PRACTICE EXAM 13

1. A high-speed CAN bus uses two 120-ohm terminating resistors connected in parallel. What total resistance should a technician measure between CAN-H and CAN-L with the bus at rest?

A. 240 ohms

B. 120 ohms

C. 60 ohms

D. 30 ohms

2. A calibration specification calls for a target to be placed 1,500 mm from the vehicle reference point. Approximately how many inches is that, using 25.4 mm per inch?

A. About 15 inches

B. About 59 inches

C. About 150 inches

D. About 38 inches

3. The L4 test contains 50 total questions, of which 40 are scored. What percentage of the questions are unscored pretest items?

A. 10 percent

B. 25 percent

C. 20 percent

D. 40 percent

4. A technician has 120 minutes to answer 50 questions. Approximately how much average time is available per question?

A. About 3 minutes

B. About 1.5 minutes

C. About 4 minutes

D. About 2.4 minutes

5. On the L4 scored exam, the General ADAS domain is 14 of 40 questions. What percentage does that represent?

A. 25 percent

B. 30 percent

C. 35 percent

D. 10 percent

6. A technician measures 12.6 volts at a module's supply pin and 11.1 volts at the module's power terminal under load. What is the voltage drop across that feed?

A. 0.5 volts

B. 1.0 volt

C. 1.5 volts

D. 2.5 volts

7. The Radar domain is 12 of the 40 scored questions. Across a 50-question practice exam built to the same proportion, approximately how many radar questions should appear?

A. About 10

B. About 15

C. About 20

D. About 5

8. A calibration spec lists a height of 100 cm. How many millimeters is that?

A. 1,000 mm

B. 100 mm

C. 10 mm

D. 10,000 mm

9. A CAN bus measures approximately 120 ohms between CAN-H and CAN-L at rest instead of the expected 60 ohms. How many of the two terminating resistors are effectively contributing to the reading?

A. Two

B. One

C. Zero

D. Four

10. A forward radar is mounted with a 1-degree aiming error. At a distance of about 50 meters down the road, roughly how far to the side does that error place the beam, using the approximation that 1 degree ≈ 0.0175 radians?

A. About 0.09 meters

B. About 0.87 meters

C. About 5 meters

D. About 50 meters

11. The Camera domain is 10 of the 40 scored questions. What percentage of the scored exam is that?

A. 35 percent

B. 30 percent

C. 10 percent

D. 25 percent

12. A target must sit 3.6 meters in front of the vehicle. How many millimeters is that?

A. 36 mm

B. 360 mm

C. 36,000 mm

D. 3,600 mm

13. A dynamic calibration requires a minimum sustained speed of 35 mph for at least 10 minutes of continuous driving. If a technician can only maintain that speed for 6 continuous minutes before traffic forces a stop, what is the shortfall in continuous time?

A. 10 minutes

B. 6 minutes

C. 4 minutes

D. 0 minutes

14. The Ultrasonic domain is 4 of the 40 scored questions. What percentage is that?

A. 35 percent

B. 25 percent

C. 30 percent

D. 10 percent

15. A technician reads 0.1 volt of drop across a known-good ground under load. Another vehicle's ground reads 1.4 volts of drop under the same load. Approximately how many times greater is the second drop?

A. About 2 times

B. About 7 times

C. About 10 times

D. About 14 times

16. A calibration distance is specified as 2,000 mm. Converted to meters, that is:

A. 0.2 meters

B. 2 meters

C. 20 meters

D. 200 meters

17. Adding the four L4 scored-domain counts — 14 General, 10 Camera, 12 Radar, and 4 Ultrasonic — gives what total?

A. 40

B. 50

C. 44

D. 36

18. A technician converts 6 inches to millimeters using 25.4 mm per inch. The result is approximately:

A. 60 mm

B. 25 mm

C. 6 mm

D. 152 mm

19. A bus reads 60 ohms with both terminators intact. If one 120-ohm terminator becomes open, what does the remaining single terminator alone read across the bus?

A. 30 ohms

B. 60 ohms

C. 120 ohms

D. 240 ohms

20. A vehicle must be driven for a dynamic calibration at 25 mph. Expressed approximately in km/h using 1 mph ≈ 1.609 km/h, that is:

A. About 40 km/h

B. About 25 km/h

C. About 15 km/h

D. About 60 km/h

21. A technician needs to convert a 50 mm target offset into centimeters. The result is:

A. 5 cm

B. 0.5 cm

C. 500 cm

D. 50 cm

22. Out of 40 scored questions, a technician answers 34 correctly. What approximate percentage is that?

A. 75 percent

B. 80 percent

C. 90 percent

D. 85 percent

23. A static calibration target's center must be set at the vehicle centerline. If the technician's measurement places it 20 mm to the left of center, by how many millimeters must the target move right to be centered?

A. 10 mm

B. 40 mm

C. 20 mm

D. 0 mm

24. A forward radar's narrow beam means a small angular error grows with distance. Compared with the side error at 25 meters, the side error at 50 meters for the same angular misalignment is approximately:

A. The same

B. Half as large

C. Twice as large

D. Ten times as large

25. A technician measures CAN-H to CAN-L resistance and reads an essentially infinite (open-circuit) value. Which condition does this numeric result indicate?

A. An open in the bus wiring

B. Both terminators intact

C. A dead short across the bus

D. A normal 60-ohm bus

26. A calibration spec gives a tolerance of plus or minus 3 mm on a 1,200 mm distance. What is the acceptable measured range?

A. 1,197 mm to 1,200 mm

B. 1,197 mm to 1,203 mm

C. 1,200 mm to 1,203 mm

D. 1,194 mm to 1,206 mm

27. If a 50-question exam mirrors the 35/25/30/10 weighting, approximately how many General ADAS questions should it contain?

A. About 10

B. About 12

C. About 15

D. About 17

28. A technician converts 90 cm to inches using 2.54 cm per inch. The result is approximately:

A. About 23 inches

B. About 90 inches

C. About 35 inches

D. About 229 inches

29. A module's supply should read battery voltage of about 12.6 volts but reads 0 volts with the key on. What is the most direct numeric interpretation?

A. There is a complete loss of supply voltage to the module

B. The module is receiving full voltage

C. The voltage is slightly low but acceptable

D. The reading indicates an over-voltage condition

30. A target offset is specified as 0.75 meters. In millimeters, that is:

A. 75 mm

B. 750 mm

C. 7.5 mm

D. 7,500 mm

31. A technician must place a target at 1/4 of the way across a 2,400 mm reference width. What distance is that from the edge?

A. 240 mm

B. 1,200 mm

C. 480 mm

D. 600 mm

32. A bus that should read 60 ohms reads 0 ohms. Numerically, near-zero resistance between CAN-H and CAN-L indicates:

A. A short between the two conductors

B. Both terminators healthy

C. One terminator missing

D. An open circuit

33. A dynamic calibration drive log shows the vehicle held the required speed for 12 of the required 10 minutes. Did it meet the time requirement?

A. No, it was 2 minutes short

B. No, it needed 22 minutes

C. It cannot be determined

D. Yes, it exceeded the requirement

34. A technician converts a 4-inch clearance to millimeters using 25.4 mm/inch. The result is approximately:

A. About 40 mm

B. About 102 mm

C. About 25 mm

D. About 4 mm

35. A vehicle's forward radar serves 3 of a vehicle's 6 ADAS features. What fraction of the features depend on the forward radar?

A. One-third

B. One-half

C. One-quarter

D. Two-thirds

36. A 1,000 mm target distance must be increased by 5 percent for a particular variant. What is the new distance?

A. 1,005 mm

B. 1,025 mm

C. 1,050 mm

D. 1,500 mm

37. A technician reads 11.8 volts at a module under load when battery voltage is 12.5 volts. The voltage drop is:

A. 0.3 volts

B. 0.5 volts

C. 0.7 volts

D. 1.2 volts

38. Of a 50-question exam, 25 percent are camera questions. How many questions is that?

A. About 12 to 13

B. About 5

C. About 20

D. About 30

39. A target height of 1.2 meters converts to how many centimeters?

A. 12 cm

B. 120 cm

C. 1,200 cm

D. 12,000 cm

40. A forward radar at a 2-degree error produces about double the lateral miss of a 1-degree error at the same distance. This relationship is best described as:

A. Inverse

B. Approximately linear with the angle

C. Unrelated to the angle

D. Decreasing with the angle

41. A technician measures 60 ohms across a CAN bus at rest. Which numeric conclusion is correct?

A. Both 120-ohm terminators are intact and in parallel

B. One terminator is missing

C. The bus is shorted

D. The bus is open

42. A calibration spec gives 1,290 mm. To the nearest tenth of a meter, that is:

A. 1.3 meters

B. 12.9 meters

C. 0.129 meters

D. 129 meters

43. A technician needs the midpoint between two reference marks that are 1,800 mm apart. The midpoint is at:

A. 1,800 mm

B. 600 mm

C. 900 mm

D. 360 mm

44. A 50-question exam allots 120 minutes. If a technician spends 90 minutes on the first 40 questions, how much time remains per question for the last 10?

A. About 1 minute each

B. About 2 minutes each

C. About 3 minutes each

D. About 5 minutes each

45. Converting 2.5 meters to millimeters gives:

A. 2,500 mm

B. 250 mm

C. 25 mm

D. 25,000 mm

46. A vehicle's ADAS CAN bus normally reads 60 ohms. A reading of about 40 ohms would suggest:

A. A normal bus

B. An open terminator

C. A perfectly healthy single terminator

D. An additional unintended parallel path lowering resistance

47. A technician must convert a 300 mm distance to inches using 25.4 mm/inch. The result is approximately:

A. About 30 inches

B. About 300 inches

C. About 3 inches

D. About 11.8 inches

48. A static calibration requires the floor to be level within 1 degree. A floor sloping 3 degrees toward a drain is:

A. Out of the level tolerance and must be corrected

B. Within tolerance

C. Exactly at tolerance

D. Irrelevant to calibration

49. A technician answers 40 of 50 total questions correctly. What percentage of the total is that?

A. 90 percent

B. 80 percent

C. 75 percent

D. 70 percent

50. A 1,500 mm specification converted to meters and then back to millimeters should equal:

A. 1,500 mm

B. 150 mm

C. 15,000 mm

D. 15 mm

Answer Key & Full Answer Explanations

1. C — Two equal resistors in parallel give half the value: 120 ÷ 2 = 60 ohms. This is why a healthy high-speed CAN bus reads about 60 ohms at rest. The reading confirms both terminators and the wiring are intact.

2. B — 1,500 mm ÷ 25.4 mm/inch ≈ 59 inches. Correct unit conversion places the target accurately, since a conversion error mislocates it. Calibration specs frequently mix metric and standard units.

3. C — 10 unscored of 50 total = 10 ÷ 50 = 20 percent. The remaining 40 are scored. Because you can't tell which are unscored, every question must be answered.

4. D — 120 minutes ÷ 50 questions = 2.4 minutes per question. This tight budget is why reference navigation speed matters. Triage and batching protect that time.

5. C — 14 ÷ 40 = 35 percent, making General ADAS the largest scored domain. This is why the fundamentals deserve the most study time. The weighting guides hour allocation.

6. C — 12.6 V − 11.1 V = 1.5 V of drop across the feed under load. Excessive drop indicates unwanted resistance in the power circuit. Voltage drop under load is the definitive high-resistance test.

7. B — 12 ÷ 40 = 30 percent; 30 percent of 50 ≈ 15 questions. Mirroring the official weighting keeps practice realistic. Radar is the largest sensor domain.

8. A — 100 cm × 10 mm/cm = 1,000 mm. Accurate cm-to-mm conversion is essential for target height. A misconverted height corrupts the calibration geometry.

9. B — A 120-ohm reading instead of 60 means only one terminator is effectively contributing, since one is missing or the bus is broken between them. Two parallel terminators would read 60. The reading localizes a termination or wiring fault.

10. B — 50 m × 0.0175 ≈ 0.875 m of lateral offset for a 1-degree error. This shows how a small angular error becomes a large miss at distance. Forward-radar aim must be precise.

11. D — 10 ÷ 40 = 25 percent for the Camera domain. This is the second-largest sensor domain after radar. The weighting reflects the camera's central role.

12. D — 3.6 m × 1,000 mm/m = 3,600 mm. Meter-to-millimeter conversion underlies many target distances. Precision here is precision in calibration.

13. C — 10 required minus 6 achieved = 4 minutes short of the continuous-time requirement. The calibration won't complete until the full duration is met. Dynamic calibration depends on sustained conditions.

14. D — 4 ÷ 40 = 10 percent for the Ultrasonic domain, the smallest. It still represents about 4 questions, which can decide a pass. Small domains are not skippable.

15. D — 1.4 V ÷ 0.1 V = 14 times greater drop, indicating a high-resistance ground. A good ground drops near zero under load. Excessive ground-side drop starves the module.

16. B — 2,000 mm ÷ 1,000 = 2 meters. Routine mm-to-m conversion appears throughout calibration specs. A conversion slip mislocates the target.

17. A — 14 + 10 + 12 + 4 = 40 scored questions. The four content areas sum to the scored total. This confirms the official domain structure.

18. D — 6 in × 25.4 mm/in = 152.4 ≈ 152 mm. Inch-to-mm conversion is common in mixed-unit specs. Accurate conversion keeps the setup correct.

19. C — A single remaining 120-ohm terminator reads 120 ohms across the bus. Two in parallel would read 60. This is why a 120-ohm reading signals a lost terminator or broken bus.

20. A — 25 mph × 1.609 ≈ 40 km/h. Speed-unit conversion matters when procedures specify metric speeds. Meeting the speed requirement is essential for dynamic calibration.

21. A — 50 mm ÷ 10 = 5 cm. A straightforward mm-to-cm conversion for a target offset. Small offsets still demand exact conversion.

22. D — 34 ÷ 40 = 85 percent. This expresses scored performance as a percentage. Reviewing missed items by domain guides further study.

23. C — A target 20 mm left of center must move 20 mm right to be centered. Centering on the vehicle reference is required for accurate calibration. An off-center target teaches a wrong reference.

24. C — Doubling the distance from 25 m to 50 m doubles the lateral error for the same angle. The miss grows linearly with distance. This is why long-range forward radar is so aim-sensitive.

25. A — An essentially infinite resistance indicates an open in the bus wiring. Intact terminators read about 60, a short reads near zero. An open isolates modules from the network.

26. B — 1,200 mm ± 3 mm = 1,197 mm to 1,203 mm. The tolerance defines the acceptable measured range. Staying within tolerance preserves calibration accuracy.

27. D — 35 percent of 50 = 17.5 ≈ 17 General ADAS questions. Mirroring the weighting keeps the practice exam faithful. General remains the largest block.

28. C — 90 cm ÷ 2.54 cm/in ≈ 35 inches. Centimeter-to-inch conversion appears in mixed-unit work. A conversion error mislocates the reference.

29. A — A supply reading of 0 volts with the key on indicates a complete loss of supply voltage to the module. It is not full voltage, slightly low, or over-voltage. This points upstream to a fuse or open feed.

30. B — 0.75 m × 1,000 = 750 mm. A direct meter-to-millimeter conversion for the offset. Precision prevents target mislocation.

31. D — One-quarter of 2,400 mm = 600 mm from the edge. Fractional positioning is common in target setup. Accurate division keeps geometry correct.

32. A — Near-zero resistance between CAN-H and CAN-L indicates a short between the conductors. Healthy termination reads about 60, a missing terminator about 120, an open very high. Zero specifically signals a short.

33. D — Holding the speed for 12 of the required 10 minutes exceeds the requirement, so it is met. There is no 22-minute requirement, and the data is sufficient to determine this. Meeting or exceeding the duration satisfies the procedure.

34. B — 4 in × 25.4 = 101.6 ≈ 102 mm. Inch-to-mm conversion for a clearance value. Correct conversion preserves the setup.

35. B — 3 of 6 features = one-half depend on the forward radar. This illustrates how one sensor serves multiple features. Shared sensors explain grouped failures.

36. C — 1,000 mm × 1.05 = 1,050 mm after a 5 percent increase. Percentage adjustments appear for variant-specific specs. Accurate scaling keeps the target placed correctly.

37. C — 12.5 V − 11.8 V = 0.7 V of drop under load. This quantifies resistance in the circuit. Voltage drop under load is the definitive measurement.

38. A — 25 percent of 50 = 12.5, so about 12 to 13 camera questions. Mirroring the weighting keeps the exam realistic. Camera is the second-largest sensor domain.

39. B — 1.2 m × 100 = 120 cm. A simple meter-to-centimeter conversion for target height. Exact height is part of accurate calibration.

40. B — Doubling the angle roughly doubles the lateral miss, an approximately linear relationship with the angle. It is not inverse, unrelated, or decreasing. Small aim errors scale predictably with angle and distance.

41. A — A 60-ohm reading means both 120-ohm terminators are intact and in parallel. It does not indicate a missing terminator, a short, or an open. This confirms healthy bus termination.

42. A — 1,290 mm ÷ 1,000 = 1.29 m, which rounds to 1.3 meters to the nearest tenth. The other options misplace the decimal by factors of ten or one hundred. Correct unit conversion and rounding keep the target distance accurate.

43. C — The midpoint of 1,800 mm is 1,800 ÷ 2 = 900 mm. Midpoint calculations locate centerlines and reference points. Accurate division underlies target centering.

44. C — (120 − 90) ÷ 10 = 3 minutes per remaining question. Time budgeting prevents running out near the end. Pacing is a tested exam skill.

45. A — 2.5 m × 1,000 = 2,500 mm. A direct meter-to-millimeter conversion. Precise conversion keeps the target placed correctly.

46. D — A reading below the expected 60 ohms, such as 40, suggests an additional unintended parallel path lowering resistance. It is not normal, an open terminator, or a healthy single terminator. Extra parallel paths pull the reading down.

47. D — 300 mm ÷ 25.4 ≈ 11.8 inches. Millimeter-to-inch conversion for a distance value. Correct conversion avoids mislocating the target.

48. A — A 3-degree slope exceeds a 1-degree level tolerance, so it is out of tolerance and must be corrected. It is not within or at tolerance, and it is not irrelevant. A level floor is required for accurate static calibration.

49. B — 40 ÷ 50 = 80 percent of the total questions. This expresses overall performance. Domain-by-domain review of misses guides study.

50. A — Converting 1,500 mm to meters (1.5 m) and back yields 1,500 mm. A round-trip conversion must return the original value. This confirms conversion consistency.