

Name _____

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

- 1) Regenerative braking uses the inertia of the vehicle to recapture energy during braking. Where is this recaptured energy stored? 1) _____
 - A) In the 12 volt battery bank
 - B) In the high voltage battery bank
 - C) In the electrohydraulic master cylinder
 - D) In large resistors

- 2) Which type of regenerative braking system uses an electrohydraulic system? 2) _____
 - A) Series
 - B) Parallel
 - C) Both series and parallel
 - D) Neither series nor parallel

- 3) Regenerative braking helps keep the HV battery charged to more than 90%. 3) _____
 - A) True
 - B) False

- 4) Inertia is _____. 4) _____
 - A) The energy of any moving object that has mass (weight)
 - B) The force that the driver exerts on the brake pedal during a stop
 - C) The electric motor force that is applied to the drive wheels
 - D) The force that the internal combustion engine and the electric motor together apply to the drive wheels during rapid acceleration

- 5) During braking on a hybrid electric vehicle equipped with a regenerative braking system, what occurs when the driver depresses the brake pedal? 5) _____
 - A) The friction brakes are only used as a backup and not used during normal braking
 - B) The motors become generators
 - C) The driver needs to apply a braking lever instead of depressing the brake pedal to energize the regenerative braking system
 - D) The batteries are charged to 100 percent SOC

- 6) A brushless motor works by _____. 6) _____
 - A) Rapidly switching the polarity of the permanent magnet rotor
 - B) Rapidly switching the stator field windings
 - C) Either of these
 - D) Neither of these

- 7) The brake master cylinder used on a hybrid and non-hybrid vehicle are the same. 7) _____
 - A) True
 - B) False

- 8) What position is the throttle pedal in during regenerative braking? 8) _____
- A) Fully lifted
 - B) About 10%
 - C) The throttle is ignored
 - D) None of these
- 9) When changing the brake pads on a Ford Escape hybrid, what precaution must be taken before removing the brake pads? 9) _____
- A) Block all 4 wheels
 - B) Use a scan tool to enter Pad Service Mode
 - C) Only change one pad at a time
 - D) Always change the rear pads before changing the front pads
- 10) Technician A says that the powertrain control module (PCM) or controller can control the voltage to the motor(s) in a hybrid electric vehicle. Technician B says that the PCM or controller can control the electric motors by varying the frequency of the applied current. Which technician is correct? 10) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician

Answer Key

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1) B

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2) A

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3) B

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4) A

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5) B

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6) B

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7) B

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8) A

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9) B

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10) C

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