Automotive Technology 7th Edition
Chapter 79
Multiple Choice Quiz B

Name: _____ Date: _____

1. Technician A says that NOx formation occurs in the combustion chamber. Technician B says that the catalytic converter reduces NOx emissions.
A. Technician A only
B. Technician B only
C. Both Technicians A and B
D. Neither Technician A nor B

2. A clogged EGR passage could cause excessive _____ exhaust emissions.
A. HC
B. CO
C. NOX
D. CO2

3. A vehicle could fail a state emission inspection for which of these reasons?
A. MIL is on
B. MIL does not come on with key on, engine off
C. Readiness monitors not run
D. Any of these

4. What are the five exhaust gases measured during emission testing for a fuel-injected vehicle with a catalytic converter?
A. CO, CO2, HC, NOX, O2
B. CO, CO2, HC, NOX, H2O
C. CO, CO2, HC, NOX, N2
D. CO, CO2, HC, NOX, CH4

5. How is water formed during the combustion process?
A. By the oxidation of hydrocarbons
B. By the reduction of oxygen
C. By the condensation of exhaust gases
D. By the reaction of CO2 with NOX

6. What does the stoichiometric ratio mean?
A. The ratio of fuel to air that results in the richest mixture
B. The ratio of fuel to air that results in the leanest mixture
C. The ideal ratio of fuel to air for complete combustion
D. The ratio of fuel to air that produces the most power

7. How are oxides of nitrogen (NOX) formed in the combustion process?
A. By the reaction of nitrogen with hydrocarbons
B. By the reaction of nitrogen with oxygen at high temperatures
C. By the reaction of nitrogen with carbon monoxide
D. By the reaction of nitrogen with water vapor

8. What is the most common cause of excessive hydrocarbon (HC) emissions?
A. Fault in the ignition system
B. Richer than normal air-fuel mixture
C. Defective catalytic converter
D. Clogged EGR passage

9. Which of the following could cause a rich mixture indicated by high HC and CO and low CO2 and O2 emissions?
A. Lean mixture
B. Defective ignition component
C. Clogged EGR passage
D. Too-high fuel pressure

10. What does a low level of carbon dioxide (CO2) in the exhaust typically indicate?
A. Efficiently operating engine
B. Rich air-fuel mixture
C. Lean air-fuel mixture
D. Properly functioning oxygen sensor

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Answer Key

1. C

2. C

3. D

4. A

5. A

6. C

7. B

8. A

9. D

10. C