

Name _____

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

- 1) All of these are part of the 3-minute charge test, EXCEPT _____. 1) _____
 - A) connect battery charger and voltmeter to the battery terminals
 - B) connect battery charger and ammeter to the battery terminals
 - C) charge the battery at a rate of 40 amperes for 3 minutes
 - D) at the end of three minutes, read the voltmeter

- 2) Many vehicle manufacturers recommend that a special electrical connector be installed between the battery and the battery cable when testing for _____. 2) _____
 - A) battery drain (parasitic drain)
 - B) specific gravity
 - C) battery voltage
 - D) battery charge rate

- 3) When load testing a battery, which battery rating is normally used to determine how much load to apply to the battery? 3) _____
 - A) CA
 - B) RC
 - C) MCA
 - D) CCA

- 4) Which of these is the most accurate test to determine the condition of a battery? 4) _____
 - A) Open circuit voltage (OCV) test
 - B) Hydrometer test
 - C) Load or capacity test
 - D) Voltage drop test

- 5) A defective battery causes which of the following symptoms? 5) _____
 - A) Slow cranking
 - B) Excessive voltage (over 16 volts)
 - C) Smooth, clean connectors, indicating overheating of the cables
 - D) None of these

- 6) What precautions are needed when charging an AGM type battery? 6) _____
 - A) Keep the charger away from the battery as far as possible.
 - B) Charging amperage should be set to less than 10 amperes.
 - C) Charging voltage should be at or below 14.4 volts.
 - D) Keep the charging time to less than one hour.

- 7) When charging a maintenance-free (lead-calcium) battery, _____. 7) _____
 - A) the initial charging rate should be about 35 amperes for 30 minutes
 - B) the battery may not accept a charge for several hours, yet still be a good (serviceable) battery
 - C) the battery temperature should not exceed 125°F (hot to the touch)
 - D) all of the above

- 8) Technician A says that distilled or clean drinking water should be added to a battery when the electrolyte level is low. Technician B says that fresh electrolyte (solution of acid and water) should be added. Which technician is correct? 8) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 9) Technician A says that electronic conductance testing can determine CCA, state-of-charge, and voltage of the battery. Technician B says that electronic conductance testing can determine if there is a bad cell, requiring battery replacement. Who is right? 9) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 10) All of these are required precautions when working around vehicle batteries EXCEPT _____. 10) _____
- A) no open flames around the battery
 - B) a frozen battery can be warmed by jump starting it
 - C) eye protection should be worn
 - D) disconnect the negative cable when working on electrical components