

Name _____

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

- 1) Technician A says that when a liquid changes to a vapor, heat is absorbed. Technician B says that when a vapor changes to a liquid, heat is released. Which technician is correct? 1) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 2) Automotive A/C compressor oil is hygroscopic, which means it _____. 2) _____
 - A) Is resistant to moisture
 - B) Absorbs moisture
 - C) Is hard to see
 - D) Flexible when wet

- 3) Technician A says that because of hybrid technology, the internal combustion engine of a hybrid vehicle 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? 3) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 4) Technician A says that the amount of heat the conventional passenger climate control system can provide depends on the temperature of the coolant flowing through the heater core. Technician B says that some HEV system designs allow heat from the electrical systems to be circulated to the passenger compartment when needed. Which technician is correct? 4) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 5) Technician A says that changes of state of a substance from liquid to gas is vital to automotive air conditioning and some electrical system cooling systems. Technician B says that scroll type A/C compressors contain rotating scrolls to pressurize the refrigerant. Which technician is correct? 5) _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

- 6) Why is a coolant heat storage tank used on some HEVs? 6) _____
 - 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

- 7) Technician A says that the condenser is part of the low-pressure side of the A/C system. Technician B says that the condenser is located at the front of the vehicle. Which technician is correct? 7) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 8) During ICE operation when the coolant expands and pressure in the closed coolant system increases, what component allows excess pressure to vent to prevent system damage? 8) _____
- A) Pressure relief valve in the radiator cap
 - B) Vacuum valve in the radiator cap
 - C) External electronic pressure regulators
 - D) None of these
- 9) When the ICE shuts off and the engine coolant temperature is reduced, what component compensates for the drop in pressure inside the closed coolant system? 9) _____
- A) Vacuum valve in the radiator cap
 - B) Pressure relief valve in the radiator cap
 - C) Air passages
 - D) None of these
- 10) 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? 10) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

Answer Key

Testname: HYBRID4_12B

1) C

Page Ref: 198

2) B

Page Ref: 202

3) D

Page Ref: 195

4) C

Page Ref: 195

5) A

Page Ref: 198

6) B

Page Ref: 191

7) B

Page Ref: 202

8) A

Page Ref: 187

9) A

Page Ref: 187

10) B

Page Ref: 196