PRACTICE EXAM 5: A6 SIMULATION — ELECTRICAL/ELECTRONIC SYSTEMS

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1. A vehicle's battery voltage is measured at 12.6 volts with the engine off. The MOST appropriate interpretation is:

A. The battery is at approximately 50% state of charge

B. The battery is dead

C. The battery is at approximately 100% state of charge

D. The battery requires immediate replacement

2. The proper procedure for measuring open-circuit battery voltage is to:

A. Use a DMM in DC volts mode, allow the battery to rest for at least 1 hour, and measure across the battery posts

B. Apply compressed air to the battery

C. Replace the battery as a precaution

D. Visually inspect for visible damage only

3. A vehicle's charging voltage measurement at the battery during operation reads 14.2 volts at idle. The MOST appropriate interpretation is:

A. Apply compressed air to the alternator

B. Replace the alternator as a precaution

C. Replace the battery as a precaution

D. The charging voltage is within normal specification (typically 13.8-14.5 volts)

4. The proper DMM range for measuring vehicle electrical voltages is:

A. Apply maximum range available

B. Use auto-ranging or manually select 20 volts DC for vehicle voltages

C. Replace the meter as a precaution

D. Use AC volts mode for DC measurements

5. A vehicle's wiring harness has been damaged. The proper wire gauge for replacement is:

A. Apply maximum gauge available

B. Replace the harness as a precaution

C. Apply hard-facing material to the wire

D. Match the original wire gauge or use larger (smaller AWG number) per the manufacturer's specifications

6. The proper purpose of using the correct wire gauge is to:

A. Apply compressed air to the wire

B. Replace the wire as a precaution

C. Provide adequate current capacity without excessive voltage drop or overheating

D. Filter contaminants from the wire

7. A vehicle's wiring repair requires a splice. The proper method for an automotive splice is to:

A. Use a manufacturer-approved splice method (solder, butt connector with heat shrink, or splice clip), apply proper insulation, and protect from environmental damage

B. Apply compressed air to the splice

C. Replace the wire as a precaution

D. Visually inspect for visible damage only

8. The proper purpose of heat shrink tubing in wiring repair is to:

A. Apply compressed air to the splice

B. Replace the splice as a precaution

C. Filter contaminants from the splice

D. Provide insulation, environmental protection, and strain relief at the repair area

9. A vehicle's wiring repair requires terminal replacement. The proper procedure is to:

A. Apply compressed air to the terminal

B. Use the manufacturer-specified terminal, proper crimping tool, verify proper crimp, and verify electrical continuity

C. Replace the wire as a precaution

D. Visually inspect for visible damage only

10. The proper purpose of using a calibrated crimping tool is to:

A. Apply compressed air to the tool

B. Replace the tool as a precaution

C. Ensure proper crimp force and shape for reliable electrical and mechanical connection

D. Filter contaminants from the tool

11. A vehicle has been brought in with a complaint of electromagnetic interference (EMI) affecting the audio system. The MOST likely cause is:

A. Routing of audio wiring near high-current circuits, marginal grounding, or electromagnetic noise from a specific source

B. Apply compressed air to the audio system

C. Replace the audio system as a precaution

D. Replace the brake fluid as the only step

12. The proper procedure for diagnosing EMI issues is to:

A. Apply compressed air to the system

B. Replace the affected systems as a precaution

C. Replace the brake fluid as the only step

D. Identify the source of the EMI, identify the affected circuits, address the routing or shielding, and verify resolution

13. A vehicle's ignition system uses high-voltage spark plug wires that pass near sensor wiring. The MOST likely effect is:

A. Apply compressed air to the wiring

B. EMI from the spark plug wires inducing noise into nearby sensor wiring, potentially causing erratic sensor readings

C. Replace the wiring as a precaution

D. Replace the brake fluid as the only step

14. The proper purpose of shielded wiring in some vehicle circuits is to:

A. Apply compressed air to the wiring

B. Replace the wiring as a precaution

C. Reduce EMI by providing a grounded shield around the conductor

D. Filter contaminants from the wiring

15. A vehicle has been brought in with a complaint of electrical issues. The technician finds a damaged shielded cable with the shield not properly grounded. The MOST appropriate action is:

A. Repair the shield connection, restore proper grounding, verify EMI elimination, and verify proper operation

B. Apply compressed air to the cable

C. Replace the cable as a precaution

D. Replace the brake fluid as the only step

16. The proper specification for vehicle ground voltage drop is:

A. Apply maximum voltage to the ground

B. Less than 0.1 volt for most ground circuits, with critical circuits often specified at less than 0.05 volt

C. Replace the ground as a precaution

D. Visually inspect for visible damage only

17. A vehicle's alternator output voltage at full load measures 14.5 volts. The MOST appropriate interpretation is:

A. Apply compressed air to the alternator

B. Replace the alternator as a precaution

C. Replace the battery as a precaution

D. The alternator output is within normal specification

18. The proper specification for cranking voltage is:

A. Apply maximum voltage to the system

B. Replace the battery as a precaution

C. Above 9.6 volts for most automotive applications during cranking

D. Visually inspect for visible damage only

19. A vehicle's cranking voltage drops below 9.6 volts during cranking. The MOST likely cause is:

A. A weak battery, excessive cranking circuit voltage drop, or excessive starter current draw

B. Apply compressed air to the system

C. Replace the alternator as a precaution

D. Replace the brake fluid as the only step

20. The proper procedure for measuring starter current draw specifications is to:

A. Apply compressed air to the starter

B. Use an inductive amp clamp to measure current during cranking, comparing to the manufacturer's specification (typically 150-200 amps for most vehicles)

C. Replace the starter as a precaution

D. Visually inspect for visible damage only

21. A vehicle's parasitic current specification is typically:

A. Apply maximum current available

B. Replace the system as a precaution

C. Apply compressed air to the system

D. Less than 50 milliamps for most vehicles, with manufacturer specifications varying

22. The proper procedure for diagnosing parasitic current exceeding specification is to:

A. Apply compressed air to the system

B. Replace the affected systems as a precaution

C. Pull fuses one at a time while monitoring current, isolate the affected circuit, and identify the specific cause

D. Replace the brake fluid as the only step

23. A vehicle's wheel speed sensor signal voltage at 30 mph is approximately:

A. Approximately 2-5 volts AC for passive sensors, with frequency proportional to wheel speed

B. Apply compressed air to the sensor

C. Replace the sensor as a precaution

D. Visually inspect for visible damage only

24. The proper procedure for measuring oxygen sensor signal is to:

A. Apply compressed air to the sensor

B. Replace the sensor as a precaution

C. Replace the brake fluid as the only step

D. Use a DMM (10 megohm input minimum) or scan tool to measure the signal voltage, comparing to specification

25. A vehicle's headlight low beam current specification is typically:

A. Apply maximum current available

B. Approximately 5 amperes per bulb for most halogen low-beam headlights

C. Replace the headlight as a precaution

D. Visually inspect for visible damage only

26. The proper specification for HID headlight ballast operating voltage is:

A. Apply maximum voltage to the ballast

B. Replace the ballast as a precaution

C. Approximately 85 volts AC during normal operation, with brief startup voltage exceeding 25,000 volts

D. Visually inspect for visible damage only

27. A vehicle's LED headlight typical current specification is:

A. Significantly lower than incandescent (often 1-3 amperes per LED assembly)

B. Apply compressed air to the LED

C. Replace the LED as a precaution

D. Visually inspect for visible damage only

28. The proper specification for fuse rating selection is:

A. Apply maximum amperage available

B. Replace the fuse as a precaution

C. Replace the affected systems as a precaution

D. Match the manufacturer's specified fuse rating for the circuit

29. A vehicle's fuse has blown repeatedly. The MOST appropriate diagnostic action is to:

A. Apply compressed air to the fuse

B. Identify the source of excessive current draw, address the cause, and replace the fuse with the manufacturer-specified rating

C. Replace the fuse with a higher-rated fuse to prevent reblowing

D. Replace the brake fluid as the only step

30. The proper procedure for replacing a blown fuse is to:

A. Apply compressed air to the fuse

B. Replace the fuse with a higher-rated fuse to prevent reblowing

C. Identify the cause of the failure, address the cause, install a new fuse of the correct rating, and verify proper operation

D. Visually inspect for visible damage only

31. A vehicle equipped with body control module has been brought in for service. The proper specification for BCM voltage operating range is:

A. Apply maximum voltage to the BCM

B. Replace the BCM as a precaution

C. Apply compressed air to the BCM

D. Typically 9-16 volts DC for most automotive BCM systems

32. The proper procedure for verifying module power supply is to:

A. Verify the supply voltage at the module connector with the ignition in the appropriate state, comparing to specification

B. Apply compressed air to the module

C. Replace the module as a precaution

D. Visually inspect for visible damage only

33. A vehicle has been brought in with a complaint that a module is not operating. The MOST appropriate first diagnostic step is to:

A. Apply compressed air to the module

B. Verify proper module power supply, verify proper module ground, and verify the module is not in fault condition

C. Replace the module as a precaution

D. Replace the brake fluid as the only step

34. The proper specification for a typical automotive ground circuit resistance is:

A. Apply maximum resistance to the ground

B. Replace the ground as a precaution

C. Less than 0.5 ohms (typically near 0 ohms) for most ground circuits

D. Apply compressed air to the ground

35. A vehicle's dome light has been brought in with a complaint that the dome light does not turn off. The MOST likely cause is:

A. Apply compressed air to the dome light

B. Replace the dome light as a precaution

C. Apply hard-facing material to the bulb

D. A failed door switch (closed when door is closed), faulty timer module, or fault in the dome light circuit causing constant power

36. The proper procedure for diagnosing dome light issues is to:

A. Verify the customer concern, check door switch operation, verify timer module operation, and identify the specific cause

B. Apply compressed air to the dome light

C. Replace the dome light as a precaution

D. Replace the brake fluid as the only step

37. A vehicle has been brought in with a complaint that the courtesy lights do not function. The MOST appropriate diagnostic action is:

A. Apply compressed air to the courtesy lights

B. Verify the customer concern, check the courtesy light circuit, verify proper voltage at the bulbs, and identify the specific cause

C. Replace the courtesy lights as a precaution

D. Replace the brake fluid as the only step

38. The proper procedure for diagnosing exterior lighting circuit faults is to:

A. Apply compressed air to the lighting

B. Replace the lighting as a precaution

C. Verify the customer concern, retrieve any DTCs, check switch operation, verify proper voltage and ground at the lamps, and identify the cause

D. Replace the brake fluid as the only step

39. A vehicle equipped with a power tailgate has been brought in with a complaint that the tailgate does not operate. The MOST appropriate diagnostic action is:

A. Apply compressed air to the tailgate

B. Verify the customer concern, retrieve any DTCs, check switch operation, verify motor operation, and identify the specific cause

C. Replace the tailgate motor as a precaution

D. Replace the brake fluid as the only step

40. The proper procedure for verifying power tailgate operation after service is to:

A. Verify proper installation, verify proper switch operation, verify proper motor operation, perform required relearn or initialization, and verify proper operation

B. Apply compressed air to the tailgate

C. Replace the tailgate as a precaution

D. Visually inspect for visible damage only

41. A vehicle equipped with heated seats has been brought in with a complaint that the heated seats do not function. The MOST likely cause is:

A. Apply compressed air to the seats

B. Replace the heated seat element as a precaution

C. Replace the brake fluid as the only step

D. A failed heating element, fault in the seat heater control module, or fault in the wiring

42. The proper procedure for diagnosing heated seat faults is to:

A. Apply compressed air to the seats

B. Verify the customer concern, check the heating element resistance, verify control module operation, verify wiring, and identify the cause

C. Replace the heated seat as a precaution

D. Replace the brake fluid as the only step

43. A vehicle equipped with cooled (ventilated) seats has been brought in with a complaint of cooled seats not functioning. The MOST appropriate diagnostic action is:

A. Apply compressed air to the seats

B. Replace the seat fan as a precaution

C. Verify the customer concern, retrieve any DTCs, check fan operation, verify control module operation, and identify the specific cause

D. Replace the brake fluid as the only step

44. The proper procedure for diagnosing power steering electronic systems is to:

A. Verify the customer concern, retrieve stored DTCs, monitor scan tool data, verify proper component operation, and identify the specific cause

B. Apply compressed air to the system

C. Replace the EPS module as a precaution

D. Replace the brake fluid as the only step

45. A vehicle equipped with EPS (electric power steering) has been brought in with a complaint that the EPS warning light is illuminated. The MOST likely cause is:

A. Apply compressed air to the system

B. Replace the EPS module as the most direct repair

C. Replace the brake fluid as the only step

D. A failed torque sensor, EPS module fault, recent battery replacement requiring relearn, or fault in the EPS wiring

46. The proper procedure for verifying EPS service after multiple component work is to:

A. Apply compressed air to the system

B. Verify all repairs, perform required calibrations, clear DTCs, road test, and verify proper operation

C. Replace the EPS system as a precaution

D. Replace the brake fluid as the only step

47. A vehicle has been brought in for routine electrical inspection. The technician finds a connector showing visible signs of moisture intrusion. The MOST appropriate action 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. Identify the source of moisture, address the cause, dry and protect the connector, and verify proper operation

48. The proper procedure for documenting electrical inspection findings is to:

A. Apply compressed air to the components

B. Replace the components as a precaution

C. Inspect all relevant components, measure relevant specifications, record findings, identify required service, and provide recommendations to the customer

D. Replace the brake fluid as the only step

49. A vehicle's electrical service record shows the battery was last replaced 4 years ago. The current battery state of charge measures within specification but the warranty period has expired. The MOST appropriate action is:

A. Inform the customer that the battery is operating within specification but past typical service life, document for the next service interval

B. Apply compressed air to the battery

C. Replace the battery as a precaution

D. Replace the brake fluid as the only step

50. The proper procedure for recommending battery replacement is to:

A. Apply compressed air to the battery

B. Test the battery, verify state of charge and capacity, evaluate against the manufacturer's interval, and provide recommendations based on test results and service interval

C. Replace the battery as a precaution

D. Replace the brake fluid as the only step

PRACTICE EXAM 5: A6 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

1. C — The battery is at approximately 100% state of charge. 12.6 volts is the typical open-circuit voltage of a fully charged 12-volt automotive battery. State of charge correlates with voltage on a known scale. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*
2. A — Use a DMM in DC volts mode, allow the battery to rest for at least 1 hour, and measure across the battery posts. Open-circuit voltage measurement requires the battery to be at rest. Recent charging or load activity affects the surface charge; rest allows accurate measurement. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*
3. D — The charging voltage is within normal specification (typically 13.8-14.5 volts). 14.2 volts at idle is within typical charging specification. The alternator is properly maintaining battery charge under no extra load. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*
4. B — Use auto-ranging or manually select 20 volts DC for vehicle voltages. The 20-volt DC range covers typical vehicle voltages with adequate resolution. Auto-ranging meters select the appropriate range automatically. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
5. D — Match the original wire gauge or use larger (smaller AWG number) per the manufacturer's specifications. Wire gauge selection ensures proper current capacity. Original gauge or larger maintains proper performance; smaller gauge reduces capacity. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
6. C — Provide adequate current capacity without excessive voltage drop or overheating. Wire gauge determines current capacity, voltage drop, and heat generation. Proper gauge prevents these issues; improper gauge produces them. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*
7. A — Use a manufacturer-approved splice method (solder, butt connector with heat shrink, or splice clip), apply proper insulation, and protect from environmental damage. Wiring splices require manufacturer-approved methods to ensure reliability. Each method requires proper technique for

permanent repair. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

8. D — Provide insulation, environmental protection, and strain relief at the repair area. Heat shrink tubing serves multiple functions in wiring repair. Proper application ensures permanent and reliable repair. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

9. B — Use the manufacturer-specified terminal, proper crimping tool, verify proper crimp, and verify electrical continuity. Terminal replacement requires manufacturer-specified terminals and proper tools. Verification confirms successful repair. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

10. C — Ensure proper crimp force and shape for reliable electrical and mechanical connection. Calibrated crimping tools deliver proper crimp force. Improper crimp produces unreliable connections that fail under operation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

11. A — Routing of audio wiring near high-current circuits, marginal grounding, or electromagnetic noise from a specific source. EMI in audio systems indicates noise coupling between circuits. Routing, grounding, or noise sources each contribute to EMI issues. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

12. D — Identify the source of the EMI, identify the affected circuits, address the routing or shielding, and verify resolution. EMI diagnosis requires source identification and addressing the coupling mechanism. Each step is required for effective resolution. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

13. B — EMI from the spark plug wires inducing noise into nearby sensor wiring, potentially causing erratic sensor readings. High-voltage spark plug wires generate strong electromagnetic fields. Nearby sensor wiring can pick up this noise, producing erratic sensor signals. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

14. C — Reduce EMI by providing a grounded shield around the conductor. Shielded wiring is used in EMI-sensitive circuits. The grounded shield blocks external electromagnetic fields from coupling into the inner conductor. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

15. A — Repair the shield connection, restore proper grounding, verify EMI elimination, and verify proper operation. Damaged shielded cable with improper grounding loses EMI protection. Repair, grounding, and verification together restore proper operation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

16. B — Less than 0.1 volt for most ground circuits, with critical circuits often specified at less than 0.05 volt. Ground voltage drop specifications vary by circuit criticality. Sensitive circuits require

lower drop to maintain accurate operation. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

17. D — The alternator output is within normal specification. 14.5 volts at full load is within typical charging specification. The alternator is providing proper charging voltage under load. *ASE Task Reference: A6 Domain C — Charging System. Review subsection 6.3.*

18. C — Above 9.6 volts for most automotive applications during cranking. Cranking voltage specifications ensure proper electrical operation during the high-current event. Voltage below specification indicates battery or circuit issues. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

19. A — A weak battery, excessive cranking circuit voltage drop, or excessive starter current draw. Cranking voltage drop below specification indicates problems in the cranking system. Each cause produces excessive voltage drop during the cranking event. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

20. B — Use an inductive amp clamp to measure current during cranking, comparing to the manufacturer's specification (typically 150-200 amps for most vehicles). Starter current measurement uses an inductive clamp. Comparison to specification reveals if draw is excessive. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

21. D — Less than 50 milliamps for most vehicles, with manufacturer specifications varying. Parasitic current specifications protect the battery from excessive overnight drain. Manufacturer specifications vary by vehicle complexity. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

22. C — Pull fuses one at a time while monitoring current, isolate the affected circuit, and identify the specific cause. Excessive parasitic current diagnosis requires systematic isolation. Fuse-pulling reveals the affected circuit through current change. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

23. A — Approximately 2-5 volts AC for passive sensors, with frequency proportional to wheel speed. Passive wheel speed sensors generate AC voltage proportional to speed. Voltage and frequency both indicate wheel speed. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

24. D — Use a DMM (10 megohm input minimum) or scan tool to measure the signal voltage, comparing to specification. Oxygen sensor measurement requires proper meter input impedance. Lower impedance meters load the sensor circuit and produce inaccurate readings. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

25. B — Approximately 5 amperes per bulb for most halogen low-beam headlights. Halogen low-beam current specifications determine fuse selection and circuit design. Manufacturer

specifications determine the exact rating. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

26. C — Approximately 85 volts AC during normal operation, with brief startup voltage exceeding 25,000 volts. HID ballast operating voltages reflect the lamp's operating requirements. The brief startup voltage ignites the bulb; lower operating voltage maintains operation. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

27. A — Significantly lower than incandescent (often 1-3 amperes per LED assembly). LED current specifications reflect the technology's lower power consumption. Lower current is one of LED's primary advantages over incandescent. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

28. D — Match the manufacturer's specified fuse rating for the circuit. Fuse rating must match the circuit's design specifications. Lower rating produces nuisance blown fuses; higher rating cannot protect the circuit properly. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

29. B — Identify the source of excessive current draw, address the cause, and replace the fuse with the manufacturer-specified rating. Repeated fuse failures indicate underlying circuit issues. The cause must be identified; replacing with a higher fuse rating creates safety hazards. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

30. C — Identify the cause of the failure, address the cause, install a new fuse of the correct rating, and verify proper operation. Fuse replacement requires understanding the cause of failure. Without addressing the cause, the new fuse will fail again. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

31. D — Typically 9-16 volts DC for most automotive BCM systems. BCM voltage operating ranges accommodate normal vehicle electrical conditions. Voltage outside this range may cause module faults or damage. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

32. A — Verify the supply voltage at the module connector with the ignition in the appropriate state, comparing to specification. Module power supply verification requires measurement at the module connector. Specification compliance confirms proper supply. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

33. B — Verify proper module power supply, verify proper module ground, and verify the module is not in fault condition. Module non-operation diagnosis requires power, ground, and fault verification. Each component contributes to potential causes. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

34. C — Less than 0.5 ohms (typically near 0 ohms) for most ground circuits. Ground circuit resistance specifications ensure proper electrical operation. Higher resistance produces voltage drop that

affects circuit performance. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

35. D — A failed door switch (closed when door is closed), faulty timer module, or fault in the dome light circuit causing constant power. Dome light not turning off indicates the system is not detecting door closed. Each cause prevents the system from completing the off cycle. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

36. A — Verify the customer concern, check door switch operation, verify timer module operation, and identify the specific cause. Dome light diagnosis requires systematic verification of multiple components. Each component contributes to potential causes. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

37. B — Verify the customer concern, check the courtesy light circuit, verify proper voltage at the bulbs, and identify the specific cause. Courtesy light diagnosis requires circuit verification and voltage measurement at the bulbs. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

38. C — Verify the customer concern, retrieve any DTCs, check switch operation, verify proper voltage and ground at the lamps, and identify the cause. Exterior lighting diagnosis requires comprehensive systematic approach. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain D — Lighting System. Review subsection 6.4.*

39. B — Verify the customer concern, retrieve any DTCs, check switch operation, verify motor operation, and identify the specific cause. Power tailgate diagnosis requires systematic approach including DTCs and motor verification. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

40. A — Verify proper installation, verify proper switch operation, verify proper motor operation, perform required relearn or initialization, and verify proper operation. Power tailgate service verification requires comprehensive approach including any required initialization. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

41. D — A failed heating element, fault in the seat heater control module, or fault in the wiring. Heated seat failure isolates to the heating element, control module, or wiring. Each component contributes to potential causes. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

42. B — Verify the customer concern, check the heating element resistance, verify control module operation, verify wiring, and identify the cause. Heated seat diagnosis requires comprehensive systematic approach including element resistance. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

43. C — Verify the customer concern, retrieve any DTCs, check fan operation, verify control module operation, and identify the specific cause. Cooled seat diagnosis requires systematic approach

including fan operation. The fan provides the cooling function in ventilated seats. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

44. A — Verify the customer concern, retrieve stored DTCs, monitor scan tool data, verify proper component operation, and identify the specific cause. EPS diagnosis requires comprehensive systematic approach including scan tool integration. Each step provides different diagnostic information. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

45. D — A failed torque sensor, EPS module fault, recent battery replacement requiring relearn, or fault in the EPS wiring. EPS warning has multiple potential causes. Battery replacement disturbs calibration; component faults produce direct issues. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

46. B — Verify all repairs, perform required calibrations, clear DTCs, road test, and verify proper operation. EPS service verification requires comprehensive approach including calibrations, DTCs, and road test. *ASE Task Reference: A6 Domain F — Body Electrical and Accessories. Review subsection 6.6.*

47. D — Identify the source of moisture, address the cause, dry and protect the connector, and verify proper operation. Moisture intrusion in connectors requires source elimination plus repair. Without source elimination, the issue will recur. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

48. C — Inspect all relevant components, measure relevant specifications, record findings, identify required service, and provide recommendations to the customer. Electrical inspection documentation requires comprehensive recording. Customer recommendations support proper service planning. *ASE Task Reference: A6 Domain A — General Electrical/Electronic System Diagnosis. Review subsection 6.1.*

49. A — Inform the customer that the battery is operating within specification but past typical service life, document for the next service interval. A battery within specification past warranty does not require immediate replacement. Customer information and documentation support proper service planning. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*

50. B — Test the battery, verify state of charge and capacity, evaluate against the manufacturer's interval, and provide recommendations based on test results and service interval. Battery replacement recommendations should be based on testing and interval. Both factors provide accurate service recommendations. *ASE Task Reference: A6 Domain B — Battery and Starting System. Review subsection 6.2.*