

8thHTACch-12

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Technician A says that the high voltage batteries in all hybrid electric vehicles are cooled and maintained at the same temperature as the engine's coolant system (195-210°F.) Technician B says many hybrid electric vehicle high voltage systems are water cooled by separate cooling systems that operate in much the same way as the engine cooling system. Which technician is correct? 1) _____
A) Technician A only B) Technician B only
C) Both technicians D) Neither technician
- 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 D) Neither technician
- 3) Technician A says that HEV compressors may be both electrically and belt driven. Technician B says that scroll type A/C compressors contain rotating scrolls to pressurize the refrigerant. Which technician is correct? 3) _____
A) Technician A only B) Technician B only
C) Both technicians D) Neither technician
- 4) The coolant heat storage system is being discussed. Technician A says that the water valve is driven by an electric motor. Technician B says that the storage tank has its own electric water pump. Which technician is correct? 4) _____
A) Technician A only B) Technician B only
C) Both technicians D) Neither technician
- 5) Electrically powered A/C compressors should use what type of refrigerant oil? 5) _____
A) Polyalkylene glycol B) PAG
C) POE D) PAO
- 6) What coolant is used in a motor/electronics cooling system? 6) _____
A) Special electrically-insulated coolant
B) The same coolant that is used in the ICE cooling system
C) DEX-COOL
D) Either A or C, depending on the vehicle
- 7) Technician A says that because of hybrid/electric technology, the internal combustion engine used on these vehicles runs colder than peak operating temperatures. Technician B says that PTC coolers located in the A/C system are used to overcome this excessive engine heat. Which technician is correct? 7) _____
A) Technician A only B) Technician B only
C) Both technicians D) Neither technician

8) Technician A says that the coolant heat storage tanks used in some HEVs are made of an inner and outer casing with pressurized gas in between for insulation. Technician B says that coolant heat storage tanks in HEVs contain a vacuum between the inner and outer linings. Which technician is correct? 8) _____

- A) Technician A only
- B) Technician B only
- C) Both technicians
- D) Neither technician

9) In a dual compressor that uses both an ICE powered part and an electrical-power part, what percentage of the capacity is electrically powered? 9) _____

- A) 15%
- B) 35%
- C) 55%
- D) 85%

10) In most hybrid electric vehicles, the air entering the plenum chamber passes through the _____. 10) _____

- A) Evaporator
- B) Recirculation door
- C) Heater core
- D) Cabin filter