PRACTICE EXAM 34

1. Three of these features rely on the forward-facing camera. Which one does NOT?

A. Lane departure warning

B. Adaptive cruise control distance-keeping

C. Traffic sign recognition

D. Automatic high-beam control

2. Which sensor-to-feature pairing is correct?

A. Ultrasonic sensor — adaptive cruise control

B. Rear corner radar — blind spot warning

C. Forward camera — rear cross-traffic alert

D. Forward radar — parking distance detection

3. Three of these are sensing modalities. Which one is NOT?

A. Radar

B. Camera

C. Ultrasonic

D. Gateway

4. Which feature does NOT belong with the other three, which all rely on the forward radar?

A. Lane keeping assist

B. Adaptive cruise control

C. Forward collision warning

D. Automatic emergency braking

5. Which pairing of calibration type to its defining trait is correct?

A. Static calibration — fixed targets, vehicle stationary

B. Static calibration — driven on a marked road

C. Dynamic calibration — fixed targets in a bay

D. Dynamic calibration — performed on a bench

6. Three of these are correctable causes of a radar complaint. Which one is the odd one out, being an internal-failure cause?

A. Snow blockage on the fascia

B. Misalignment from a disturbed mounting

C. A failed internal radar bus interface

D. Excessive paint over the radar area

7. Which sensor correctly pairs with the quantity it best measures?

A. Camera — precise closing speed

B. Ultrasonic — long-range distance

C. Radar — distance and closing speed

D. Gateway — object classification

8. Three of these require recalibration of a forward camera. Which one does NOT?

A. Refilling the washer fluid reservoir

B. Windshield replacement

C. Camera removal and reinstallation

D. A ride-height change

9. Which pairing of term to definition is correct?

A. Actuator — a network that routes messages

B. Gateway — a patterned calibration board

C. Target — a device that brakes the vehicle

D. Thrust angle — the rear axle's steering direction relative to centerline

10. Three of these are static-calibration bay requirements. Which one is NOT?

A. A level floor

B. Controlled, even lighting

C. A clean, non-reflective background

D. A faded set of lane markings on the floor

11. Which sensor-to-location pairing is correct?

A. Forward radar — top center of the windshield

B. Ultrasonic sensors — inside the cabin facing the driver

C. Forward camera — top center of the windshield

D. Rear corner radar — behind the front grille

12. Three of these measurements are correctly matched to their purpose. Which pairing is WRONG?

A. Voltage drop under load — find high-resistance connections

B. Voltage at the pin, key on — confirm supply

C. Resistance, key off — confirm live supply voltage

D. CAN-H to CAN-L resistance at rest — check bus termination

13. Which two features share the rear corner radars as their sensor?

A. Adaptive cruise control and automatic emergency braking

B. Blind spot warning and rear cross-traffic alert

C. Lane keeping and traffic sign recognition

D. Park assist and surround-view display

14. Which pairing of acronym to feature is correct?

A. AEB — Automatic Emergency Braking

B. AEB — Adaptive Echo Bandwidth

C. ACC — Active Camera Calibration

D. BSW — Brake System Watchdog

15. Three of these are normal, designed ADAS behaviors. Which is the odd one out, being an actual fault?

A. A radar remaining fully active 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 in reverse

16. Which calibration-trigger pairing is correct?

A. Windshield replacement — affects the rear corner radar

B. Bumper repair — affects the forward camera only

C. Windshield replacement — affects the forward camera

D. Washer fluid refill — affects the forward radar

17. Three of these are inputs ADAS modules rely on. Which one is NOT?

A. Vehicle speed

B. Steering angle

C. The color of the driver's clothing

D. Turn signal status

18. Which pairing of sensor weakness to sensor is correct?

A. Poor object classification — radar

B. Poor performance in fog — radar

C. Long-range detection failure — camera

D. Reading signs poorly — camera

19. Three of these resistance readings indicate a CAN bus fault. Which one indicates a healthy bus?

A. 120 ohms

B. Near zero ohms

C. Essentially infinite

D. About 60 ohms

20. Which feature-to-primary-sensor pairing is INCORRECT?

A. Lane departure warning — forward camera

B. Adaptive cruise control — forward radar

C. Rear cross-traffic alert — rear corner radar

D. Traffic sign recognition — ultrasonic sensors

21. Three of these are ultrasonic-related faults. Which is the odd one out, belonging to a different sensor?

A. False parking alerts from a painted sensor face

B. A misaimed forward radar from a disturbed mounting

C. Reduced parking detection from a contaminated sensor

D. Improper sensor reseating after a bumper repair

22. Which pairing of scan type to purpose is correct?

A. Pre-repair scan — confirms repair completion

B. Post-repair scan — establishes the initial baseline

C. Pre-repair scan — recalibrates the sensors

D. Post-repair scan — confirms no faults remain after repair

23. Three of these describe the forward camera. Which one does NOT?

A. Measures precise closing speed via Doppler shift

B. Reads lane markings

C. Looks through the windshield

D. Reads traffic signs

24. Which calibration-tool-to-use pairing is correct?

A. Compression tester — set target distance

B. Timing light — establish centerline

C. Vacuum gauge — square the target

D. Plumb bob — transfer a reference point to the floor

25. Three of these are active ADAS systems. Which one is passive (warning only)?

A. Automatic emergency braking

B. Blind spot warning

C. Lane keeping assist

D. Park assist that steers

26. Which pairing of failure mode to description is correct?

A. Incomplete — the calibration completes but is misaimed

B. Incorrect — the calibration times out

C. Unsuccessful — the calibration completes perfectly

D. Incorrect — the calibration completes but the sensor is misaimed

27. Three of these are forward-radar features. Which is the odd one out?

A. Adaptive cruise control

B. Forward collision warning

C. Blind spot warning

D. Automatic emergency braking

28. Which definition-to-term pairing is correct?

A. Initialization — establishing the sensor's spatial reference

B. Calibration — establishing the sensor's spatial reference

C. Programming — matching the module to vehicle options

D. Configuration — loading software into the module

29. Three of these are reasons most camera complaints are not a failed camera. Which is the odd one out, being a reason to actually replace it?

A. Confirmed internal camera module hardware failure

B. A degraded view from dirty glass

C. A misaim from a disturbed bracket

D. A network communication issue

30. Which pairing of sensor to detection role is correct?

A. Ultrasonic — highway distance-keeping

B. Camera — measuring closing speed via Doppler

C. Radar — reading road sign text

D. Ultrasonic — close-range parking detection

31. Three of these are correct statements about the composite vehicle reference. Which one is FALSE?

A. It is a fictional, manufacturer-neutral vehicle

B. It is an electronic pop-up during the test

C. It is a specific production model year

D. It can be studied before the test

32. Which two complaints most likely share a single forward-camera cause?

A. Blind spot warning and rear cross-traffic alert failing

B. Lane keeping and traffic sign recognition failing together

C. Parking sensors and blind spot warning failing

D. Adaptive cruise and automatic emergency braking failing

33. Which pairing of weather condition to affected sensor is correct?

A. Fog — degrades the camera more than the radar

B. Fog — degrades the radar more than the camera

C. Darkness — disables radar entirely

D. Rain — improves ultrasonic accuracy

34. Three of these are correctable conditions. Which one requires module replacement?

A. A confirmed internal radar bus-interface failure

B. Snow blockage on the fascia

C. A misaligned mounting

D. Excessive paint on the radar area

35. Which acronym-to-meaning pairing is correct?

A. CAN — Camera Alignment Node

B. HMI — Hybrid Motor Inverter

C. DMM — Digital Multimeter

D. TSR — Tire Sensor Reset

36. Three of these are forward-facing camera features. Which is the odd one out?

A. Lane departure warning

B. Traffic sign recognition

C. Automatic high beams

D. Rear cross-traffic alert

37. Which pairing of geometry term to its effect on calibration is correct?

A. Ride height — sets horizontal aim only

B. Ride height — affects the vertical aim of body-mounted sensors

C. Thrust angle — sets the vertical aim

D. Thrust angle — changes the radar frequency

38. Three of these would cause a dynamic calibration to fail. Which is the odd one out, belonging to static calibration?

A. Faded lane markings

B. Insufficient driving speed

C. A misplaced target board in the bay

D. Poor weather and lighting

39. Which pairing of customer complaint to likely cause is correct?

A. "Lane keeping failed after windshield replacement" — camera needs recalibration

B. "Lane keeping failed after windshield replacement" — painted ultrasonic sensors

C. "Parking beeps after a repaint" — failed forward radar

D. "Blind spot light always on after rear repair" — distorted windshield

40. Three of these are correct about voltage-drop testing. Which is FALSE?

A. It is performed with the circuit loaded

B. It finds high-resistance connections

C. It applies to power and ground circuits

D. It is performed on a de-energized circuit

41. Which two repairs are correctly matched to the sensors they most likely disturb?

A. Windshield work — rear corner radar; bumper work — forward camera

B. Windshield work — ultrasonic sensors; bumper work — driver camera

C. Windshield work — forward camera; bumper work — forward radar

D. Windshield work — forward radar; bumper work — forward camera

42. Three of these describe radar's strengths. Which is the odd one out, being a weakness?

A. Measuring distance precisely

B. Measuring closing speed

C. Operating in fog and darkness

D. Classifying what an object is

43. Which pairing of calibration method to requirement is correct?

A. Static — clear lane markings on a highway

B. Static — a level floor and clean background

C. Dynamic — fixed targets at a measured distance

D. Dynamic — a stationary vehicle in a bay

44. Three of these are reasons to research service history. Which is the odd one out?

A. Prior glass work may explain a camera fault

B. Prior collision work may have disturbed a radar

C. The driver's preferred radio stations

D. Prior suspension work may have changed ride height

45. Which two faults most likely share a corroded shared-ground cause?

A. A single painted ultrasonic sensor and a distorted windshield

B. Intermittent failures across several different modules at once

C. A single misaimed forward radar only

D. A wrong-spec windshield only

46. Three of these are correct first responses to a blocked-radar condition. Which is the odd one out?

A. Inspect the fascia for obstruction

B. Clear snow, ice, or mud from the area

C. Verify the obstruction is gone before further diagnosis

D. Replace the radar module immediately

47. Which pairing of sensor to its mounting location is correct?

A. Forward camera — front bumper behind the grille

B. Forward radar — front, low and central behind the fascia

C. Ultrasonic sensors — top of the windshield

D. Rear corner radar — inside the cabin

48. Three of these confirm a repair is complete. Which one alone does NOT?

A. A calibration completion message by itself

B. A clean post-repair scan combined with functional verification

C. A road test confirming features work, with a clean scan

D. Functional verification plus a post-repair scan

49. Which pairing of feature to its classification is correct?

A. Automatic emergency braking — passive

B. Blind spot warning — passive

C. Lane keeping assist — passive

D. Forward collision warning — active intervention

50. Three of these are causes of an incomplete or failed calibration. Which is the odd one out?

A. A misplaced calibration target

B. The vehicle's radio tuned to the wrong station

C. Faded lane markings during a dynamic procedure

D. An uncorrected ride-height modification

Answer Key & Full Answer Explanations

1. B — Adaptive cruise control distance-keeping relies on the forward radar, not the camera, so it does not belong. Lane departure, traffic sign recognition, and high beams are all camera-based. Distance-keeping is radar's domain.

2. B — Rear corner radar paired with blind spot warning is the correct match. Ultrasonic does not serve cruise, the camera does not serve rear cross-traffic, and forward radar does not serve parking. Each feature maps to its proper sensor.

3. D — The gateway is a communication module, not a sensing modality. Radar, camera, and ultrasonic are the genuine modalities. The gateway routes data rather than perceiving the environment.

4. A — Lane keeping assist relies on the forward camera, not the forward radar, so it is the odd one out. Adaptive cruise, forward collision warning, and automatic emergency braking are forward-radar features. Lane features are camera-based.

5. A — Static calibration paired with fixed targets and a stationary vehicle is the correct match. A driven static calibration, a target-based dynamic calibration, and a bench dynamic calibration are all wrong pairings. Static means stationary plus targets.

6. C — A failed internal radar bus interface is an internal-failure cause, unlike the correctable snow blockage, misalignment, or excessive paint. Those three are fixed without replacement. The internal failure is the odd one out.

7. C — Radar paired with distance and closing speed is correct. A camera does not measure precise closing speed, ultrasonic is not long-range, and the gateway does not classify objects. Distance and closing speed are radar's measurements.

8. A — Refilling washer fluid does not disturb the camera's reference, so it requires no recalibration. Windshield replacement, camera reinstallation, and ride-height changes all do. Calibration triggers involve disturbed position, aim, or reference.

9. D — Thrust angle paired with the rear axle's steering direction relative to centerline is correct. An actuator is not a network, a gateway is not a calibration board, and a target is not a brake device. Thrust angle defines the vehicle's true direction of travel.

10. D — Faded lane markings on the floor are not a static-bay requirement; they belong to dynamic-calibration road conditions. A level floor, controlled lighting, and a clean background are genuine requirements. The bay environment is part of static calibration.

11. C — The forward camera paired with the top center of the windshield is correct. The forward radar is not at the windshield, ultrasonic sensors are not in the cabin, and corner radar is not behind the front grille. Sensor location guides diagnosis.

12. C — Resistance with the key off does not confirm live supply voltage; that requires a voltage measurement with the key on. The other three pairings are correct. Matching the test to its purpose is essential.

13. B — Blind spot warning and rear cross-traffic alert share the rear corner radars. Cruise and emergency braking use the forward radar, lane and sign features use the camera, and parking/surround-view use ultrasonic and cameras. The corner radars serve the rear-side features.

14. A — AEB paired with Automatic Emergency Braking is the correct match. The other expansions are fabricated, and ACC and BSW are mispaired. AEB is an active braking intervention.

15. A — A radar remaining fully active with thick snow packed on the fascia is the fault; it should normally report blocked and disable. Camera degradation on snow-covered lines, default-to-ON behavior, and reverse-activated parking sensors are all normal. Heavy buildup normally produces a blocked condition.

16. C — Windshield replacement paired with affecting the forward camera is correct. It does not affect the rear corner radar, bumper repair affects more than the camera, and a washer refill does not affect the radar. Glass work disturbs the forward camera.

17. C — The color of the driver's clothing is not an ADAS input. Vehicle speed, steering angle, and turn signal status are genuine inputs. Knowing real inputs helps trace shared-data faults.

18. A — Poor object classification paired with radar is the correct weakness. Radar performs well in fog, the camera is the long-range-classification strength, and reading signs is a camera strength, not weakness. Poor classification is why radar is fused with the camera.

19. D — About 60 ohms indicates a healthy bus, while 120 ohms, near zero, and infinite all indicate faults. Two parallel terminators yield 60 ohms. The ~60-ohm value confirms intact termination and wiring.

20. D — Traffic sign recognition paired with ultrasonic sensors is incorrect; it relies on the forward camera. The other three feature-to-sensor pairings are correct. Sign reading is a camera capability.

21. B — A misaimed forward radar belongs to the radar, not the ultrasonic domain, making it the odd one out. Painted faces, contamination, and improper reseating are ultrasonic faults. The radar misalignment is the mismatch.

22. D — The post-repair scan paired with confirming no faults remain after repair is correct. The pre-repair scan does not confirm completion or recalibrate, and the post-repair scan is not the initial baseline. Scans bookend service with distinct purposes.

23. A — Measuring precise closing speed via Doppler shift describes radar, not the camera, so it does not belong. The camera reads lane markings, looks through the windshield, and reads signs. Doppler speed measurement is radar's role.

24. D — A plumb bob paired with transferring a reference point to the floor is correct. Engine-diagnostic tools do not set target distance, establish centerline, or square targets. Simple measurement tools build calibration geometry.

25. B — Blind spot warning is passive, only warning the driver, unlike the active automatic emergency braking, lane keeping assist, and steering park assist. Passive systems warn; active systems intervene. Blind spot warning is the warning-only system.

26. D — The incorrect failure mode paired with completing but the sensor being misaimed is correct. Incomplete means timing out, and unsuccessful means reporting failure, so the other pairings are wrong. The incorrect mode is the most dangerous because it can pass.

27. C — Blind spot warning uses the rear corner radar, not the forward radar, so it is the odd one out. Adaptive cruise, forward collision warning, and automatic emergency braking are forward-radar features. Blind spot is a corner-radar feature.

28. B — Calibration paired with establishing the sensor's spatial reference is correct. Initialization sets a ready state, programming loads software, and configuration matches options, so those pairings are wrong. Calibration is the spatial-reference step.

29. A — A confirmed internal camera hardware failure is the reason to actually replace the camera, unlike a degraded view, a misaim, or a network issue, which are correctable. Those three explain why most complaints are not a failed camera. The confirmed failure is the odd one out.

30. D — Ultrasonic paired with close-range parking detection is correct. Ultrasonic is not for highway distance, the camera does not use Doppler, and radar does not read sign text. The division of labor defines each sensor's role.

31. C — Calling the composite vehicle a specific production model year is false; it is fictional and manufacturer-neutral. It is an electronic pop-up during the test and can be studied beforehand. The neutral, fictional design keeps the exam fair.

32. B — Lane keeping and traffic sign recognition failing together most likely share a single forward-camera cause. Blind spot/cross-traffic share the corner radar, parking/blind spot do not share the camera, and cruise/braking share the forward radar. The camera is the shared denominator for vision features.

33. A — Fog degrades the camera more than the radar is the correct pairing. Fog does not degrade radar more, darkness does not disable radar, and rain does not improve ultrasonic accuracy. Radar penetrates fog while the camera does not.

34. A — A confirmed internal radar bus-interface failure requires replacement, unlike snow blockage, misalignment, or excessive paint, which are correctable. Those three are fixed without a new module. The internal failure is the exception.

35. C — DMM paired with Digital Multimeter is correct. CAN is not Camera Alignment Node, HMI is not a motor inverter, and TSR is not a tire sensor reset. Precise acronym knowledge matters on the exam.

36. D — Rear cross-traffic alert uses the rear corner radar, not the forward camera, so it is the odd one out. Lane departure, traffic sign recognition, and high beams are camera features. Cross-traffic is a corner-radar feature.

37. B — Ride height paired with affecting the vertical aim of body-mounted sensors is correct. Ride height does not set horizontal aim only, thrust angle sets horizontal not vertical aim, and thrust angle does not change radar frequency. Ride height governs vertical aim.

38. C — A misplaced target board belongs to static calibration, making it the odd one out among dynamic-failure causes. Faded markings, insufficient speed, and poor weather are dynamic-failure causes. The target board is a static-setup issue.

39. A — "Lane keeping failed after windshield replacement" paired with the camera needing recalibration is correct. Painted ultrasonic sensors, a failed forward radar, and a distorted windshield are mismatched to their complaints. Glass work disturbs the camera's aim.

40. D — Performing voltage-drop testing on a de-energized circuit is false; it must be done under load. It is performed loaded, finds high-resistance connections, and applies to power and ground circuits. Current must flow for the drop to appear.

41. C — Windshield work disturbing the forward camera and bumper work disturbing the forward radar is the correct pairing. The other options mismatch the repairs to the wrong sensors. Each repair disturbs its associated sensor.

42. D — Classifying what an object is, is radar's weakness, not a strength, so it is the odd one out. Measuring distance, measuring closing speed, and operating in fog and darkness are radar strengths. Poor classification is why radar is fused with the camera.

43. B — Static calibration paired with a level floor and clean background is correct. Clear highway markings and a driven procedure belong to dynamic, and fixed targets and a stationary vehicle define static, so those pairings are wrong. Static requires the controlled bay.

44. C — The driver's preferred radio stations is not a reason to research service history, making it the odd one out. Prior glass, collision, and suspension work all plausibly explain ADAS faults. History targets prior work that disturbs sensors.

45. B — Intermittent failures across several different modules at once most likely share a corroded shared-ground cause. A single painted sensor with glass distortion, a single misaimed radar, and a wrong-spec windshield are isolated issues. Shared grounds cause widespread intermittent faults.

46. D — Replacing the radar module immediately is the odd one out; the correct first responses are to inspect, clear the obstruction, and verify it is gone. Blockage is a correctable, often-normal condition. Replacement is premature.

47. B — The forward radar paired with a front, low, central position behind the fascia is correct. The forward camera is not in the bumper, ultrasonic sensors are not at the windshield, and corner radar is not in the cabin. Sensor location guides diagnosis.

48. A — A calibration completion message by itself does not confirm a repair, unlike the combinations of a clean scan with functional verification or a road test. A misaimed sensor can produce a completion message yet fail. Completion alone is the odd one out.

49. B — Blind spot warning paired with passive classification is correct. Automatic emergency braking and lane keeping are active, and forward collision warning is passive not active, so those pairings are wrong. Blind spot warning only alerts the driver.

50. B — The radio tuned to the wrong station is the odd one out; it has no bearing on calibration. A misplaced target, faded markings, and an uncorrected ride-height modification are valid causes of failed calibration. Calibration failures stem from setup, conditions, or prerequisites.