

## *Automotive Engines 10th*

### **Quiz 28A**

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

1. On an engine with variable cam timing, the cam timing can be changed by use of a \_\_\_\_\_. 1. \_\_\_\_\_
  - A) spline cam phaser
  - B) vane cam phaser
  - C) Either of these
  - D) Neither of these
  
2. How is the camshaft actuator controlled? 2. \_\_\_\_\_
  - A) Only when conditions are right
  - B) Pulse-width-modulated (PWM) signal
  - C) Spring-loaded to the correct position based on engine speed
  - D) Vacuum-controlled valve
  
3. A cylinder deactivation system uses \_\_\_\_\_ to operate the system. 3. \_\_\_\_\_
  - A) magnetic induction
  - B) oil pressure
  - C) roller pumps
  - D) None of these
  
4. How quickly can the rocker arms be switched from the low-speed camshaft profile to the high-speed camshaft profile on a honda equipped with a variable valve timing and lift electronic control (VTEC) system? 4. \_\_\_\_\_
  - A) 50 milliseconds
  - B) 100 milliseconds
  - C) 250 milliseconds
  - D) 500 milliseconds
  
5. What is the commanded pulse width of the camshaft phaser that results in the desired position? 5. \_\_\_\_\_
  - A) 0%
  - B) 25%
  - C) 50%
  - D) 100%
  
6. To increase engine performance, which camshaft is varied? 6. \_\_\_\_\_
  - A) Exhaust camshaft only
  - B) Intake cam only
  - C) Both the intake and exhaust camshaft
  - D) The exhaust camshaft is advanced and the intake camshaft is advanced
  
7. To reduce oxides of nitrogen (NOx) exhaust emissions, which camshaft is varied? 7. \_\_\_\_\_
  - A) Exhaust camshaft only
  - B) Intake cam only
  - C) Both the intake and exhaust camshaft
  - D) The exhaust camshaft is advanced and the intake camshaft is advanced

8. If the engine oil is not changed regularly, what is the most likely fault that can occur to an engine equipped with variable valve timing (VVT)? 8. \_\_\_\_\_
- A) Low oil pressure diagnostic trouble code (DTC)
  - B) A no-start condition because the camshaft cannot rotate
  - C) The filter screens on the actuator control valve become clogged
  - D) Any of the above
9. Two technicians are discussing variable valve timing. Technician A says that changing the exhaust valve timing helps reduce exhaust emissions. Technician B says that changing the intake valve timing helps increase low-speed torque. Which technician 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 PCM controls cam timing by use of \_\_\_\_\_. 10. \_\_\_\_\_
- A) A variable spring
  - B) A pulse width modulated (PWM) signal
  - C) A reductor regulator
  - D) A variable chain tensioner

## Answer Key

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