

## *Automotive Engines 10th*

### **Quiz 28B**

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

1. What sensors are used by the PCM to determine the best position of the camshafts for maximum power and lowest possible exhaust emissions? 1. \_\_\_\_\_
  - A) Engine speed (RPM)
  - B) Crankshaft position (CKP) sensor
  - C) Camshaft position (CMP) sensor
  - D) All of the above
  
2. Which diagnostic trouble code (DTC) may be set if there is a problem with the bank 1 intake cam position? 2. \_\_\_\_\_
  - A) P0300
  - B) P0420
  - C) P0011 or P0012
  - D) P0021 or P0022
  
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 is the camshaft actuator controlled? 4. \_\_\_\_\_
  - 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
  
5. To reduce oxides of nitrogen (NO<sub>x</sub>) exhaust emissions, which camshaft is varied? 5. \_\_\_\_\_
  - 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
  
6. Which of these would the driver notice if there is a problem with the VVT system? 6. \_\_\_\_\_
  - A) Transmission won't shift
  - B) Poor engine performance
  - C) MIL is lit
  - D) Gas odors
  
7. A vane phaser uses \_\_\_\_\_ to return it to the home position. 7. \_\_\_\_\_
  - A) a helix
  - B) an electric coil
  - C) oil pressure
  - D) a spring

8. Which one of these conditions will disable the variable displacement system? 8. \_\_\_\_\_
- A) system voltage at 14 volts
  - B) engine speed 2500 rpm
  - C) low manifold vacuum
  - D) oil temperature at 180° F
9. When a variable displacement engine disable cylinders the \_\_\_\_\_ are also disabled. 9. \_\_\_\_\_
- A) spark plugs
  - B) fuel injectors
  - C) intake valves
  - D) throttle plates
10. On a vehicle with cylinder deactivation, the valves are kept closed by deactivating the \_\_\_\_\_. 10. \_\_\_\_\_
- A) valve lifter
  - B) cam lobe
  - C) valve stem
  - D) valve spring

## Answer Key

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1. D  
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2. C  
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3. B  
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4. B  
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5. A  
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6. A  
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7. D  
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