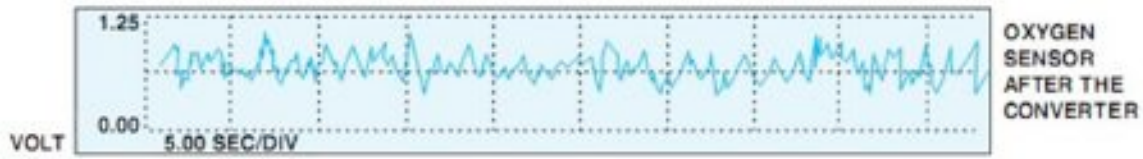


Name _____

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

- 1) A P0131 DTC is being discussed. Technician A says that an exhaust leak upstream of HO2S (bank 1) oxygen sensor could be the cause. Technician B says that an extremely rich air-fuel mixture could be the cause. Who is right? 1) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 2) On a poorly running engine, the wide band oxygen sensor can be quickly checked by _____. 2) _____
- 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
- 3) When the air/ fuel ratio is expressed as lambda, a lambda number of less than 1 indicates a(n) _____ exhaust. 3) _____
- A) rich
 - B) lean
 - C) excessively cold
 - D) excessively hot
- 4) A P0133 DTC is being discussed. Technician A says that a defective heater circuit could be the cause. Technician B says that a contaminated sensor could be the cause. Which technician is correct? 4) _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians
 - D) Neither technician
- 5) Where is sensor 1, bank 1 located on a V-type engine? 5) _____
- A) On the same bank where number 1 cylinder is located
 - B) Before the catalytic converter
 - C) On the bank opposite cylinder number 1
 - D) Both A and B

- 6) With the vehicle in closed loop, the following post converter HO2S scope pattern activity is seen. 6) _____
What does this indicate?



- A) A good converter
B) A bad converter
C) A lazy converter
D) None of these
- 7) When testing an oxygen sensor using a digital storage oscilloscope (DSO), how quickly should the voltage change when either propane is added to the intake stream or when a vacuum leak is created? 7) _____
A) 1-3 seconds
B) Less than 100 ms
C) 100-200 ms
D) 450-550 ms
- 8) A high O2S voltage could be due to a _____. 8) _____
A) rich exhaust
B) lean exhaust
C) defective spark plug wire
D) both A and C
- 9) An oxygen sensor is being tested using a digital storage oscilloscope (DSO). A good oxygen sensor should display how many switches per second? 9) _____
A) 1-5
B) 5-10
C) 10-15
D) 15-20
- 10) In some hybrid electric vehicles, the wide band oxygen sensor can cause the PCM to enter closed loop _____. 10) _____
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