and verified before work begins. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

88. B — 5.00 A is correct because parallel branch currents add at the source when the branches are supplied together. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

89. D — the verification or disposition is correct because complete records support traceability, follow-up, and a defensible return-to-service decision. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

90. B — the circuit can carry its required load is correct because a path can show continuity yet have excessive resistance or fail under operating current. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

91. A — shaft or rotating assembly is correct because RPM is a rotational-speed measurement used for engines, motors, shafts, and other rotating assemblies. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

92. C — dimension or contact is correct because contamination between a tool and a surface can produce a false measurement. Other choices omit a needed step or confuse a component with its

function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

93. A — 40.00 cm2 is correct because the area of a rectangle equals its length multiplied by its width. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

94. C — confirm the original complaint and repair is correct because a controlled verification test checks whether the repair corrected the reported behavior. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

95. B — the electrical contact is correct because contamination and poor contact change circuit resistance and signal integrity. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

96. D — temperature-sensitive components and conditions is correct because temperature can change clearances, resistance, fluid viscosity, and control behavior, making it a useful diagnostic clue. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

97. C — not left in the vehicle is correct because accountability prevents foreign-object damage and keeps the work area controlled. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

98. A — 72.00 W is correct because electrical power equals voltage multiplied by current. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service. This approach supports safe, traceable maintenance.

99. D — required tests and documentation are complete is correct because return to service requires a complete safety and verification review. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.

100. B — return path is correct because the diagram makes the intended circuit path visible for systematic diagnosis. Other choices omit a needed step or confuse a component with its function. Use approved service information, verify the measurement or symptom, and confirm the repair before returning the vehicle or component to service.