

Name \_\_\_\_\_

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

- 1) Electric motors are better than an internal combustion engine to propel a vehicle because \_\_\_\_\_ 1) \_\_\_\_\_  
\_\_\_\_\_.
- A) they produce high torque at low speeds
  - B) they do not burn fuel and therefore do not release carbon dioxide into the environment
  - C) they are quiet
  - D) All of the above are correct.
- 2) Which of these statements about series hybrid electric vehicles is (are) true? 2) \_\_\_\_\_
- A) The internal combustion engine turns a generator to charge the battery.
  - B) The engine never powers the vehicle directly.
  - C) Both A and B
  - D) Neither A nor B
- 3) About how fast does a motor-generator crank the internal combustion engine? 3) \_\_\_\_\_
- A) About 1000 RPM
  - B) About 2000 RPM
  - C) About 150-300 RPM
  - D) About 350-600 RPM
- 4) Technician A says that most hybrids use the series hybrid design. Technician B says that most hybrids have 42 volt batteries. Which technician is correct? 4) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
- 5) All of the following are characteristic of a hybrid electric vehicle (HEV) EXCEPT \_\_\_\_\_. 5) \_\_\_\_\_
- A) high voltages (safety issue)
  - B) lower fuel economy
  - C) lower amount of carbon dioxide released into the atmosphere
  - D) quiet
- 6) Technician A says that in a parallel hybrid design, only the electric motor is connected to the transmission. Technician B says that in a parallel hybrid design, the vehicle can be propelled by the electric traction motor, the internal combustion engine, or both. Which technician is correct? 6) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician

- 7) On a vehicle equipped with a belt-alternator-starter (BAS) hybrid system, the alternator is also used to \_\_\_\_\_. 7) \_\_\_\_\_
- A) circulate the coolant
  - B) pump refrigerant
  - C) start the engine
  - D) assist steering effort
- 8) Technician A says that full hybrid electric vehicles need to be plugged into a standard AC electrical outlet to charge. Technician B says that the high voltage battery in an HEV uses a generator driven by the internal combustion engine for recharging. Which technician is correct? 8) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
- 9) In a series hybrid vehicle, the internal combustion engine drives the vehicle only when increased horsepower is needed. 9) \_\_\_\_\_
- A) True
  - B) False
- 10) Which type of hybrid is capable of propelling the vehicle by just using the electric motor? 10) \_\_\_\_\_
- A) BAS type
  - B) Strong (full) hybrid
  - C) Medium hybrid
  - D) Mild hybrid