

Name _____

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

- 1) AC synchronous motors used in hybrid electric vehicles use how many windings in the stationary part of the motor? 1) _____
A) One
B) Two
C) Three
D) Four

- 2) What is the most common type of rotor used in an AC synchronous motor? 2) _____
A) Wire round
B) Permanent magnet
C) Squirrel-cage
D) Both B and C

- 3) The _____ are used to rectify AC to DC current. 3) _____
A) Transistors
B) Diodes
C) Capacitors
D) Condensers

- 4) Ford and Toyota hybrid drive motors use which type of rotor? 4) _____
A) Surface permanent magnets (SPMs)
B) Coiled magnets
C) Interior permanent magnets (IPMs)
D) None of these

- 5) All of the following statements are true, EXCEPT _____. 5) _____
A) The magnetic lines of force leave the south pole and enter the north pole
B) Around every conductor carrying a current is a magnetic field
C) Magnetic lines of force never intersect
D) The higher the current through a conductor the stronger the magnetic flux

- 6) What type of electric motor is used for the traction motor in hybrid electric vehicles? 6) _____
A) DC brush-type motor
B) AC induction-type motor
C) Brushless DC motor
D) Both B and C are used

7) Technician A says that a DC-to-DC converter is used to convert 12 volts from the battery to a higher voltage to run the electric motor(s) in a hybrid electric vehicle. Technician B says that a DC-to-DC converter is used to convert the voltage from the motor/generator to a higher voltage to charge the high voltage batteries. Which technician is correct?
 A) Technician A only
 B) Technician B only
 C) Both technicians
 D) Neither technician

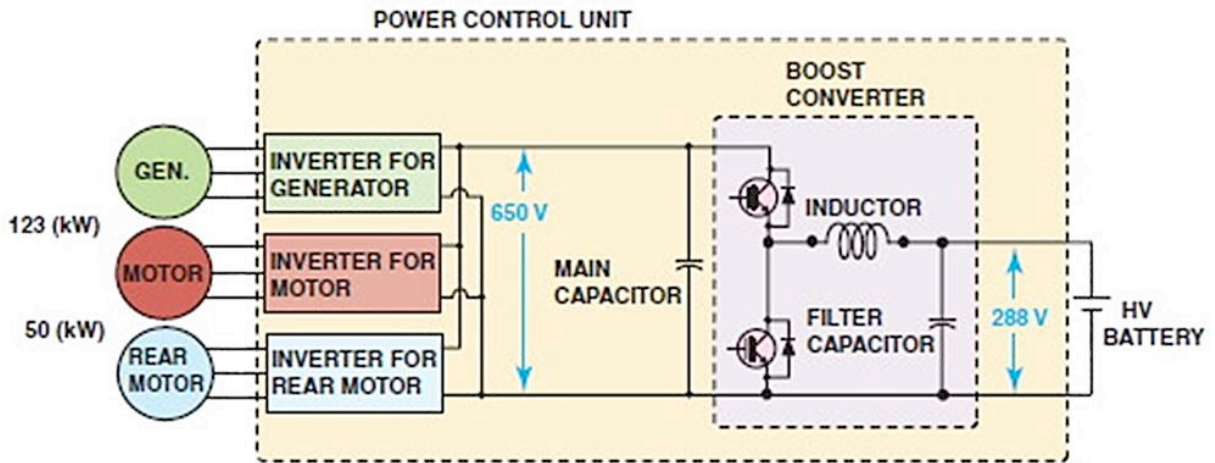
7) _____

8) The power of most electric motors is expressed in _____.
 A) Horsepower
 B) kW
 C) Watts
 D) Amperes

8) _____

9) In this schematic, what is the purpose of the "rear motor"?

9) _____



- A) Operates the rear power seats
- B) Provides four wheel drive
- C) Controls the rear air conditioning system
- D) None of these

10) The hybrid system control unit is air cooled.
 A) True
 B) False

10) _____

Answer Key

Testname: HYBRID4_9B

1) C

Page Ref: 124

2) B

Page Ref: 124

3) B

Page Ref: 126

4) C

Page Ref: 124

5) A

Page Ref: 117

6) D

Page Ref: 123-124

7) D

Page Ref: 126

8) B

Page Ref: 121

9) B

Page Ref: 128

10) B

Page Ref: 127