

Chapter 11

NAME _____

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

1. What do insulated gate bipolar transistors (IGBTs) do?

2. How is magnetism created using electricity?

3. how does a DC-to-DC converter work?

4. What is the purpose of the inverter?

5. What are two types of electric brushless motors?

Answer Key

Testname: EV1SHORT11

1. IGBTs are current drivers that send current from the battery pack through the stator windings to energize the stator coils and move the rotor to power the drive wheels.
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2. Current-carrying conductors are surrounded by a magnetic field. The creation of a magnetic field by the use of an electrical current is called electromagnetism.
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3. DC-to-DC converters are electronic devices used to transform DC voltage from one level of DC voltage to another higher or lower-level voltage. They are used to distribute various levels of DC voltage throughout a vehicle from a single power bus (or voltage source).
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4. Inverters are electronic devices that can turn DC (Direct Current) to AC (Alternating Current). It is also responsible for controlling speed and torque for electric motors. The inverter can provide a pulsed signal to the motor to move the vehicle or it can process the AC signal generated by the motors during a regeneration event.
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5. There are two types of electric brushless motors:
 1. AC induction motor
 2. AC synchronous motor[Page Ref: 146](#)