

Automotive Electrical and Engine Performance 9th Edition
Chapter 25 – Hybrid and Electric Vehicle Safety
Multiple Choice Questions Quiz A

1. When working on high-voltage systems, which personal protective equipment is required?
 - a) Insulated boots only
 - b) Leather gloves over rubber HV-rated gloves
 - c) Metal-framed glasses with side shields
 - d) Face mask with HV rating

2. A Category III (CAT III) certified digital multimeter is specifically rated for:
 - a) Low-voltage, high-frequency measurements
 - b) High-voltage, high-energy measurements in hybrid/electric vehicles
 - c) Battery voltage measurements only
 - d) General vehicle diagnostics with low current

3. To prevent accidental HV engagement, what precaution is recommended when using a push-button start vehicle in the service area?
 - a) Remove the key fob at least 15 feet from the vehicle
 - b) Disconnect the high-voltage battery pack
 - c) Turn off the accessory power supply
 - d) Place the vehicle in gear

4. Technician A states that all HV systems need to be depowered during routine maintenance. Technician B states that depowering is only required when working on HV components or near orange cables. Who is correct?
 - a) Technician A only
 - b) Technician B only
 - c) Both Technician A and Technician B
 - d) Neither Technician A nor B

5. What is the purpose of a megohmmeter in high-voltage diagnostics?
- a) To measure current flow in LV systems
 - b) To test insulation resistance between HV components and ground
 - c) To measure battery voltage only
 - d) To assess the power output of HV batteries
6. How should HV-rated gloves be stored after use?
- a) Rolled up tightly in a plastic bag
 - b) Laid flat in a leather pouch
 - c) In a canvas bag with ventilation holes, unrolled
 - d) Folded in an airtight container
7. If an HV interlock circuit detects an open in the HV system, what occurs in a hybrid vehicle?
- a) The battery is immediately recharged
 - b) The HV system remains engaged
 - c) The ICE and HV system are disabled
 - d) The system activates low-voltage-only mode
8. When hoisting a hybrid vehicle, what safety precaution is essential?
- a) Ensure lift points avoid HV battery or orange cables
 - b) Always hoist from the front end
 - c) Disconnect the 12V battery before hoisting
 - d) Only use portable jacks on the rear axle
9. Which color denotes high-voltage cables in hybrid and electric vehicles?
- a) Yellow
 - b) Orange
 - c) Blue
 - d) Red

10. When inspecting high-voltage rubber gloves, what indicates they are ready for use?

- a) The gloves passed an air inflation test without leaks
- b) They have no visible wear but are out of date
- c) They passed a high-pressure air test
- d) They are cleaned with water and dried

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Answer Key Quiz A

Correct Answers:

1. b
2. b
3. a
4. b
5. b
6. c
7. c
8. a
9. b
10. a