Advanced Automotive Electricity and Electronics
Quiz 27B

Name_____

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

1) Technician A says that a front wheel drive hybrid electric vehicle can only generate electricity during braking from the front wheel motor(s). Technician B says that antilock braking (ABS) is not possible with a vehicle equipped with a regenerative braking system. Who is correct? 1) _____
   A) Technician A only
   B) Technician B only
   C) Both Technicians A and B
   D) Neither Technician A nor B

2) During braking on a hybrid electric vehicle equipped with a regenerative braking system, what occurs when the driver depresses the brake pedal? 2) _____
   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.

3) Kinetic energy is _____. 3) _____
   A) The energy that the driver exerts on the brake pedal
   B) The energy needed from the batteries to propel a vehicle
   C) The energy in any moving object
   D) The energy that the motor produces to propel the vehicle

4) When the electric motor is acting as a generator it produces alternating current (AC). This current is converted to direct current (DC) by use of _____. 4) _____
   A) Large diodes
   B) Large capacity filters
   C) Special AC batteries
   D) None of these

5) A brushless motor works by _____. 5) _____
   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

6) What position is the throttle pedal in during regenerative braking? 6) _____
   A) Fully lifted
   B) About 10 %
   C) The throttle is ignored
   D) None of these

7) Some hybrid vehicles reduce the internal combustion engine's braking capacity during deceleration so that the regenerative braking is more efficient. This is done by _____. 7) _____

A) Closing the valves in some cylinders
B) Releasing compression in some cylinders
C) Disabling the spark in some cylinders
D) None of these

8) Which type of regenerative braking system uses an electrohydraulic system? 8) _____

A) Series
B) Parallel
C) Both Series and parallel
D) Neither series nor parallel

9) Two technicians are discussing deceleration rates. Technician A says that a one "g" stop is a gentle slowing of the vehicle. Technician B says that a stopping rate of 8 ft/sec^2 is a severe stop. Who is correct? 9) _____

A) Technician A only
B) Technician B only
C) Both Technicians A and B
D) Neither Technician A nor B

10) The hybrid vehicle electric motor is usually a(an) _____ type motor. 10) _____

A) DC
B) AC
C) HVAC
D) None of these

Answer Key
Testname: AAEE_27B

1) A
Page Ref: 384
2) B
Page Ref: 386
3) C
Page Ref: 380
4) A
Page Ref: 387
5) B
Page Ref: 383, 387
6) A
Page Ref: 386
7) A
Page Ref: 388
8) A
Page Ref: 382
9) D
Page Ref: 387
10) B
Page Ref: 383, 387