PRACTICE EXAM 3: A6 SIMULATION — ELECTRICAL/ELECTRONIC SYSTEMS

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1. The proper purpose of a scan tool in electrical diagnosis is to:

A. Apply compressed air to the system

B. Communicate with vehicle modules to retrieve DTCs, monitor live data, and command components

C. Replace components as a precaution

D. Filter contaminants from the system

2. A vehicle has been brought in with a complaint of multiple electrical issues. The scan tool reports DTCs from multiple modules. The MOST appropriate first diagnostic action is to:

A. Apply compressed air to the system

B. Replace each affected module as a precaution

C. Replace the brake fluid as the only step

D. Document all DTCs, identify common causes, and prioritize diagnosis based on the highest-priority DTCs

3. The proper procedure for interpreting a DTC is to:

A. Apply compressed air to the system

B. Replace the component named in the DTC as the most direct repair

C. Reference the manufacturer's specific DTC definition, identify the conditions that set the code, and follow the specified diagnostic procedure

D. Visually inspect for visible damage only

4. A vehicle's scan tool reports a network communication DTC. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected modules as a precaution

C. Replace the brake fluid as the only step

D. A network wiring fault, terminating resistor fault, or failed module preventing proper communication

5. The proper procedure for diagnosing a network communication fault is to:

A. Use a scan tool to identify which modules are communicating, check terminator resistance, and inspect bus wiring

B. Apply compressed air to the system

C. Replace all modules as a precaution

D. Visually inspect for visible damage only

6. A vehicle equipped with CAN-C (high-speed CAN) network has been brought in for diagnosis. The proper purpose of the CAN-C network is to:

A. Apply compressed air to the network

B. Replace the network as a precaution

C. Filter contaminants from the network

D. Carry critical real-time data between major modules (engine, transmission, brakes, body) at 500 kilobits per second

7. A vehicle equipped with CAN-B (mid-speed CAN) network has been brought in for diagnosis. The proper purpose of the CAN-B network is to:

A. Apply compressed air to the network

B. Carry less time-critical body and accessory data at lower speeds (typically 125 kilobits per second)

C. Replace the network as a precaution

D. Filter contaminants from the network

8. A vehicle equipped with LIN (Local Interconnect Network) has been brought in for diagnosis. The proper purpose of the LIN network is to:

A. Apply compressed air to the network

B. Replace the network as a precaution

C. Carry low-speed data between a master module and its subordinate modules for body-related functions

D. Filter contaminants from the network

9. A vehicle has been brought in with a complaint of electrical issues. The scan tool reports DTCs related to LIN bus communication. The MOST likely cause is:

A. A LIN bus wiring fault, fault in the master module, or fault in a subordinate module on the LIN bus

B. Apply compressed air to the system

C. Replace the affected modules as a precaution

D. Replace the brake fluid as the only step

10. The proper procedure for diagnosing LIN bus faults is to:

A. Apply compressed air to the system

B. Replace the LIN modules as a precaution

C. Replace the brake fluid as the only step

D. Verify LIN bus voltage, identify the affected modules, inspect bus wiring, and identify the cause

11. A vehicle equipped with FlexRay network has been brought in for diagnosis. The proper purpose of the FlexRay network is to:

A. Apply compressed air to the network

B. Replace the network as a precaution

C. Provide high-speed deterministic communication for time-critical applications like X-by-wire systems

D. Filter contaminants from the network

12. A vehicle equipped with MOST (Media Oriented Systems Transport) network has been brought in for diagnosis. The proper purpose of the MOST network is to:

A. Apply compressed air to the network

B. Carry high-bandwidth multimedia data (audio, video, navigation) using fiber optic cables

C. Replace the network as a precaution

D. Filter contaminants from the network

13. A vehicle equipped with Ethernet network has been brought in for diagnosis. The proper purpose of automotive Ethernet is to:

A. Apply compressed air to the network

B. Replace the network as a precaution

C. Filter contaminants from the network

D. Carry very high-bandwidth data for advanced applications including ADAS, infotainment, and over-the-air updates

14. The proper procedure for verifying network terminating resistance is to:

A. Use a DMM to measure resistance between the high and low bus wires with all modules disconnected, comparing to specification (typically 60 ohms)

B. Apply compressed air to the network

C. Replace the network terminators as a precaution

D. Visually inspect for visible damage only

15. A vehicle's CAN bus terminating resistance has been measured. The reading shows 120 ohms (specification is 60 ohms). The MOST likely cause is:

A. Apply compressed air to the network

B. Replace the network as a precaution

C. One terminating resistor has failed (open), leaving only one parallel resistor in the network

D. Replace the brake fluid as the only step

16. The proper procedure for module reprogramming is to:

A. Apply compressed air to the module

B. Use the manufacturer-specified scan tool, follow the manufacturer's procedure, ensure stable battery voltage, verify successful programming

C. Replace the module as a precaution

D. Visually inspect for visible damage only

17. A vehicle's module reprogramming attempt has failed. The MOST likely cause is:

A. Battery voltage drop during programming, scan tool communication issue, or improper procedure

B. Apply compressed air to the module

C. Replace the module as a precaution

D. Replace the brake fluid as the only step

18. The proper procedure for identifying when module reprogramming is required is to:

A. Apply compressed air to the system

B. Replace modules as a precaution

C. Replace the brake fluid as the only step

D. Reference manufacturer technical service bulletins (TSBs) and DTCs that indicate software-related faults

19. A vehicle has been brought in with a complaint of electrical issues that began after a battery replacement. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the affected modules as a precaution

C. Calibration loss in modules requiring relearn (radio, sunroof, power windows, transmission, EPS, etc.)

D. Replace the brake fluid as the only step

20. The proper procedure for performing module relearn after battery replacement is to:

A. Apply compressed air to the modules

B. Identify modules requiring relearn, perform each manufacturer-specified procedure, and verify proper operation

C. Replace the modules as a precaution

D. Replace the brake fluid as the only step

21. A vehicle equipped with adaptive cruise control (ACC) has been brought in with a complaint of ACC malfunction warning. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the ACC module as the most direct repair

C. Replace the brake fluid as the only step

D. A failed forward-facing radar, miscalibrated radar, sensor obstruction, or fault in the ACC module

22. The proper procedure for ACC system calibration is to:

A. Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation through scan tool data and road test

B. Apply compressed air to the radar

C. Replace the ACC module as a precaution

D. Visually inspect for visible damage only

23. A vehicle equipped with lane departure warning (LDW) has been brought in with a complaint that the system does not function. The MOST likely cause is:

A. Apply compressed air to the system

B. A failed forward-facing camera, miscalibrated camera, sensor obstruction, or fault in the LDW module

C. Replace the LDW module as a precaution

D. Replace the brake fluid as the only step

24. The proper procedure for forward-facing camera calibration is to:

A. Apply compressed air to the camera

B. Replace the camera as a precaution

C. Replace the brake fluid as the only step

D. Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation

25. A vehicle equipped with blind spot monitoring (BSM) has been brought in with a complaint of BSM warning light. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the BSM module as the most direct repair

C. A failed rear-facing radar (one or both), sensor obstruction, miscalibration, or fault in the BSM module

D. Replace the brake fluid as the only step

26. The proper procedure for BSM radar calibration is to:

A. Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation through scan tool data

B. Apply compressed air to the radar

C. Replace the BSM module as a precaution

D. Visually inspect for visible damage only

27. A vehicle equipped with parking assist sensors has been brought in with a complaint that the parking assist warning shows obstacles when none exist. The MOST likely cause is:

A. Apply compressed air to the sensors

B. Replace the parking assist module as a precaution

C. Sensor contamination (mud, dirt, ice), miscalibration, or fault in the parking assist module

D. Replace the brake fluid as the only step

28. The proper procedure for parking assist sensor service is to:

A. Apply compressed air to the sensors

B. Verify the customer concern, clean sensor surfaces, verify proper operation, and identify any specific component faults

C. Replace the parking assist module as a precaution

D. Replace the brake fluid as the only step

29. A vehicle equipped with rearview camera has been brought in with a complaint that the rearview camera does not display. The MOST likely cause is:

A. Apply compressed air to the camera

B. Replace the camera as a precaution

C. Replace the brake fluid as the only step

D. A failed camera, fault in the camera wiring, fault in the display module, or fault in the trigger circuit

30. The proper procedure for diagnosing rearview camera faults is to:

A. Verify the customer concern, retrieve any stored DTCs, check camera operation, verify display, and identify the specific cause

B. Apply compressed air to the camera

C. Replace the camera as a precaution

D. Replace the brake fluid as the only step

31. A vehicle has been brought in with a complaint of high-voltage system warning on a hybrid. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the high-voltage system as a precaution

C. Replace the brake fluid as the only step

D. A high-voltage system fault, isolation issue, fault in a high-voltage module, or DTC indicating specific high-voltage system issue

32. The proper procedure for diagnosing hybrid high-voltage system faults is to:

A. Apply compressed air to the system

B. Verify the customer concern, retrieve stored DTCs, follow manufacturer-specified diagnostic procedure with proper PPE, and identify the specific cause

C. Replace the high-voltage system as a precaution

D. Replace the brake fluid as the only step

33. A vehicle equipped with a hybrid high-voltage system requires service. The proper procedure for high-voltage isolation is to:

A. Apply compressed air to the system

B. Replace the high-voltage system as a precaution

C. Follow the manufacturer-specified isolation procedure (typically including service plug removal), verify zero voltage with proper meter, and use proper PPE

D. Replace the brake fluid as the only step

34. The proper PPE (personal protective equipment) for hybrid high-voltage service is to:

A. Use Class 0 (or appropriate rated) electrical insulating gloves, eye protection, and proper insulating tools per the manufacturer's specifications

B. Apply compressed air to the system

C. Replace the high-voltage system as a precaution

D. Replace the brake fluid as the only step

35. A vehicle equipped with an EV (electric vehicle) high-voltage system has been brought in for service. The proper procedure for EV high-voltage service is to:

A. Apply compressed air to the system

B. Replace the high-voltage system as a precaution

C. Follow the manufacturer-specified isolation procedure, verify zero voltage, use proper PPE, perform service, and verify proper operation after restoration

D. Replace the brake fluid as the only step

36. A vehicle's hybrid system has been brought in with a complaint of reduced electric range. The MOST likely cause is:

A. Apply compressed air to the system

B. A degraded hybrid battery (reduced capacity over time), fault in the high-voltage system, or fault in the regenerative braking system

C. Replace the hybrid system as a precaution

D. Replace the brake fluid as the only step

37. The proper procedure for diagnosing reduced hybrid battery range is to:

A. Verify the customer concern, retrieve stored DTCs, monitor scan tool data for battery state of charge and capacity, and identify the specific cause

B. Apply compressed air to the battery

C. Replace the hybrid battery as a precaution

D. Replace the brake fluid as the only step

38. A vehicle equipped with an EV charging system has been brought in with a complaint of charging issues. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the EV charging system as a precaution

C. Charging port fault, charging cable fault, charging system fault, or external charging station issue

D. Replace the brake fluid as the only step

39. The proper procedure for diagnosing EV charging system faults is to:

A. Apply compressed air to the system

B. Verify the customer concern, retrieve stored DTCs, verify charging port operation, test with known good charger, and identify the specific cause

C. Replace the EV charging system as a precaution

D. Replace the brake fluid as the only step

40. A vehicle has been brought in with a complaint of multiple electrical issues. After detailed diagnosis, the technician finds the body control module (BCM) has failed. The MOST appropriate action is:

A. Apply compressed air to the BCM

B. Replace the BCM as a precaution

C. Replace the brake fluid as the only step

D. Replace the BCM, perform manufacturer-specified programming and configuration, clear DTCs, and verify proper operation

41. The proper procedure for replacing a body control module is to:

A. Verify the failure, replace with manufacturer-specified part, perform required programming and configuration, clear DTCs, and verify proper operation

B. Apply compressed air to the module

C. Replace the BCM as a precaution

D. Visually inspect for visible damage only

42. A vehicle has been brought in with a complaint that the vehicle will not start. Scan tool data shows DTCs in multiple modules and the engine control module is not communicating. The MOST likely cause is:

A. Apply compressed air to the system

B. A network communication fault, ECM fault, ECM power or ground issue, or major electrical issue affecting multiple modules

C. Replace all modules as a precaution

D. Replace the brake fluid as the only step

43. The proper procedure for diagnosing a no-start with multiple DTCs is to:

A. Apply compressed air to the system

B. Replace each affected module as a precaution

C. Verify network communication, verify module power and ground, identify common causes of multiple module faults, and address the specific cause

D. Replace the brake fluid as the only step

44. A vehicle has been brought in with a complaint of intermittent electrical issues. Scan tool data is normal during the visit. The MOST appropriate diagnostic action is to:

A. Apply compressed air to the system

B. Use scan tool freeze frame data, install monitoring tools, perform wiggle testing, and capture data when the symptom occurs

C. Replace the affected systems as a precaution

D. Replace the brake fluid as the only step

45. The proper procedure for capturing intermittent electrical fault data is to:

A. Use scan tool data recorders, oscilloscope monitoring, or freeze frame data to capture conditions when the symptom occurs

B. Apply compressed air to the system

C. Replace the affected systems as a precaution

D. Visually inspect for visible damage only

46. A vehicle has been brought in with a complaint of multiple body electrical issues. The technician finds visible water intrusion in a connector. The MOST likely cause is:

A. Apply compressed air to the connector

B. Replace the connector as a precaution

C. Replace the brake fluid as the only step

D. Water-induced corrosion at the connector, requiring connector cleaning, repair, or replacement to restore proper operation

47. The proper procedure for repairing a water-damaged connector is to:

A. Apply compressed air to the connector

B. Replace the connector as a precaution

C. Clean the connector, repair or replace damaged terminals, address the source of water intrusion, and verify proper operation

D. Replace the brake fluid as the only step

48. A vehicle has been brought in with a complaint of multiple electrical issues. The technician finds a damaged wiring harness from rodent activity. The MOST appropriate action is:

A. Apply compressed air to the harness

B. Identify the extent of damage, repair affected wires per manufacturer-specified procedure, address the rodent activity source, and verify proper operation

C. Replace the entire harness as a precaution

D. Replace the brake fluid as the only step

49. The proper procedure for repairing a wiring harness is to:

A. Apply compressed air to the harness

B. Replace the harness as a precaution

C. Replace the brake fluid as the only step

D. Use the manufacturer-specified repair method (solder, splice, butt connector with heat shrink), verify the repair, and protect from future damage

50. A vehicle has been brought in for routine electrical inspection. The technician finds connectors showing visible signs of high resistance (discoloration, melting, corrosion). The MOST appropriate action is:

A. Identify the cause of the high resistance, address the connectors and any related circuit issues, and verify proper operation

B. Apply compressed air to the connectors

C. Replace the affected systems as a precaution

D. Replace the brake fluid as the only step

PRACTICE EXAM 3: A6 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. B — Communicate with vehicle modules to retrieve DTCs, monitor live data, and command components. The scan tool is the diagnostic interface to vehicle electronic systems. DTC retrieval, live data monitoring, and component activation are core scan tool functions. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

2. D — Document all DTCs, identify common causes, and prioritize diagnosis based on the highest-priority DTCs. Multiple DTCs require systematic documentation and prioritization. Common causes (network issues, power/ground faults) often produce multiple DTCs from a single underlying cause. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

3. C — Reference the manufacturer's specific DTC definition, identify the conditions that set the code, and follow the specified diagnostic procedure. Generic DTC interpretation can be misleading; manufacturer-specific information provides accurate diagnosis. Following the specified procedure ensures proper troubleshooting. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

4. D — A network wiring fault, terminating resistor fault, or failed module preventing proper communication. Network communication DTCs indicate the network cannot function reliably. Wiring, terminator, or module failure each prevent proper communication. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

5. A — Use a scan tool to identify which modules are communicating, check terminator resistance, and inspect bus wiring. Network diagnosis requires systematic verification of communication, terminator resistance, and physical wiring. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

6. D — Carry critical real-time data between major modules (engine, transmission, brakes, body) at 500 kilobits per second. CAN-C is the high-speed network for time-critical data. The 500 kbps speed enables real-time coordination between major vehicle systems. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

7. B — Carry less time-critical body and accessory data at lower speeds (typically 125 kilobits per second). CAN-B handles body and accessory data that does not require the speed of CAN-C. The lower speed reduces cost and complexity for non-critical functions. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

8. C — Carry low-speed data between a master module and its subordinate modules for body-related functions. LIN is a single-master, multiple-slave protocol used for body functions. The low speed and simple architecture reduce cost for non-critical applications. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

9. A — A LIN bus wiring fault, fault in the master module, or fault in a subordinate module on the LIN bus. LIN bus DTCs isolate to the LIN-specific components. Master module, subordinate modules, or wiring each contribute to potential causes. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

10. D — Verify LIN bus voltage, identify the affected modules, inspect bus wiring, and identify the cause. LIN bus diagnosis requires verification of bus voltage, affected modules, and wiring. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

11. C — Provide high-speed deterministic communication for time-critical applications like X-by-wire systems. FlexRay provides predictable, fault-tolerant communication for safety-critical applications. The deterministic nature ensures reliable timing for X-by-wire and similar systems. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

12. B — Carry high-bandwidth multimedia data (audio, video, navigation) using fiber optic cables. MOST is designed for the high-bandwidth requirements of multimedia. The fiber optic medium provides the bandwidth and noise immunity needed for audio and video. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

13. D — Carry very high-bandwidth data for advanced applications including ADAS, infotainment, and over-the-air updates. Automotive Ethernet provides the high bandwidth needed for modern advanced systems. Multi-gigabit speeds enable applications that older protocols cannot support. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

14. A — Use a DMM to measure resistance between the high and low bus wires with all modules disconnected, comparing to specification (typically 60 ohms). Network terminating resistance is measured with all modules disconnected to isolate the terminators. Two 120-ohm terminators in parallel produce 60 ohms. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

15. C — One terminating resistor has failed (open), leaving only one parallel resistor in the network. 120 ohms instead of 60 ohms indicates only one terminator is providing termination. The other terminator has failed open or is disconnected. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

16. B — Use the manufacturer-specified scan tool, follow the manufacturer's procedure, ensure stable battery voltage, verify successful programming. Module reprogramming requires manufacturer specifications and stable conditions. Battery voltage drops or interruptions can corrupt the programming process. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

17. A — Battery voltage drop during programming, scan tool communication issue, or improper procedure. Programming failure can result from various causes. Stable conditions and proper procedure are critical for successful programming. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

18. D — Reference manufacturer technical service bulletins (TSBs) and DTCs that indicate software-related faults. Module reprogramming requirements are identified through manufacturer TSBs. Software-related DTCs may indicate the need for reprogramming. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

19. C — Calibration loss in modules requiring relearn (radio, sunroof, power windows, transmission, EPS, etc.). Battery replacement causes power loss to modules with volatile memory. Multiple modules require relearn procedures after battery disconnect. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

20. B — Identify modules requiring relearn, perform each manufacturer-specified procedure, and verify proper operation. Module relearn requires identification of affected modules and execution of each procedure. Verification confirms successful relearn. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

21. D — A failed forward-facing radar, miscalibrated radar, sensor obstruction, or fault in the ACC module. ACC depends on the forward-facing radar and module function. Sensor failure, miscalibration, obstruction, or module fault each produce ACC malfunction. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

22. A — Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation through scan tool data and road test. ACC calibration requires precise positioning and proper procedure with manufacturer targets. Verification confirms proper operation. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

23. B — A failed forward-facing camera, miscalibrated camera, sensor obstruction, or fault in the LDW module. LDW depends on camera-based lane detection. Camera issues, miscalibration,

obstruction, or module fault each prevent proper LDW operation. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

24. D — Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation. Forward-facing camera calibration requires precise positioning and the manufacturer's procedure with proper targets. Verification confirms successful calibration. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

25. C — A failed rear-facing radar (one or both), sensor obstruction, miscalibration, or fault in the BSM module. BSM depends on rear-facing radar sensors. Sensor failure, obstruction, miscalibration, or module fault each produce BSM warnings. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

26. A — Park on a level surface, perform the manufacturer-specified calibration with proper targets, verify proper operation through scan tool data. BSM radar calibration requires the manufacturer's procedure with proper targets. Verification confirms proper operation. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

27. C — Sensor contamination (mud, dirt, ice), miscalibration, or fault in the parking assist module. Parking assist false warnings indicate the sensors are detecting false objects. Contamination, miscalibration, or module fault each produce false detection. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

28. B — Verify the customer concern, clean sensor surfaces, verify proper operation, and identify any specific component faults. Parking assist diagnosis requires sensor surface evaluation and operation verification. Surface contamination is a common cause of false warnings. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

29. D — A failed camera, fault in the camera wiring, fault in the display module, or fault in the trigger circuit. Rearview camera failure can result from multiple causes. Each component contributes to potential causes. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

30. A — Verify the customer concern, retrieve any stored DTCs, check camera operation, verify display, and identify the specific cause. Rearview camera diagnosis requires comprehensive systematic approach. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

31. D — A high-voltage system fault, isolation issue, fault in a high-voltage module, or DTC indicating specific high-voltage system issue. High-voltage system warnings indicate system-detected faults. The specific cause must be identified through DTC retrieval and proper diagnostic procedure. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

32. B — Verify the customer concern, retrieve stored DTCs, follow manufacturer-specified diagnostic procedure with proper PPE, and identify the specific cause. Hybrid high-voltage diagnosis requires

PPE, manufacturer specifications, and systematic approach. Safety is paramount in high-voltage diagnosis. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

33. C — Follow the manufacturer-specified isolation procedure (typically including service plug removal), verify zero voltage with proper meter, and use proper PPE. High-voltage isolation requires the manufacturer's procedure, voltage verification, and PPE. Each step is critical for technician safety. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

34. A — Use Class 0 (or appropriate rated) electrical insulating gloves, eye protection, and proper insulating tools per the manufacturer's specifications. Hybrid PPE includes insulating gloves rated for the system voltage, eye protection, and insulated tools. Manufacturer specifications determine the specific requirements. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

35. C — Follow the manufacturer-specified isolation procedure, verify zero voltage, use proper PPE, perform service, and verify proper operation after restoration. EV high-voltage service requires comprehensive safety procedures and proper service protocol. Each step is critical for safe and proper service. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

36. B — A degraded hybrid battery (reduced capacity over time), fault in the high-voltage system, or fault in the regenerative braking system. Reduced electric range indicates capacity issues. Battery degradation, system faults, or regen issues each produce reduced range. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

37. A — Verify the customer concern, retrieve stored DTCs, monitor scan tool data for battery state of charge and capacity, and identify the specific cause. Hybrid battery range diagnosis requires DTC retrieval and battery data monitoring. The cause determines the proper repair. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

38. C — Charging port fault, charging cable fault, charging system fault, or external charging station issue. EV charging issues can result from multiple sources. The cause must be isolated through systematic diagnosis. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

39. B — Verify the customer concern, retrieve stored DTCs, verify charging port operation, test with known good charger, and identify the specific cause. EV charging diagnosis requires comprehensive systematic approach. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

40. D — Replace the BCM, perform manufacturer-specified programming and configuration, clear DTCs, and verify proper operation. BCM replacement requires programming and configuration to

function in the specific vehicle. Verification confirms proper operation. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

41. A — Verify the failure, replace with manufacturer-specified part, perform required programming and configuration, clear DTCs, and verify proper operation. BCM replacement procedure requires comprehensive approach including programming. Each step ensures proper post-replacement operation. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

42. B — A network communication fault, ECM fault, ECM power or ground issue, or major electrical issue affecting multiple modules. No-start with multiple DTCs and ECM not communicating indicates a major fault. Network or power/ground issues produce multiple module symptoms. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

43. C — Verify network communication, verify module power and ground, identify common causes of multiple module faults, and address the specific cause. No-start with multiple DTCs requires systematic approach focusing on common causes. Network and power/ground issues are common multi-module fault sources. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

44. B — Use scan tool freeze frame data, install monitoring tools, perform wiggle testing, and capture data when the symptom occurs. Intermittent fault diagnosis with normal scan data requires capturing the symptom. Multiple methods enable observation of the fault when it occurs. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

45. A — Use scan tool data recorders, oscilloscope monitoring, or freeze frame data to capture conditions when the symptom occurs. Intermittent fault data capture requires tools that can record events. Each method provides different ways to capture the symptom. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

46. D — Water-induced corrosion at the connector, requiring connector cleaning, repair, or replacement to restore proper operation. Water intrusion causes corrosion that prevents proper electrical connection. Cleaning, repair, or replacement may be required depending on the extent. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

47. C — Clean the connector, repair or replace damaged terminals, address the source of water intrusion, and verify proper operation. Water-damaged connector repair requires cleaning, terminal service, source elimination, and verification. Each step ensures proper post-repair operation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

48. B — Identify the extent of damage, repair affected wires per manufacturer-specified procedure, address the rodent activity source, and verify proper operation. Rodent damage repair requires extent assessment, proper repair technique, source elimination, and verification. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

49. D — Use the manufacturer-specified repair method (solder, splice, butt connector with heat shrink), verify the repair, and protect from future damage. Wiring harness repair requires manufacturer-specified methods and proper verification. Future damage protection prevents recurrence. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

50. A — Identify the cause of the high resistance, address the connectors and any related circuit issues, and verify proper operation. Discoloration, melting, or corrosion at connectors indicates high-resistance damage. The underlying cause must be identified and addressed for permanent repair. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*