

Electric and Hybrid Electric Vehicles, 1st Edition

Quiz 4A

NAME _____

1. The screen(s) protects the VVT solenoid valve from dirt and debris that can cause the valve to stick. If this screen is clogged with debris, what is the most likely cause? 1. _____
 - A) P0300 DTC (random misfire)
 - B) P0017 DTC (crankshaft position–camshaft position correlation error)
 - C) Either a or b
 - D) Both a and b

2. Which of these is NOT a characteristic of the gasoline engines that are used in hybrid vehicles? 2. _____
 - A) Uses the electric motor to start the engine
 - B) Has a larger than usual displacement
 - C) A low viscosity oil is used
 - D) Has a smaller than usual displacement

3. Pumping losses are created by the throttle valve that _____ the flow of air into the cylinders. 3. _____
 - A) restricts
 - B) enhances
 - C) improves
 - D) supercharges

4. Technician A says that all piston pins are offset. Technician B says that offset piston pins increase friction. Which technician is correct? 4. _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

5. The Atkinson cycle engine design _____. 5. _____
 - A) requires special fuel and oil designed for this type of engine
 - B) operates differently than the normal four stroke cycle gasoline engine
 - C) uses the same four stroke cycle but delays the closing of the intake valve
 - D) Both a and b are correct

6. When servicing an HEV, it is often needed to keep the ICE running. The mode that keeps the ICE operating is called _____. 6. _____
 - A) service mode
 - B) maintenance mode
 - C) inspection mode
 - D) Any of the above

7. What is the term used to describe engines where the intake valve is left open for a short time after the piston begins its upward travel on the compression stroke? 7. _____
 - A) Atkinson cycle
 - B) Miller cycle
 - C) Wankel cycle
 - D) None of these

8. One way to improve fuel economy is to reduce pumping losses. Which method is used in many hybrids to reduce pumping losses? 8. _____
- A) Use the Atkinson cycle
 - B) Use electronic throttle control (ETC)
 - C) Both a and b
 - D) Neither a nor b
9. To diagnose a VVT system, a _____ is needed. 9. _____
- A) scan tool
 - B) test light
 - C) vacuum pump
 - D) fused jumper wire
10. The component that connects the piston to the crankshaft is called the _____. 10. _____
- A) Connecting rod
 - B) Bearing shaft
 - C) Pushrod
 - D) None of these

Answer Key

Testname: EV1_4A

1. B
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2. B
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3. A
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4. B
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6. D
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