

Name \_\_\_\_\_

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

- 1) When the exhaust is lean, the PCM applies a \_\_\_\_\_ current into the pump cell. 1) \_\_\_\_\_  
A) Positive  
B) Negative  
C) Neutral  
D) None of these
  
- 2) The heater circuit in a wide band oxygen sensor heats the sensor to about \_\_\_\_\_. 2) \_\_\_\_\_  
A) 1200 to 1400 deg F  
B) 500 deg F  
C) 500 to 600 deg F  
D) 315 deg C
  
- 3) If voltage from the heater circuit bleeds into the Nernst cell the MIL might not come on. 3) \_\_\_\_\_  
A) True  
B) False
  
- 4) A dual cell wide band oxygen sensor can be tested using a(an) \_\_\_\_\_. 4) \_\_\_\_\_  
A) Scan tool  
B) Voltmeter  
C) Oscilloscope  
D) All of the above
  
- 5) One advantage of a planar-type oxygen sensor is \_\_\_\_\_. 5) \_\_\_\_\_  
A) Faster light off time  
B) It uses only one electrode  
C) Takes more than two minutes to light off  
D) It can be color coded for different vehicles
  
- 6) A wide band oxygen sensor is capable of detecting the air-fuel mixture in the exhaust from \_\_\_\_\_ (rich) to \_\_\_\_\_ (lean). 6) \_\_\_\_\_  
A) 12:1, 15:1  
B) 13:1, 16.7:1  
C) 10:1, 23:1  
D) 8:1, 18:1
  
- 7) When the air-fuel ration is expressed in lambda a lambda number of 1 means \_\_\_\_\_. 7) \_\_\_\_\_  
A) A rich mixture  
B) A lean mixture  
C) A 1 volt reference  
D) A 14.7 to 1 air-fuel ratio

- 8) A wide band oxygen sensor was first used on a Honda in what model year? 8) \_\_\_\_\_
- A) 1992
  - B) 1996
  - C) 2000
  - D) 2006
- 9) A conventional zirconia oxygen sensor can be made with what designs? 9) \_\_\_\_\_
- A) Cup and thimble
  - B) Cup and planar
  - C) Finger and thimble
  - D) Dual cell and single cell
- 10) Technician A says that a wide-band oxygen sensor, also called a lean air-fuel (LAF) sensor, can detect air-fuel ratios from as rich as 10:1 to as lean as 23:1. Technician B says that a conventional oxygen sensor cannot detect the exact air-fuel mixture. Which technician is correct? 10) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician

## Answer Key

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- 1) A  
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- 2) A  
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- 3) A  
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- 4) D  
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- 5) A  
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- 6) C  
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- 7) D  
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- 8) A  
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- 9) B  
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- 10) C  
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