

Automotive Heating and Air Conditioning, 9th Edition

Quiz 13A

NAME _____

1. The fresh air coming in to the vehicle is sent through a/an _____.
A) cabin filter
B) squirrel cage blower
C) evaporator
D) condenser
1. _____

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

3. Many automakers use a _____ to maximize the range that an electric vehicle can travel by scavenging waste heat to warm the cabin.
A) heat pump
B) scroll compressor
C) variable compressor
D) PTC
3. _____

4. A/C compressor oil is the same for both hybrid and non-hybrid A/C systems.
A) True
B) False
4. _____

5. What is the optimum operating temperature for an internal combustion engine?
A) 200 deg F
B) 165 deg F
C) 100 deg F
D) 235 deg F
5. _____

6. 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?
A) Technician A only
B) Technician B only
C) Both technicians A and B
D) Neither technician A nor B
6. _____

7. An electrically operated A/C compressor has two orange cables. This means the compressor _____.
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
7. _____

8. A electric water pump uses a _____ to power the impeller and is used on most hybrid electric vehicles and some internal combustion engines. 8. _____
- A) stepper motor
 - B) AC synchronous motor
 - C) DC motor
 - D) Any of the above
9. Why is a coolant heat storage tank used on some HEVs? 9. _____
- A) To provide heat for the passenger compartment when the ICE is not running
 - B) To warm the ICE very quickly after cold starts, for reduced exhaust emissions
 - C) Both A and B
 - D) Neither A nor B
10. What is used to help keep the passenger compartment warm during idle-stop (start-stop) operation? 10. _____
- 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

Answer Key

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