Automotive Electrical and Engine Performance 9th Edition
Chapter 38 – Fuel-Injection System Diagnosis and Service
Multiple Choice Questions Quiz B

1. What is the primary purpose of a fuel injector in a modern internal combustion engine?

a. Deliver air directly into the combustion chamber

b. Reduce emissions by adjusting throttle position

c. Atomize fuel for efficient combustion

d. Control engine timing

2. Which type of injector is commonly used in throttle body injection (TBI) systems?

a. Saturated switch-type injector

b. Pulse-width modulated injector

c. Peak-and-hold injector

d. Solenoid injector

3. What is a noid light used for in fuel injector diagnostics?

a. Testing injector resistance

b. Checking the presence of an injector pulse

c. Monitoring the fuel trim

d. Measuring the fuel pressure in the rail

4. Which type of injector driver provides a constant low current until the injector is fully activated?

a. Peak-and-hold

b. Saturated switch

c. Pulse-width modulated

d. Double firing

5. Why is it important to measure the resistance of all injectors during diagnostics?

a. To ensure consistent electrical flow and even fuel delivery

b. To identify clogged fuel rails

c. To detect variances in fuel pressure regulators

d. To align the injectors with the ECU

6. What feature differentiates a "peak-and-hold" injector from a "saturated" injector?

a. Peak-and-hold injectors use high current to open and low current to hold.

b. Saturated injectors require a separate fuel pressure regulator.

c. Peak-and-hold injectors are used exclusively in GDI systems.

d. Saturated injectors have a lower resistance than peak-and-hold injectors.

7. During a pressure-drop balance test, what does an uneven drop in pressure across injectors indicate?

a. Faulty wiring in the injector circuit

b. An internal leak in the fuel rail

c. A restricted or malfunctioning injector

d. A defective fuel pump relay

8. What component provides the ground signal to pulse the injector?

a. Crankshaft position sensor

b. Engine control module (ECM)

c. Throttle position sensor

d. Battery ground terminal

9. What is the standard resistance range for a saturated-type fuel injector?

a. 1.5 to 4 ohms

b. 4 to 8 ohms

c. 12 to 16 ohms

d. 18 to 20 ohms

10. What tool is recommended to measure the voltage drop across a fuel injector during operation?

a. Fuel pressure gauge

b. Digital multimeter

c. Noid light

d. Current probe

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Answer Key Quiz B

Correct Answers:

1. c
2. c
3. b
4. b
5. a
6. a
7. c
8. b
9. c
10. b