

Electric and Hybrid Electric Vehicles, 1st Edition

Quiz 4B

NAME _____

1. The component that connects the piston to the crankshaft is called the _____. 1. _____
 - A) Connecting rod
 - B) Bearing shaft
 - C) Pushrod
 - D) None of these

2. Most engines equipped with VVT do not use a(an) _____. 2. _____
 - A) PCV valve
 - B) EGR valve
 - C) MAP sensor
 - D) MAF sensor

3. 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? 3. _____
 - A) Atkinson cycle
 - B) Miller cycle
 - C) Wankel cycle
 - D) None of these

4. An offset crankshaft is used to _____. 4. _____
 - A) improve power output of the engine
 - B) improve fuel economy by reducing internal engine friction
 - C) reduce engine noise
 - D) All of the above

5. One way to improve fuel economy is to reduce pumping losses. Which method is used in many hybrids to reduce pumping losses? 5. _____
 - A) Use the Atkinson cycle
 - B) Use electronic throttle control (ETC)
 - C) Both a and b
 - D) Neither a nor b

6. During a complete combustion cycle in a four-cycle engine, the crankshaft revolves how many degrees? 6. _____
 - A) 720
 - B) 360
 - C) 240
 - D) 180

7. 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? 7. _____
 - A) P0300 DTC (random misfire)
 - B) P0017 DTC (crankshaft position–camshaft position correlation error)
 - C) Either a or b
 - D) Both a and b

8. To diagnose a VVT system, a _____ is needed. 8. _____
- A) scan tool
 - B) test light
 - C) vacuum pump
 - D) fused jumper wire
9. Hybrid electric vehicles _____. 9. _____
- A) usually do not use a conventional starter motor
 - B) may use an offset engine crankshaft to reduce internal friction
 - C) Both a and b
 - D) Neither a nor b
10. During one stroke in a four-cycle engine, the crankshaft revolves how many degrees? 10. _____
- A) 180
 - B) 360
 - C) 240
 - D) 720

Answer Key

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3. A
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