

Name \_\_\_\_\_

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

- 1) How is a plug-in hybrid different from a standard hybrid vehicle? 1) \_\_\_\_\_
  - A) Has an electrical charging port
  - B) Is able to operate farther in electric-only mode
  - C) Has a larger battery capacity
  - D) All of these
  
- 2) During the summer months the range of a Nissan Leaf is less than in the winter. What could be the problem? 2) \_\_\_\_\_
  - A) The hot road surfaces create more drag on the special tires
  - B) Hot air is thicker than cold air, causing drag
  - C) High temperatures increase the resistance of the charging cable
  - D) This is a normal condition
  
- 3) How is the high-voltage (HV) battery charged in a plug-in hybrid electric vehicle (PHEV)? 3) \_\_\_\_\_
  - A) Using the ICE to turn the motor/generator to fully charge the HV battery
  - B) Using an external charging station or electrical outlet
  - C) Can be charged to full capacity by using a special dealer-only high-voltage charger
  - D) Operating the ICE at idle after returning from a trip
  
- 4) What is required to fully charge the HV battery on a plug-in hybrid vehicle? 4) \_\_\_\_\_
  - A) A trip of at least 225 miles
  - B) The ICE must run for more than 45 minutes
  - C) The vehicle must be plugged in to be fully charged
  - D) The vehicle must be plugged in for at least 24 hours
  
- 5) Why does warm weather decrease the range of an electric vehicle? 5) \_\_\_\_\_
  - A) Batteries do not function well at high temperatures
  - B) Batteries have to supply the power needed to keep the interior of the vehicle cool
  - C) Batteries must supply power to help keep the batteries themselves cool
  - D) All of the above
  
- 6) At what temperature range do batteries work best? 6) \_\_\_\_\_
  - A) 0°F to 32°F (-18°C to 0°C)
  - B) 35°F to 65°F (2°C to 18°C)
  - C) 68°F to 78°F (20°C to 26°C)
  - D) 90°F to 110°F (32°C to 43°C)
  
- 7) Electric vehicles each use \_\_\_\_\_ for the charge cable connection. 7) \_\_\_\_\_
  - A) A unique connector plug
  - B) An adapter, depending on the voltage
  - C) A standard SAE plug-in connector
  - D) A 90 volt transformer

8) Two technicians are discussing a plug-in hybrid vehicle. Technician A says that the plug-in version operates the same as the normal standard hybrid version. Technician B says that the plug-in hybrid uses a smaller, lighter battery pack. Which technician is correct? 8) \_\_\_\_\_

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

9) Research shows that owner's range anxiety fades after about \_\_\_\_\_ of driving. 9) \_\_\_\_\_

- A) A year
- B) Two weeks
- C) A few days
- D) Nine months

10) Why do cold temperatures reduce the range of an electric vehicle? 10) \_\_\_\_\_

- A) Cold temperatures reduce battery efficiency
- B) Additional electrical power from the batteries is needed to heat the batteries
- C) Passenger compartment heating is a concern for an electric vehicle because it requires the use of resistance units or other technology that reduces the range of the vehicle
- D) All of the above

## Answer Key

Testname: HYBRID4\_17B

1) D

Page Ref: 281

2) D

Page Ref: 283

3) B

Page Ref: 284

4) C

Page Ref: 282

5) D

Page Ref: 283

6) C

Page Ref: 283

7) C

Page Ref: 284

8) A

Page Ref: 273

9) B

Page Ref: 284

10) D

Page Ref: 283