

Electric and Hybrid Electric Vehicles, 1st Edition

Quiz 16A

NAME _____

1. _____ converts electrical energy into heat, and this is used to boost heat to the passenger compartment. 1. _____
 - A) A heater core
 - B) Antifreeze/coolant
 - C) A PTC heater
 - D) The 12-volt auxiliary battery

2. Technician A says that PTC heaters can be built into a conventional heater core assembly. Technician B says that a PTC heater's electrical resistance will decrease as its temperature increases. Which technician is correct? 2. _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

3. The refrigerant in the A/C system absorbs heat in the _____. 3. _____
 - A) evaporator
 - B) condenser
 - C) compressor
 - D) heater core

4. The electric vehicle battery heating methods include _____. 4. _____
 - A) PTC fluid heaters
 - B) PTC air heaters
 - C) heater pads
 - D) Any of the above

5. Technician A says that HEV refrigerant service uses the same RRR machine as any other vehicle. Technician B says that a hybrid-specific RRR machine should be used to service HEV systems. Which technician is correct? 5. _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

6. A electric water pump uses a _____ to power the impeller and is used on most hybrid electric vehicles and some internal combustion engines. 6. _____
 - A) stepper motor
 - B) AC synchronous motor
 - C) DC motor
 - D) Any of the above

7. An electrically operated A/C compressor has two orange cables. This means the compressor _____ 7. _____
- A) is powered by the 12-volt auxiliary battery
 - B) has a built-in inverter
 - C) is using an external inverter
 - D) None of the above
8. What is used to help keep the passenger compartment warm during idle-stop (start-stop) operation? 8. _____
- A) A larger than normal heater core
 - B) An auxiliary electric water pump
 - C) Operating the A/C in reverse to provide heating instead of cooling
 - D) Larger than usual water jackets in the ICE
9. The fresh air coming in to the vehicle is sent through a/an _____. 9. _____
- A) cabin filter
 - B) squirrel cage blower
 - C) evaporator
 - D) condenser
10. A/An _____ is a heat exchanger that removes heat from refrigerant vapor and transfers it to the liquid running through it. 10. _____
- A) scroll compressor
 - B) air-to-air heat exchanger
 - C) liquid-cooled condenser
 - D) Any of the above

Answer Key

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2. A
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3. A
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4. D
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5. B
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6. C
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