

PRACTICE EXAM 11

1. All of the following are sensing modalities used in ADAS EXCEPT:

- A. Radar
- B. Camera
- C. Ultrasonic
- D. Hydraulic pressure transducer

2. A composite-vehicle scenario states a system is active in any forward gear with vehicle speed above a defined threshold. Which condition would prevent the system from being active?

- A. The vehicle is in a forward gear above the threshold speed
- B. The vehicle is accelerating in a forward gear above the threshold
- C. The vehicle is cruising steadily above the threshold speed
- D. The vehicle is stopped below the threshold speed

3. Which of the following is NOT a characteristic strength of radar compared with a camera?

- A. Reading and classifying the text on a road sign
- B. Measuring distance to an object
- C. Measuring closing speed via Doppler shift
- D. Operating in fog, rain, and darkness

4. A composite-vehicle reference specifies that a function activates automatically at approximately a defined low temperature. A technician sees the function engage on a cold morning. How should this be interpreted?

- A. As normal operation consistent with the defined temperature threshold
- B. As a fault requiring module replacement
- C. As a sign the gateway has failed
- D. As evidence the windshield glass is incorrect

5. Each of the following can trigger a required ADAS calibration EXCEPT:

- A. Windshield replacement affecting the forward camera
- B. Collision repair disturbing the radar mounting
- C. Refilling the windshield washer fluid reservoir
- D. A ride-height change from new suspension components

6. A blind spot detection zone is defined in the composite vehicle reference. According to such a definition, when does the blind spot warning indicator illuminate?

- A. Whenever the vehicle exceeds highway speed regardless of adjacent traffic
- B. Only when the ignition is first switched on
- C. When a vehicle is present in the defined blind spot detection zone
- D. Only when the turn signal is activated

7. Which of the following is the LEAST appropriate first action when a radar reports a "blocked" condition after driving through mud?

- A. Replacing the radar module
- B. Inspecting the fascia in front of the radar
- C. Clearing debris from the sensor area
- D. Verifying the obstruction is gone before further diagnosis

8. A composite-vehicle system defaults to ON when the ignition is cycled from ON to OFF and back. A customer turns it off, restarts, and finds it on again. Which statement is accurate?

- A. The control switch is shorted internally
- B. This matches the defined default-to-ON behavior and is normal
- C. The module has lost its configuration
- D. The gateway is overriding the driver's input due to a fault

9. All of the following features rely primarily on the forward-facing camera EXCEPT:

- A. Rear cross-traffic alert
- B. Lane departure warning
- C. Traffic sign recognition
- D. Automatic high-beam control

10. Which measurement is correctly matched to its purpose?

- A. Voltage drop under load — to find a high-resistance connection
- B. Key-off resistance — to confirm live supply voltage
- C. Visual inspection — to definitively confirm a terminal fails under load
- D. Continuity beep — to measure closing speed

11. Which of the following is NOT a requirement for a proper static calibration bay?

- A. A level floor
- B. Adequate clear measured space
- C. A reflective, cluttered background behind the target
- D. Controlled, even lighting

12. A composite-vehicle scenario notes that adaptive cruise settings are adjusted using a particular interface and the ACC controls are located on the steering wheel. A question asks where the ACC controls are. What is the best basis for answering?

- A. The location on a similar production vehicle the technician serviced
- B. The location defined in the composite vehicle reference
- C. An assumption that all controls are on the center console
- D. The most common industry placement regardless of the reference

13. Each of the following is a valid reason a dynamic calibration might fail to complete EXCEPT:

- A. Faded or missing lane markings
- B. Insufficient driving speed
- C. Poor weather and inadequate lighting
- D. The shop floor sloping toward a drain

14. Which statement about ultrasonic sensors is NOT correct?

- A. They emit high-frequency sound pulses
- B. They are effective only at short range
- C. They measure long-range closing speed using Doppler shift
- D. They are used for low-speed parking detection

15. A composite-vehicle reference indicates a system can be turned OFF using the ADAS control-panel switch. Which action would correctly disable the system per that definition?

- A. Removing the forward radar fuse
- B. Disconnecting the gateway module
- C. Using the ADAS control-panel switch

D. Replacing the windshield

16. All of the following are appropriate before beginning an ADAS calibration EXCEPT:

- A. Verifying correct ride height
- B. Confirming correct wheel alignment and thrust angle
- C. Researching the manufacturer procedure
- D. Skipping the pre-repair scan to save time

17. Which is the LEAST likely cause of a forward camera complaint that appears only in heavy fog and clears in good weather?

- A. A camera-visibility limitation in fog
- B. Reduced optical clarity through the glass in fog
- C. An internal camera module hardware failure
- D. Normal designed behavior under low-visibility conditions

18. A composite-vehicle scenario describes error codes for lack of communication with each electronic control module on the ADAS CAN bus appearing in the gateway module. What does this pattern most strongly suggest?

- A. Each module has independently failed
- B. The forward camera glass is distorted
- C. A shared bus or gateway-related communication problem
- D. The ultrasonic sensors are painted over

19. Which of the following is NOT typically an input the ADAS modules rely on?

- A. The color of the driver's clothing

- B. Vehicle speed from wheel-speed sensors
- C. Steering angle
- D. Turn signal status

20. A park-assist feature is defined to operate only in reverse below a low speed. Which situation is consistent with the feature being active?

- A. Driving forward on the highway at speed
- B. Backing slowly out of a parking space
- C. Parked with the ignition off
- D. Accelerating forward through an intersection

21. Each of the following is part of replacing an ADAS module beyond the physical install EXCEPT:

- A. Performing a four-wheel brake bleed
- B. Programming the correct software
- C. Coding/configuring the module to the vehicle
- D. Calibrating the sensor's spatial reference

22. Which statement about a forward radar's narrow long-range beam is correct?

- A. A small angular mounting error becomes a large pointing error at distance
- B. Aim accuracy is irrelevant because radar self-corrects
- C. The beam is intended only for close-range parking
- D. The beam must be aimed from inside the cabin

23. A composite-vehicle reference defines a feature's activation speed. A test question provides a specific speed and asks whether the feature is active. The reference value differs from a real vehicle the technician knows. What should the technician rely on?

- A. The real vehicle's behavior
- B. An average of the two speeds
- C. The activation speed defined in the reference
- D. The assumption that the feature is always active

24. All of the following describe normal, designed ADAS behavior EXCEPT:

- A. A forward radar feature remaining fully functional with thick snow packed on the fascia
- B. A camera feature degrading on snow-covered lane lines
- C. A system defaulting to ON after an ignition cycle per the reference
- D. Parking sensors activating when reverse is selected

25. Which is the correct definition of thrust angle?

- A. The angle between the geometric centerline and the direction the rear axle steers the vehicle
- B. The tilt of the windshield relative to vertical
- C. The mounting angle of the forward radar to the fascia
- D. The field-of-view width of the forward camera

26. A technician is told a calibration "completed" but performs no verification. For which reason is this insufficient for a safety-critical system?

- A. Completion messages only apply to hybrids
- B. The post-repair scan recalibrates the sensor again
- C. A misaimed sensor can complete and pass, so functional verification is still needed
- D. Calibration must always be performed exactly three times

27. Which of the following is NOT a function served by the gateway module?

- A. Routing communication between networks
- B. Translating messages between buses
- C. Serving as a diagnostic access point
- D. Physically aiming the forward radar target

28. A composite-vehicle scenario states a system is active in a forward gear above 5 mph and can be turned off via the ADAS control-panel switch but returns to ON after an ignition cycle. Which customer report describes normal behavior?

- A. The system never reactivates after being switched off
- B. The system operates while the vehicle is parked in neutral
- C. The system works only in reverse
- D. The system, once switched off, is on again after the next start

29. Which is the LEAST appropriate response to a parking-sensor false-alert complaint that began after a bumper repaint?

- A. Inspecting the sensor faces for excessive paint
- B. Replacing the forward radar module
- C. Cleaning contamination from the sensor faces
- D. Verifying each sensor is properly resealed

30. All of the following are true of sensor fusion EXCEPT:

- A. It combines complementary sensors
- B. It allows a single sensor to perform every function alone
- C. It lets radar measure distance while a camera classifies objects
- D. It covers one sensor's weakness with another's strength

31. Which statement about voltage-drop testing is correct?

- A. It must be performed on a de-energized circuit
- B. It measures the camera's optical clarity
- C. It changes the radar's frequency band
- D. It must be performed with the circuit loaded and operating

32. A composite-vehicle reference describes the forward radar module and forward-facing camera as the primary inputs for forward features. A question asks which provide the primary forward inputs. The correct answer is:

- A. The rear corner radars and ultrasonic sensors
- B. The forward radar module and the multifunction forward-facing camera
- C. The driver-monitoring camera and the gateway
- D. The tire pressure sensors and the instrument cluster

33. Each of the following is a camera-dependent feature EXCEPT:

- A. Adaptive cruise control distance-keeping
- B. Lane keeping assist
- C. Traffic sign recognition
- D. Automatic high-beam control

34. Which statement about the L4 Composite Vehicle Type 1 Reference is correct?

- A. It is provided only as a printed booklet at the test center
- B. It is an electronic pop-up document available during the test
- C. It is required for only one or two questions
- D. It cannot be reviewed before the test

35. A technician must transfer a vehicle reference point straight down to the floor to position a target. Which tool is appropriate?

- A. A timing light
- B. A plumb bob
- C. A compression tester
- D. A vacuum gauge

36. Which of the following is NOT a reason to research a vehicle's service history before ADAS diagnosis?

- A. Prior windshield replacement may explain a camera fault
- B. Prior collision repair may have disturbed a radar
- C. Prior suspension work may have changed ride height
- D. To determine the driver's preferred radio stations

37. A composite-vehicle scenario specifies a blind-spot indicator illuminates when a vehicle occupies the defined zone. A customer says the indicator lights with no adjacent vehicle present after a rear collision repair. Which is the most likely cause?

- A. Normal defined behavior
- B. A misaimed corner radar after the repair
- C. A discharged key fob
- D. An outdated navigation map

38. All of the following are appropriate uses of a DMM in ADAS diagnosis EXCEPT:

- A. Measuring supply voltage at a module pin with the key on
- B. Determining the optical specification of replacement glass
- C. Measuring voltage drop across a ground under load

D. Checking CAN-H to CAN-L resistance with the bus at rest

39. Which is the correct first response when a radar reports a blocked condition after a snowstorm?

- A. Replace the radar module
- B. Reprogram the gateway
- C. Inspect for and clear packed snow or ice on the fascia
- D. Perform a four-wheel alignment

40. A composite-vehicle reference defines that a system defaults to ON after an ignition cycle. Which is the LEAST accurate conclusion?

- A. The behavior is defined and normal
- B. The customer's complaint indicates a module failure
- C. No repair is required for the defaulting behavior
- D. The technician should explain the defined behavior to the customer

41. Each of the following is a valid cause of an incomplete or failed calibration EXCEPT:

- A. A misplaced or wrong calibration target
- B. Faded lane markings during a dynamic procedure
- C. An uncorrected ride-height modification
- D. The vehicle's radio being tuned to the wrong station

42. Which statement about ultrasonic sensor range is correct?

- A. Ultrasonic sensors detect objects hundreds of feet away
- B. Ultrasonic sensors replace radar for highway distance-keeping
- C. Ultrasonic range is unlimited in clear weather

D. Ultrasonic sensors are effective only at very short range

43. A forward camera was reinstalled on correct glass after a bracket repair but not recalibrated. Lane keeping nudges inconsistently. Which is NOT an appropriate action?

A. Performing the required camera calibration

B. Verifying the bracket is the correct part and properly aligned

C. Replacing the camera module without further checks

D. Confirming ride height and geometry are correct

44. Which of the following correctly distinguishes static from dynamic calibration?

A. Static is performed while driving; dynamic uses fixed targets

B. Both require the vehicle to be driven at highway speed

C. Neither uses the scan tool

D. Static uses fixed targets with the vehicle stationary; dynamic learns from the road while driving

45. A composite-vehicle scenario states a function activates at approximately a defined temperature or below. Which observation is consistent with this definition?

A. The function engaging only on hot summer afternoons

B. The function engaging automatically in cold conditions at or below the defined temperature

C. The function never engaging at any temperature

D. The function engaging only above the defined temperature

46. Which is the LEAST likely explanation for multiple ADAS systems failing together with lost-communication codes?

A. Four independent simultaneous sensor failures

- B. A shared bus or gateway fault
- C. A shared power or ground problem
- D. A single disruptive event affecting a common element

47. All of the following are correct about a forward camera and its windshield EXCEPT:

- A. The camera looks through the glass
- B. Any glass specification is acceptable as long as the camera powers up
- C. Windshield replacement requires recalibration
- D. Incorrect glass can introduce optical distortion

48. Which statement about the pre-repair scan is correct?

- A. It recalibrates the forward radar automatically
- B. It updates the navigation maps
- C. It sets the climate control preferences
- D. It documents existing fault codes and establishes a baseline

49. A vehicle's forward features all fail together; the camera communicates, the glass is clear, the bracket and ride height are correct. Which is the most appropriate next step?

- A. Replace the rear ultrasonic sensors
- B. Check the tire pressure sensors
- C. Determine whether the shared camera needs recalibration or a software update
- D. Replace the key fob battery

50. Which statement about confirming an ADAS repair is correct?

- A. A clean post-repair scan alone fully confirms the repair

- B. Functional verification is unnecessary for non-hybrids
- C. A post-repair scan plus functional verification confirms the repair
- D. A completion message alone is sufficient for release

Answer Key & Full Answer Explanations

1. D — A hydraulic pressure transducer is not an ADAS sensing modality; radar, camera, and ultrasonic are. ADAS perceives the environment optically and acoustically, not through hydraulic pressure. Recognizing the genuine modalities is foundational to sensor diagnosis.
2. D — A system defined to be active in a forward gear above a threshold speed is not active when the vehicle is stopped below that threshold. Forward-gear, above-threshold conditions all satisfy activation. Reading the defined operating conditions prevents misjudging normal behavior.
3. A — Reading and classifying sign text is a camera strength, not a radar one, so it is the trait radar does not have. Radar excels at distance, Doppler closing speed, and operating in poor weather. This is exactly why radar and camera are fused.
4. A — A function defined to activate at approximately a low temperature engaging on a cold morning is normal operation consistent with that threshold. It is not a module, gateway, or glass fault. Knowing defined thresholds prevents chasing normal behavior as a defect.
5. C — Refilling washer fluid does not disturb any sensor's reference and therefore triggers no calibration. Windshield replacement, collision repair, and ride-height changes all disturb sensor aim and do require it. Calibration triggers are about disturbed position, aim, or reference.
6. C — A defined blind spot system illuminates the indicator when a vehicle is present in the defined detection zone. Highway speed alone, ignition-on, or turn-signal activation do not define illumination. The reference's detection-zone definition governs the answer.
7. A — Replacing the radar module is the least appropriate first action for a mud-induced blocked condition. Inspecting and clearing the fascia and confirming the obstruction is gone address the actual, correctable cause. Blockage is a normal protective response, not a reason to replace.

8. B — A system defined to default to ON after an ignition cycle that turns on again after restart is exhibiting normal defined behavior. It is not a shorted switch, lost configuration, or gateway override. Recognizing defined defaults prevents needless repair.

9. A — Rear cross-traffic alert relies on the rear corner radars, not the forward-facing camera. Lane departure, traffic sign recognition, and high-beam control all use the forward camera. Mapping features to their sensor is the key diagnostic step.

10. A — Voltage drop under load correctly finds a high-resistance connection because current must flow to reveal the resistance. Key-off resistance does not confirm live supply, visual inspection cannot confirm a load failure, and continuity does not measure speed. Matching test to purpose is essential.

11. C — A reflective, cluttered background is not a requirement; it is a violation of static calibration requirements. A level floor, clear measured space, and controlled lighting are genuine requirements. The bay environment is part of the calibration procedure.

12. B — Control locations such as the ACC controls are defined in the composite vehicle reference, which is the basis for the answer. A similar production vehicle, a console assumption, or general industry placement are unreliable. The reference is the single source of truth.

13. D — A sloping shop floor is a static-calibration problem, not a dynamic-calibration failure cause. Faded markings, insufficient speed, and poor weather/lighting all prevent a dynamic calibration from completing. Dynamic failures stem from road and condition issues.

14. C — Ultrasonic sensors do not measure long-range closing speed via Doppler; that is radar. They emit high-frequency sound, work only at short range, and serve low-speed parking. Confusing ultrasonic with radar capability is a common error.

15. C — Per a reference stating the system can be turned off via the ADAS control-panel switch, using that switch is the correct way to disable it. Pulling a fuse, disconnecting the gateway, or replacing the windshield are not the defined method. Follow the reference's defined control.

16. D — Skipping the pre-repair scan is not appropriate; it establishes the baseline before calibration. Verifying ride height, confirming alignment/thrust angle, and researching the procedure are all proper pre-calibration steps. The pre-repair scan is standard required practice.

17. C — An internal camera hardware failure is the least likely cause of a complaint that appears only in fog and clears in good weather. Fog-related visibility limits and reduced optical clarity, which are normal, explain the pattern. Condition-specific symptoms usually indicate designed limitations, not failure.

18. C — Lost-communication codes for every ADAS module appearing at the gateway most strongly suggest a shared bus or gateway-related problem. Independent failures of every module, glass distortion, or painted ultrasonic sensors do not fit a whole-bus pattern. The pattern points to a shared cause.

19. A — The color of the driver's clothing is not an ADAS input. Vehicle speed, steering angle, and turn signal status are genuine inputs the modules rely on. Knowing the real inputs helps trace faults that originate in shared vehicle data.

20. B — A park-assist feature defined to operate only in reverse below a low speed is active when backing slowly out of a space. Highway driving, ignition-off, and forward acceleration do not meet the defined conditions. Gear and speed conditions define activation.

21. A — A four-wheel brake bleed is not part of replacing an ADAS module. Programming software, coding/configuration to the vehicle, and calibration are the required electronic and spatial steps. Replacement is more than a physical install.

22. A — For a narrow long-range forward radar, a small angular mounting error becomes a large pointing error at distance. Radar does require aiming accuracy, is not close-range-only, and is not aimed from the cabin. Beam geometry magnifies small aim errors.

23. C — For reference questions, the technician relies on the activation speed defined in the reference, not a real vehicle, an average, or an assumption. The composite vehicle defines its own behavior. The reference is authoritative for these questions.

24. A — A forward radar feature remaining fully functional with thick snow packed on the fascia is not normal; radar typically reports blocked and disables under heavy buildup. Camera degradation on snow-covered lines, default-to-ON behavior, and reverse-activated parking sensors are all normal. Heavy fascia buildup normally produces a blocked condition.

25. A — Thrust angle is the angle between the geometric centerline and the direction the rear axle steers the vehicle. It is not windshield tilt, radar mounting angle, or camera field-of-view width. Thrust angle defines the vehicle's true direction of travel for forward-sensor aim.

26. C — Verification is needed because a misaimed sensor can complete and pass, so functional verification is still required. Completion is not hybrid-only, the post-repair scan does not recalibrate, and a three-times rule does not exist. Confirmed function, not completion, is the standard.

27. D — Physically aiming the forward radar target is not a gateway function. Routing communication, translating between buses, and serving as a diagnostic access point are gateway roles. The gateway is a communication hub, not a calibration device.

28. D — Given the defined behavior, the normal report is that the system, once switched off, is on again after the next start. Never reactivating, operating while parked in neutral, or working only in reverse contradict the definition. The defined default-to-ON behavior is normal.

29. B — Replacing the forward radar is the least appropriate response to a parking-sensor false alert after a repaint. Inspecting for excessive paint, cleaning contamination, and verifying reseating address the actual ultrasonic causes. Bumper refinishing is a classic ultrasonic fault source.

30. B — Sensor fusion does not let a single sensor perform every function alone; it combines complementary sensors. It lets radar measure distance while a camera classifies, covering each other's weaknesses. No single sensor is sufficient, which is the whole point of fusion.

31. D — Voltage-drop testing must be performed with the circuit loaded and operating so current reveals the resistance. It is not a de-energized test, an optical measurement, or a frequency change. Current must flow for the drop to appear.

32. B — The reference defines the forward radar module and the multifunction forward-facing camera as the primary forward inputs. Rear sensors, the driver camera/gateway, and tire pressure sensors are not. The reference's stated primary inputs are the answer.

33. A — Adaptive cruise distance-keeping relies on the forward radar, not the camera, so it is the exception. Lane keeping, traffic sign recognition, and high-beam control are camera-dependent. Distance-keeping is radar's domain.

34. B — The L4 reference is an electronic pop-up document available during the test. It is not printed-only, not limited to one or two questions, and can be reviewed beforehand. Its on-screen availability shapes reference strategy.

35. B — A plumb bob transfers a vehicle reference point straight down to the floor. A timing light, compression tester, and vacuum gauge are engine-diagnostic tools unrelated to calibration geometry. Simple measurement tools establish calibration setup.

36. D — Determining the driver's preferred radio stations is not a reason to research service history. Prior glass, collision, and suspension work all plausibly explain ADAS faults. History research targets prior work that disturbs sensors.

37. B — A blind-spot indicator lighting with no adjacent vehicle after a rear collision repair most likely reflects a misaimed corner radar from the repair. Normal behavior, a key fob, or a navigation map would not cause false illumination. Collision repairs commonly disturb corner-radar aim.

38. B — A DMM cannot determine the optical specification of replacement glass. It properly measures supply voltage, voltage drop under load, and CAN resistance at rest. Glass spec is a parts/inspection matter, not a meter reading.

39. C — The correct first response to a snow-induced blocked condition is to inspect for and clear packed snow or ice on the fascia. Replacing the radar, reprogramming the gateway, or aligning the wheels skip the obvious cause. Blockage is a correctable, often-normal condition.

40. B — The least accurate conclusion is that a defined default-to-ON behavior indicates a module failure. The behavior is defined and normal, requires no repair, and should be explained to the customer. Defined defaults are not faults.

41. D — The radio station has no bearing on calibration completion. A misplaced target, faded markings, and an uncorrected ride-height modification are all valid causes of failed or incomplete calibration. Calibration failures stem from setup, conditions, or prerequisites.

42. D — Ultrasonic sensors are effective only at very short range because sound attenuates quickly. They do not reach hundreds of feet, replace radar for highway distance, or have unlimited range. Short range is inherent to sound-based sensing.

43. C — Replacing the camera without further checks is not appropriate for a reinstalled camera that simply needs recalibration. Performing the calibration, verifying the bracket, and confirming geometry are correct actions. Recalibration, not replacement, addresses a disturbed reference.

44. D — Static uses fixed targets with the vehicle stationary, while dynamic learns from the road while driving. The reversed description, "both at highway speed," and "neither uses the scan tool" are all wrong. This static-versus-dynamic distinction is fundamental.

45. B — A function defined to activate at or below a temperature is consistent with engaging automatically in cold conditions at or below that threshold. Engaging only when hot, never, or only above the threshold contradicts the definition. Read the defined threshold direction carefully.

46. A — Four independent simultaneous sensor failures is the least likely explanation for multiple systems failing with lost-communication codes. A shared bus/gateway fault, a shared power/ground problem, or a single disruptive event are far more probable. The simplest shared cause usually explains all symptoms.

47. B — It is not true that any glass specification is acceptable as long as the camera powers up; incorrect glass can distort the camera's view. The camera does look through the glass, replacement requires recalibration, and wrong glass introduces distortion. Glass specification matters even when the camera is electrically fine.

48. D — The pre-repair scan documents existing fault codes and establishes a baseline before work begins. It does not recalibrate, update maps, or set climate preferences. The baseline distinguishes pre-existing issues from anything introduced during repair.

49. C — With clear glass, normal communication, and correct bracket and ride height, the next step is to determine whether the shared camera needs recalibration or a software update. Ultrasonic sensors, tire pressure sensors, and the key fob are unrelated to grouped forward-vision faults. The shared camera is the common denominator.

50. C — A post-repair scan plus functional verification confirms the repair. A clean scan alone is insufficient, functional verification is not hybrid-exempt, and a completion message alone is not enough for release. Verification closes the loop on every ADAS repair.