PRACTICE EXAM 22

1. A technician named Dana sets up a forward camera static calibration but the procedure aborts repeatedly. She has confirmed the target distance and centering. Which overlooked condition should she check next?

A. The diagnostic scan tool is running an outdated software release

B. The rear ultrasonic park sensors were unplugged during the setup

C. The cabin air filter is clogged and restricting airflow to the camera

D. The bay floor has a noticeable slope beneath the vehicle being calibrated

2. A customer reports that adaptive cruise control will not engage as the vehicle pulls away from a stop. The technician confirms normal operation otherwise. On the Composite Vehicle, ACC becomes active in any forward gear above:

A. About 5 mph (8.0 km/h) once the vehicle is moving

B. A minimum of 25 mph regardless of the gear selected

C. A minimum of 45 mph on level roadway surfaces only

D. Any speed including a full stop with no lower limit

3. Marcus replaces a rear corner radar module, but it will not communicate on the bus. According to the reference, which step did he most likely skip?

A. A four-wheel alignment to reset the vehicle's thrust angle

B. A windshield recalibration of the forward-facing camera

C. An initialization of the module after it was replaced

D. A high-beam headlight aim check before powering the module

4. A blind spot warning is inoperative on the right side only, and a code shows lost communication with the right rear corner radar. Which approach best isolates the fault?

A. Replace both rear corner radar modules together as a matched pair

B. Recalibrate the forward camera to restore the lost communication

C. Test the affected module's power, ground, and bus continuity

D. Reflash the instrument cluster module to a current software level

5. Tech A says a windshield replacement requires recalibration of a windshield-mounted forward camera. Tech B says a forward bumper replacement may require attention to a fascia-mounted radar. Who is correct?

A. Tech A only

B. Both Tech A and Tech B

C. Tech B only

D. Neither Tech A nor Tech B

6. A technician finds the forward radar bracket slightly bent after a low-speed collision, though the module itself tests good. What should the technician do?

A. Leave the bracket alone since radar self-corrects for small offsets

B. Replace the forward camera because it shares the radar bracket

C. Recalibrate only the ultrasonic sensors to offset the bent bracket

D. Repair or replace the bracket, then aim and calibrate the radar

7. A forward radar reports targets at incorrect distances after a front-end repair, but bench testing shows the module is fully functional. The technician should suspect:

A. The mounting bracket is bent or the module is not properly seated

B. The instrument cluster module has lost its stored ACC settings

C. The ultrasonic park sensors require a software initialization step

D. The private CAN bus terminating resistor has failed in an open state

8. A medium-range forward radar on the Composite Vehicle is specified to cover approximately:

A. A fixed range limited to the first 30 meters directly ahead

B. A close range under 5 meters intended for parking maneuvers

C. A medium range of about 0 to 160 meters (0 to 525 feet)

D. An extended range beyond 500 meters for open highway use

9. A technician must turn off an ADAS feature to perform a road test on the Composite Vehicle. The intended method is to use:

A. The dedicated ADAS fuse pulled from the underhood fuse box

B. A factory scan tool session authorized by the manufacturer

C. The forward camera connector disconnected by hand at the mirror

D. The ADAS control panel switch located inside the vehicle cabin

10. A scan of the network shows several ADAS modules reporting "no communication," while the engine and transmission modules respond normally. This pattern most strongly indicates:

A. A fault in the ADAS CAN bus segment serving those ADAS modules

B. A single failed ultrasonic park sensor element inside the bumper

C. An obstructed forward camera lens covered by accumulated debris

D. An internal processor failure within the powertrain control module

11. Tech A says ultrasonic sensors provide a close-range input to the ADAS system. Tech B says ultrasonic sensors are the primary input for adaptive cruise control. Who is correct?

A. Both Tech A and Tech B

B. Tech A only

C. Tech B only

D. Neither Tech A nor Tech B

12. A driver wants to change the adaptive cruise control following distance on the Composite Vehicle. This is adjusted through:

A. A rotary dial mounted on the lower left dashboard trim panel

B. A handheld scan tool connected at the diagnostic link connector

C. The instrument cluster module (ICM) interface within the dash

D. A center console touchscreen within the stack assembly housing

13. A vehicle with an aftermarket lift kit shows forward radar elevation readings consistently high. The most direct corrective action is to:

A. Replace the forward radar with an updated service part number

B. Reflash the camera module to compensate for the added height

C. Restore correct ride height, then re-aim and calibrate the radar

D. Lower the ultrasonic sensor sensitivity setting within the software

14. A technician completes a calibration and clears codes. Which final step best confirms the repair is fully resolved?

A. Perform a post-scan and verify the systems operate correctly

B. Disconnect the battery for thirty minutes to force a module reset

C. Remove and reinstall each ADAS fuse one at a time in sequence

D. Drive the vehicle at maximum road speed to stress-test the sensors

15. A rear cross traffic alert never warns the driver when backing out of a parking space. The most likely direct cause is:

A. A forward-facing camera lens that is lightly fogged at cold start

B. A rear corner radar that is obstructed, misaimed, or not communicating

C. An adaptive cruise following distance set to its maximum value

D. An instrument cluster brightness setting adjusted too low to read

16. Tech A says a pre-scan documents fault codes present before the repair. Tech B says a post-scan confirms codes are resolved and no new faults exist. Who is correct?

A. Tech A only

B. Both Tech A and Tech B

C. Tech B only

D. Neither Tech A nor Tech B

17. A static forward camera calibration completes, but the vehicle drifts within the lane during lane keep assist. The most likely setup error is that:

A. The calibration target was slightly off-center from the vehicle axis

B. The audio system was operating during the static calibration step

C. A rear-seat passenger remained aboard throughout the calibration

D. The engine was idling during the static calibration procedure

18. A forward collision warning intermittently fails to detect a stopped vehicle ahead, and the forward radar passes its self-test. The most appropriate next step is to:

A. Reprogram the instrument cluster module to a newer software version

B. Replace the multifunction forward camera assembly as a first step

C. Perform a dynamic recalibration before any visual inspection occurs

D. Inspect the radar's aim, mounting, and any front fascia obstruction

19. A technician sees that both rear corner radars are offline while the rest of the ADAS network communicates normally. The shared design points the diagnosis toward:

A. A bent forward radar bracket located behind the front fascia panel

B. A windshield camera that has lost its stored calibration reference

C. A clogged cabin air filter restricting airflow across both modules

D. An open or fault in the private CAN bus between the corner radars

20. Tech A says the manufacturer's specified procedure determines whether calibration is static or dynamic. Tech B says the technician should choose based on available bay space. Who is correct?

A. Tech A only

B. Both Tech A and Tech B

C. Tech B only

D. Neither Tech A nor Tech B

21. A multifunction camera is replaced and initialized, yet lane keep assist still performs erratically. The remaining required step is most likely:

A. A reset of the tire pressure monitoring system thresholds

B. A reinitialization of the ultrasonic park assist controller

C. A replacement of the forward radar sensor module assembly

D. A camera calibration following the vehicle's specified procedure

22. During a static radar calibration, a technician notices reflective metal shelving a few feet from the target fixture. The likely effect is that the metal:

A. Improves the radar return by reinforcing the reflected signal

B. Has no effect because radar ignores nearby stationary objects

C. Affects only the camera calibration and not the radar procedure

D. Can corrupt the radar return and skew the calibration result

23. A four-wheel alignment corrects the thrust angle on a vehicle scheduled for ADAS calibration. This matters because:

A. Alignment changes the radar module's internal clock timing rate

B. Thrust angle directly alters the engine's fuel injection timing

C. Sensor reference geometry depends on a correct thrust line

D. Alignment is unrelated and has no effect on ADAS sensors

24. A technician is diagnosing an intermittent ADAS communication fault. The most appropriate first step is to:

A. Replace the most expensive suspect module as a starting point

B. Capture stored and pending codes along with network status

C. Clear all stored codes before recording any freeze frame data

D. Perform a full calibration before retrieving any fault codes

25. A blind spot warning indicator illuminates on the Composite Vehicle specifically when:

A. The following distance to a forward target exceeds 160 meters

B. A vehicle occupies the blind spot zone in an adjacent rear lane

C. The transmission is shifted into reverse gear at any road speed

D. The forward radar detects a stationary object in the travel path

26. Tech A says reflective surfaces near a target can affect a static radar calibration. Tech B says overhead lighting strongly affects a static radar calibration. Who is correct?

A. Both Tech A and Tech B

B. Neither Tech A nor Tech B

C. Tech B only

D. Tech A only

27. A vehicle's ride height is below specification due to sagging rear springs. Before performing an ADAS calibration, the technician must:

A. Increase the radar sensitivity to compensate for the low stance

B. Correct the ride height so sensor aim matches the reference

C. Reflash the camera to a special lowered-vehicle calibration file

D. Disable the ultrasonic sensors until the springs are replaced

28. A forward radar communicates on the bus but reports implausible target data after a collision. The most probable cause is:

A. The instrument cluster module lost its stored ACC configuration

B. The radar's physical aim or mounting was disturbed in the crash

C. The ultrasonic park assist controller requires a reinitialization

D. A private CAN terminating resistor opened inside a corner radar

29. A camera-based traffic sign recognition feature stops displaying speed limits while all radar features work normally. This pattern most strongly implicates:

A. The forward-facing camera, its calibration, or its lens condition

B. The rear corner radar modules connected by the private CAN bus

C. The ultrasonic park assist sensors mounted within the bumpers

D. The adaptive cruise control switch located on the steering wheel

30. A pre-calibration inspection reveals two underinflated tires with uneven wear. The technician must correct this first because it:

A. Alters the ride height and sensor aim relative to the road surface

B. Raises the radar module's transmit frequency out of its legal band

C. Discharges the battery below the minimum required calibration voltage

D. Increases electromagnetic noise carried on the ADAS CAN bus wiring

31. A dynamic forward camera calibration aborts repeatedly on a clear, dry day with good markings. The technician notes the test route is heavily congested. The most likely cause is:

A. The lane markings are too reflective for the camera to interpret

B. The required road speed cannot be sustained in stop-and-go traffic

C. The forward radar bracket is bent and obstructing the camera view

D. The ultrasonic sensors are interfering with the camera data feed

32. The proper ADAS repair workflow following a sensor-affecting collision repair is:

A. Calibrate first, then repair, then pre-scan, then road test only

B. Clear codes, repair, then return the vehicle with no further scan

C. Pre-scan, repair, calibrate per procedure, then post-scan to verify

D. Post-scan, replace all sensors, then pre-scan as the closing step

33. Which module is identified as primary for ADAS CAN bus communication among the rear corner radars on the Composite Vehicle?

A. The left rear corner radar module designated as the primary node

B. The right rear corner radar module nearest the exhaust outlet

C. The forward radar module mounted behind the front fascia panel

D. The instrument cluster module located within the dashboard area

34. Several ADAS features fail at once after minor front-end work. The fastest path to an accurate diagnosis is to:

A. Replace the forward radar and camera together as a precaution

B. Pre-scan, review codes and network status, then test systematically

C. Clear all codes and return the vehicle with no further testing

D. Recalibrate every sensor on the vehicle before scanning for codes

35. The single most critical requirement for static forward camera target placement is:

A. A backlight source illuminating the rear face of the target board

B. A 45-degree tilt of the target toward the front bumper of the vehicle

C. Placement several feet behind the vehicle's rear bumper line

D. Correct distance and centering relative to the vehicle's axis

36. Tech A says skipping a required calibration can leave an ADAS feature operating inaccurately. Tech B says a misreferenced sensor is a genuine safety concern. Who is correct?

A. Tech A only

B. Both Tech A and Tech B

C. Tech B only

D. Neither Tech A nor Tech B

37. ADAS data on the Composite Vehicle is communicated primarily over which network?

A. A wireless link established individually between each sensor pair

B. The low-speed body circuit shared with exterior lighting loads

C. The ADAS CAN bus connecting the system's ADAS modules

D. A point-to-point analog harness with no shared digital bus

38. A forward radar module mounts to a bracket behind the fascia. According to the reference, the bracket and module are:

A. Welded together permanently and replaced only as one unit

B. Aimed automatically by the module with no physical adjustment

C. Serviced separately as distinct, individually replaceable parts

D. Calibrated solely through a dynamic road test with no aiming

39. A dynamic camera calibration never completes, and the technician's log shows the required speed was rarely held. The corrective action is to:

A. Switch immediately to a static calibration inside the service bay

B. Repeat the drive on a route allowing the sustained required speed

C. Replace the forward camera because the dynamic calibration failed

D. Initialize the rear corner radar modules before retrying the drive

40. When the ignition switch is cycled from ON to OFF and back to ON, the Composite Vehicle's ACC system defaults to:

A. A permanently disabled state requiring a scan tool to re-enable it

B. A locked-out state below a 45 mph minimum activation threshold

C. Whatever custom following-distance setting was last selected

D. The ON state when the ignition is cycled back to the on position

41. A module on the Composite Vehicle receives battery supply voltage and switched ignition voltage. If only the switched-voltage feed is open, the expected result is that the module:

A. Raises its transmit frequency above the legal operating band

B. Operates normally with no detectable difference in function

C. Overcharges the private CAN terminating resistor in the corner radar

D. Fails to power up or operate when the ignition is switched on

42. A forward collision warning false-activates after a fascia repair. The radar self-tests good and the bracket appears straight. The best next check is to:

A. Replace the instrument cluster module to stop the false alerts

B. Reinitialize the ultrasonic park sensors in the rear bumper area

C. Verify radar aim and inspect the fascia for material or paint buildup

D. Reflash the transmission control module to current calibration data

43. The forward radar module and multifunction forward camera are described in the reference as:

A. The primary inputs for several forward ADAS features

B. Outputs that only illuminate the dashboard warning indicators

C. Components used exclusively by the ultrasonic park assist system

D. Independent units that never share any sensor data at all

44. Each rear corner radar module contains a 120-ohm component whose role on the private CAN bus is to:

A. Terminate the bus correctly to prevent signal reflections

B. Reduce the battery supply voltage feeding the radar emitter

C. Convert the analog radar return into a digital distance value

D. Filter image noise originating from the forward camera feed

45. A vehicle returns with "calibration not complete" after a static camera procedure, and target distance and centering are confirmed correct. The most likely overlooked cause is:

A. An outdated software version installed on the diagnostic scan tool

B. The rear ultrasonic sensors being disconnected during the procedure

C. A sloped or uneven floor surface beneath the vehicle being serviced

D. A clogged cabin air filter restricting airflow across the sensors

46. Which feature relies primarily on the forward-facing camera rather than radar?

A. Maintaining a set following distance behind a lead vehicle

B. Warning of a vehicle present in the adjacent blind spot zone

C. Reading posted speed limit signs along the roadway ahead

D. Alerting to cross traffic while the vehicle is backing up

47. A technician must establish vehicle geometry before a forward camera calibration. Which references define that geometry?

A. The odometer reading and engine hours stored in the cluster memory

B. The radar transmit frequency and the ultrasonic firmware revision

C. The battery state of charge and the engine coolant temperature value

D. The vehicle's thrust line and centerline geometric references

48. Understanding which modules share a given bus segment during a communication-fault diagnosis primarily helps the technician to:

A. Select the correct engine oil viscosity for the verification road test

B. Determine the proper tire inflation pressure for the calibration

C. Narrow the fault to the affected bus and its connected modules

D. Choose the appropriate wiper blade length for the test road drive

49. A medium-range radar specified at 0–160 meters is best suited to support which feature?

A. Forward detection for adaptive cruise control and collision warning

B. Close-range park assist maneuvering within one meter of obstacles

C. Reading posted speed limit signs positioned along the roadway ahead

D. Detecting painted lane markings for the lane keep assist function

50. Why must a forward camera be recalibrated after a windshield replacement?

A. The new glass alters the radar module's transmit frequency band

B. Moving the glass changes the camera's mounting reference and aim

C. The replacement resets the ultrasonic park assist firmware level

D. The glass change reprograms the powertrain control module software

Answer Key & Full Answer Explanations

1. D — A sloped bay floor is the overlooked cause when a static camera calibration aborts despite correct target distance and centering. Static calibration assumes the vehicle sits level on its reference geometry, so a slope tilts the aim. Scan software version, unplugged ultrasonics, and a cabin filter do not cause this aiming failure.

2. A — On the Composite Vehicle, ACC becomes active in any forward gear above about 5 mph (8.0 km/h). That documented threshold is why it will not engage right off a stop. The 25 mph, 45 mph, and no-limit options are incorrect.

3. C — An initialization of the module after replacement is the likely skipped step when a new corner radar will not communicate. The reference requires initialization to restore communication. Alignment, windshield recalibration, and headlight aim are unrelated to module startup.

4. C — Testing the affected module's power, ground, and bus continuity best isolates a one-sided "lost communication" fault. This pinpoints supply, ground, or bus-path issues before parts are replaced. Replacing both modules, recalibrating the camera, or reflashing the cluster wastes effort.

5. B — Both are correct. A windshield replacement requires recalibrating a windshield-mounted forward camera, and a bumper replacement may require attention to a fascia-mounted radar. Both repairs disturb sensor mounting or reference and are legitimate ADAS service triggers.

6. D — Repairing or replacing the bent bracket, then aiming and calibrating the radar, is correct because a bent bracket misaims an otherwise good module. Radar does not self-compensate for physical misalignment. The camera and ultrasonic options are unrelated.

7. A — A bent bracket or improperly seated module misaims a functional radar, producing incorrect distance reporting after a repair. Because the module passes bench testing, the fault is physical mounting. A lost cluster setting, ultrasonic init, or open resistor would present differently.

8. C — The medium-range forward radar covers about 0 to 160 meters (0–525 ft) per the reference. This range supports forward functions like ACC and collision warning. The 30-meter, sub-5-meter, and 500-meter figures contradict the specification.

9. D — The ADAS control panel switch in the cabin is the intended method to turn an ADAS feature off for a road test, per the reference. It is the designed cabin-level disable control. Pulling a fuse, a factory-only session, or unplugging the camera are not the specified method.

10. A — A fault in the ADAS CAN bus segment serving those modules explains multiple ADAS "no communication" reports while powertrain modules respond. The pattern localizes to the shared ADAS network. A single sensor, a dirty lens, or a PCM processor failure would not knock out multiple ADAS modules at once.

11. B — Tech A only. Ultrasonic sensors provide a close-range input to the ADAS system, which is correct. Tech B is wrong because adaptive cruise control relies on the forward radar, not ultrasonic sensors.

12. C — ACC following distance is adjusted through the instrument cluster module (ICM) interface in the dash, per the reference. That is the documented driver interface. A rotary dial, scan tool, or console touchscreen are not specified for this.

13. C — Restoring correct ride height, then re-aiming and calibrating the radar, is the direct fix when a lift raises elevation readings. The lift changes vehicle attitude and shifts radar aim, so geometry must be restored and the radar re-aimed. Replacing or reflashing modules does not correct a physical aim change.

14. A — Performing a post-scan and verifying correct system operation best confirms the repair is resolved. The post-scan confirms codes cleared with no new faults, and a functional check validates the systems. Battery disconnects, fuse cycling, and max-speed runs do not validate a calibration.

15. B — A rear corner radar that is obstructed, misaimed, or not communicating would most directly cause RCTA to never warn while backing out. RCTA depends on that radar detecting crossing traffic. A fogged front camera, an ACC setting, or cluster brightness would not produce this specific failure.

16. B — Both are correct. A pre-scan documents fault codes present before the repair, and a post-scan confirms codes are resolved with no new faults. Both statements accurately describe these complementary scan steps.

17. A — A target slightly off-center from the vehicle axis produces a marginally inaccurate calibration that appears as in-lane drift. Static camera accuracy depends on precise centering. Audio operation, a rear passenger, or an idling engine are not the aiming cause.

18. D — Inspecting the radar's aim, mounting, and any fascia obstruction is the appropriate next step when the module self-tests good but detection is intermittent. Physical misalignment or an obstruction commonly causes missed targets. Reprogramming the cluster, replacing the camera, or recalibrating first does not address radar aim.

19. D — Both rear corner radars offline while the rest of the network communicates points to an open or fault in the private CAN bus between them. Their shared private bus means one fault can disable both. A forward radar bracket, windshield camera, or cabin filter would not produce this pattern.

20. A — Tech A only. The manufacturer's specified procedure determines whether calibration is static or dynamic. Tech B is wrong because bay space is not the deciding factor; the validated procedure is.

21. D — A camera calibration following the vehicle's specified procedure is the remaining required step. Initialization alone does not establish the camera's aim reference, so erratic lane keep assist persists. Resetting TPMS, reinitializing ultrasonics, or replacing the radar does not address camera referencing.

22. D — Reflective metal shelving near the target can corrupt the radar return and skew a static calibration. Radar relies on clean returns from the intended target, so stray reflective surfaces introduce error. The claims that it helps, has no effect, or affects only cameras are incorrect.

23. C — Sensor reference geometry depends on a correct thrust line, which is why thrust-angle correction matters before calibration. Alignment establishes the geometric axes ADAS aiming references. It does not change radar clock timing or fuel injection, and it is not unrelated.

24. B — Capturing stored and pending codes along with network status is the appropriate first step for an intermittent communication fault. Gathering data before acting preserves the evidence needed to trace the problem. Replacing parts or clearing codes first destroys that evidence.

25. B — The blind spot warning indicator illuminates when a vehicle occupies the blind spot zone in an adjacent rear lane. That is the defined BSW detection condition. A 160-meter following distance, reverse gear, and forward stationary-object detection describe other systems.

26. D — Tech A only. Reflective surfaces near a target can affect a static radar calibration, which is correct. Tech B is wrong because overhead lighting affects cameras, not radar, which relies on radio reflections rather than visible light.

27. B — Correcting the ride height so sensor aim matches the reference is required before calibrating a vehicle with sagging springs. Calibration assumes the specified ride height, since a low stance shifts sensor aim. Raising sensitivity, reflashing to a "lowered" file, or disabling sensors does not restore correct aim.

28. B — A radar that communicates but reports implausible data after a collision most likely had its physical aim or mounting disturbed. Bus communication is intact, so the fault is mechanical aim. A lost cluster setting, ultrasonic init, or open resistor would present differently.

29. A — A camera-specific loss of sign recognition while radar features work implicates the forward-facing camera, its calibration, or lens condition. Sign recognition is an image-based camera function, so the fault tracks to the camera path. Rear radars, ultrasonic sensors, and the ACC switch are not involved.

30. A — Underinflated, unevenly worn tires alter ride height and sensor aim relative to the road, so they must be corrected first. Calibration assumes the specified reference height. Tire condition does not change radar frequency, battery voltage, or bus noise.

31. B — The required road speed cannot be sustained in stop-and-go congestion, which aborts a dynamic camera calibration even on a clear day with good markings. Dynamic calibration depends on holding the specified speed. Reflective markings, a bent radar bracket, and ultrasonic interference are not the cause here.

32. C — The proper workflow is pre-scan, repair, calibrate per procedure, then post-scan to verify. The pre-scan documents codes, calibration restores reference after repair, and the post-scan confirms resolution. The other sequences omit or misorder essential steps.

33. A — The left rear corner radar module is designated as the primary node for ADAS CAN bus communication, per the reference. The reference assigns this role specifically to the left rear unit. The right rear radar, forward radar, and cluster module are not the primary node.

34. B — Pre-scanning, reviewing codes and network status, then testing systematically is the fastest path to an accurate diagnosis when several features fail after front-end work. This gathers evidence before acting. Blanket replacement, clearing codes, or recalibrating everything first are inefficient and risk masking the fault.

35. D — Correct distance and centering relative to the vehicle's axis is the single most critical static camera target placement requirement. Accuracy depends on this precise geometric relationship. Backlighting, a 45-degree tilt, and rear placement are not the governing requirement.

36. B — Both are correct. Skipping a required calibration can leave an ADAS feature operating inaccurately, and a misreferenced sensor is a genuine safety concern. Both statements are valid, so each technician is right.

37. C — ADAS data is communicated over the ADAS CAN bus connecting the ADAS modules, per the reference. This shared network is the backbone for ADAS communication. Wireless links, the body lighting circuit, and a point-to-point analog harness are incorrect.

38. C — The bracket and forward radar module are serviced separately as distinct, replaceable components, per the reference. This allows bracket service without replacing the module. They are not welded as one unit, self-aiming, or dynamic-only.

39. B — Repeating the drive on a route that allows the required speed to be sustained is correct when logging shows the speed was rarely held. Dynamic calibration needs sustained specified speed to complete. Switching to static, replacing the camera, or initializing radars does not address the unmet drive condition.

40. D — Cycling the ignition OFF then back ON causes ACC to default to the ON state, per the reference. This documented default behavior must be recognized when verifying status. The disabled, locked-out, and retained-setting options contradict the reference.

41. D — With only the switched-voltage feed open, the module fails to power up or operate when the ignition is on, despite battery voltage being present. The module requires both sources for normal operation. It does not run normally, change radar frequency, or overcharge a resistor.

42. C — Verifying radar aim and inspecting the fascia for material or paint buildup is the best next check for false FCW after a fascia repair. Excess material in front of the radar or a slight aim error can cause false alerts even with a good bracket. Cluster replacement, ultrasonic init, and a transmission reflash do not address this.

43. A — The forward radar module and multifunction forward camera are the primary inputs for several forward ADAS features, per the reference. Multiple functions rely on these two sensors. They are not mere warning outputs, ultrasonic-only components, or fully isolated units.

44. A — The 120-ohm component terminates the private CAN bus correctly to prevent signal reflections. Proper termination maintains reliable corner-radar communication. It does not reduce supply voltage, convert returns to digital, or filter camera image noise.

45. C — A sloped or uneven floor is the most likely overlooked cause when calibration will not complete despite correct target distance and centering. Static calibration assumes the vehicle sits level on its reference geometry. Scan software version, disconnected ultrasonics, and a cabin filter do not cause this aiming failure.

46. C — Reading posted speed limit signs is a forward-facing camera function. Sign recognition is image-based, unlike radar ranging. Following-distance keeping, blind spot warning, and rear cross traffic alert are radar-based functions.

47. D — The vehicle's thrust line and centerline are the geometric references that define vehicle geometry for camera calibration. Targets are positioned relative to these axes. Odometer/engine hours, radar frequency/firmware, and battery/coolant values do not define this geometry.

48. C — Knowing which modules share a bus segment lets the technician narrow the fault to the affected bus and its connected modules. Network mapping is a diagnostic aid for communication faults. Oil viscosity, tire pressure, and wiper length are irrelevant to that purpose.

49. A — A 0–160 meter medium-range radar is best suited to forward detection for adaptive cruise control and collision warning. That range matches forward ranging functions. Close-range park assist, sign reading, and lane marking detection are handled by other sensors.

50. B — Moving the glass changes the camera's mounting reference and aim, which is why a forward camera must be recalibrated after a windshield replacement. The camera's reference shifts with the new glass. It does not alter radar frequency, reset ultrasonic firmware, or reprogram the PCM.