

Electric and Hybrid Electric Vehicles, 1st Edition

Quiz 10B

NAME _____

1. Increased system voltage allow the motor windings to be _____. 1. _____
A) lighter in weight
B) smaller in size
C) aluminum instead of copper
D) cooler

2. A symptom of a failed HV battery in an HEV is _____. 2. _____
A) reduced fuel economy
B) engine never shuts off
C) DTC P0A80
D) All of these

3. The range of an electric vehicle is measured in _____. 3. _____
A) miles per gallon
B) kilowatts per hour
C) miles per kilowatt-hour
D) None of these

4. During normal vehicle operation, the charge and discharge cycles of the high-voltage battery in an HEV are monitored and controlled by the _____. 4. _____
A) battery control module (CM)
B) system main relays (SMRs)
C) battery management system (BMS)
D) electrical distribution system (EDS)

5. Which type of HV battery system declines at a faster rate? 5. _____
A) Liquid-cooled
B) Air-cooled
C) Air-heated
D) All decline at the same rate.

6. A lithium-ion cell produces _____ volts per cell. 6. _____
A) 1.2 volts
B) 3.2 volts
C) 3.6 volts
D) 4.8 volts

7. A 12-volt system is used in both HEV and EV vehicles to _____. 7. _____
A) provide a source for the high voltage DC-to-DC converter
B) power all accessories and other aspects of vehicle operation except propulsion
C) Both a and b
D) Neither a nor b

8. EV and HEV electronics are cooled by using _____. 8. _____
- A) outside air
 - B) liquid cooling
 - C) Peltier devices
 - D) None of these
9. The nominal voltage of a NiMH battery cell is _____. 9. _____
- A) 1.2 volts
 - B) 3.2 volts
 - C) 3.6 volts
 - D) 4.8 volts
10. Technician A says that a hybrid vehicle can travel about 3 to 4 miles per kilowatt-hour. Technician B says that an electric vehicle can travel about 3 to 4 miles per kilowatt-hour. Which technician is correct? 10. _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

Answer Key

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1. B
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