Automotive Engine Performance, 5th Edition
Quiz 23A

Name_____

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

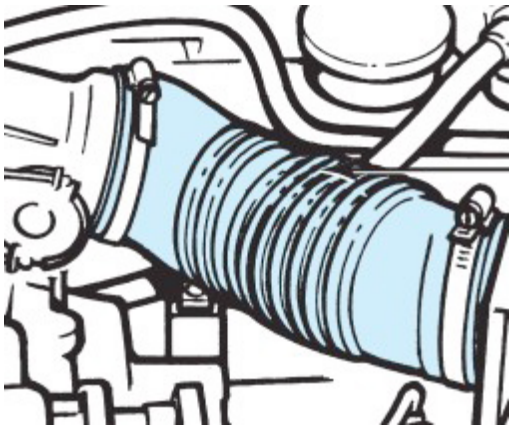
1) Which of these can be used to measure the frequency (Hz) output of the sensor and compare the reading with specifications? 1) _____
   A) DMM (digital multimeter)
   B) Megohmmeter
   C) Logic Probe
   D) High impedance test light

2) MAF sensor electrical connectors should be checked for all of these, EXCEPT _____. 2) _____
   A) Corrosion
   B) Terminals bent or pushed out of the plastic connector
   C) Frayed wiring
   D) Connector color

3) Technician A says that a MAF sensor actually measures the density and amount of air flowing into the engine, which results in accurate engine control. Technician B says that a hot wire MAF sensor uses the electronics in the sensor itself to heat a wire 70°C above the temperature of the air entering the engine. Which technician is correct? 3) _____
   A) Technician A only
   B) Technician B only
   C) Both technicians
   D) Neither technician

4) A P0103 DTC is being discussed. Technician A says that a sensor circuit shorted-to-ground can be the cause. Technician B says that a defective MAF 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) The component shown (shaded) has a crack or split in it. What would this cause? 5) _____



A) Poor running in a forward gear but OK in reverse
B) Allow false air into the engine
C) Either A or B
D) Neither A nor B

6) A P0100 DTC is being discussed. Technician A says that an open or short in mass air flow circuit could be the cause. Technician B says that a defective MAF sensor could be the cause. Which technician is correct? 6) _____

A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician

7) Technician A says that a MAF sensor is a high–authority sensor and is responsible for determining the fuel needs of the engine based on the measured amount of air entering the engine. Technician B says that a cold wire MAF sensor uses the electronics in the sensor itself to heat a wire 20°C below the temperature of the air entering the engine. Which technician is correct? 7) _____

A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician

8) Two technicians are discussing Karman Vortex sensors. Technician A says that they contain a burn–off circuit to keep them clean. Technician B says that they contain a movable vane. Which technician is correct? 8) _____

A) Technician A only
B) Technician B only
C) Both technicians
D) Neither technician

9) If the frequency output of a MAF is plotted on a graph along with engine RPM the resulting lines should be _____. 9) _____

A) A straight line
B) A parabola
C) A sharp curve
D) In opposite directions

10) A MAF sensor on a General Motors 3800 V–6 is being tested for contamination. Technician A says that the sensor should show over 100 grams per second on a scan tool display when the accelerator is depressed to WOT (wide open throttle) on a running engine. Technician B says that the output frequency should exceed 7000 Hz when the accelerator pedal is depressed to WOT on a running engine. 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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3) C
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4) B
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5) C
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