

Name \_\_\_\_\_

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

- 1) A low  $O_2S$  voltage could be due to a \_\_\_\_\_. 1) \_\_\_\_\_  
A) rich exhaust  
B) lean exhaust  
C) defective spark plug wire  
D) Both B and C
- 2) A wide band oxygen sensor needs to be heated to what operating temperature? 2) \_\_\_\_\_  
A) 600°F (315°C)  
B) 800°F (427°C)  
C) 1,400°F (760°C)  
D) 2,000°F (1,093°C)
- 3) What does the post, or downstream, oxygen sensor ( $HO_2S$ ) measure? 3) \_\_\_\_\_  
A) Amount of  $H_2O$  behind the catalytic converter  
B) Amount of oxygen behind the catalytic converter  
C) Amount of  $H_2O$  in front of the catalytic converter  
D) Amount of oxygen in front of the catalytic converter
- 4) A wide band oxygen sensor heater can draw how much current (amperes)? 4) \_\_\_\_\_  
A) 0.8 to 2.0 A  
B) 2 to 4 A  
C) 6 to 8 A  
D) 8 to 10 A
- 5) On a poorly running engine the wide band oxygen sensor can be quickly checked by \_\_\_\_\_. 5) \_\_\_\_\_  
A) Jumping the connector with a flashlight battery  
B) Jumping the connector with a jumper wire  
C) Disconnecting the sensor connector  
D) Disconnecting the vehicle battery
- 6) The voltage output of a zirconia oxygen sensor when the exhaust stream is lean (excess oxygen) is \_\_\_\_\_. 6) \_\_\_\_\_  
A) Relatively high (close to 1 volt)  
B) About in the middle of the voltage range  
C) Relatively low (close to 0 volt)  
D) Either A or B, depending on atmospheric pressure
- 7) Most service information specifies that a(n) \_\_\_\_\_ be used when testing a wide band oxygen sensor. 7) \_\_\_\_\_  
A) Generic scan tool  
B) Factory scan tool  
C)  $HO_2S$  disconnect bypass tool  
D) Vacuum hose

- 8) In some hybrid electric vehicles, the wide band oxygen sensor can cause the PCM to enter closed loop \_\_\_\_\_. 8) \_\_\_\_\_
- A) As soon as the engine (ICE) starts
  - B) Within 10 seconds of engine (ICE) start-up
  - C) By the time the vehicle reaches 60 mph
  - D) Within 2 minutes
- 9) Technician A says that an oxygen sensor produces a voltage output signal based on the oxygen content of the exhaust stream. Technician B says that if the exhaust has little oxygen the voltage of the oxygen sensor will be close to 0 volts. Which technician is correct? 9) \_\_\_\_\_
- A) Technician A only
  - B) Technician B only
  - C) Both technicians
  - D) Neither technician
- 10) The two internal chambers of a dual cell wide band oxygen sensor include \_\_\_\_\_ and \_\_\_\_\_. 10) \_\_\_\_\_
- A) Single; dual
  - B) Nernst; Pump
  - C) Air reference; diffusion
  - D) Inside; outside

## Answer Key

Testname: AEEP8\_35B

1) D

Page Ref: 479-480

2) C

Page Ref: 480

3) B

Page Ref: 486

4) D

Page Ref: 480

5) C

Page Ref: 493

6) C

Page Ref: 478

7) B

Page Ref: 491

8) A

Page Ref: 488

9) A

Page Ref: 478

10) C

Page Ref: 489