

Name \_\_\_\_\_

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1) What are the steps for performing a battery load test?

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2) What battery types are most used in electric and hybrid electric vehicles?

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3) Why can a discharged batteries freeze?

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4) What are the results of a voltmeter test of a battery and its state-of-charge?

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5) What are the three most commonly used battery-rating methods?

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## Answer Key

Testname: AAEE\_SHORT8

1) A battery load test involves removing the surface charge, loading the battery to  $\frac{1}{2}$  of the CCA rating for 15 seconds, and observing the voltage at the end of the time with the load still applied.

Page Ref: 94

2) The type of battery most used in hybrid electric vehicles is the nickel-metal hydride (NiMH). Newer hybrid and electric vehicles use Lithium-ion (Li-ion) batteries.

Page Ref: 98; 100

3) Discharged batteries can freeze because the electrolyte becomes almost water.

Page Ref: 91

4) After removing the surface charge, a battery voltage of 12.6 volts or higher indicates a fully charged battery. If 12.4 volts, it is 75% charged; 12.2 volts is 50% charged, and if 12.0 volts, the battery is only 25% charged.

Page Ref: 93-94

5) The three most commonly used battery ratings are CA, CCA, and reserve capacity.

Page Ref: 92