

Automotive Electrical and Engine Performance 9th Edition
Chapter 44 – On-Board Diagnosis
Multiple Choice Questions Quiz A

1. Which onboard diagnostic (OBD-II) monitor is responsible for evaluating the effectiveness of the catalytic converter in controlling emissions?
 - a) Misfire monitor
 - b) Fuel system monitor
 - c) Catalyst monitor
 - d) Oxygen sensor monitor

2. Technician A states that OBD-II systems can detect faults in both emission-related and non-emission-related components. Technician B says OBD-II systems only monitor fuel injection systems. Who is correct?
 - a) Technician A only
 - b) Technician B only
 - c) Both Technicians A and B
 - d) Neither Technician A nor B

3. What is the purpose of the comprehensive component monitor (CCM) in OBD-II?
 - a) To continuously monitor misfires
 - b) To ensure correct functioning of sensors and actuators
 - c) To track vehicle speed
 - d) To assess exhaust temperature

4. In the OBD-II DTC format, what does a "P" at the beginning of a code, such as "P0300," indicate?
 - a) Powertrain-related issue
 - b) Body-related issue
 - c) Chassis-related issue
 - d) Network communication issue

5. Which component uses the exponentially weighted moving average (EWMA) method to analyze and smooth performance data over time?

- a) EGR monitor
- b) Fuel trim monitor
- c) Catalyst monitor
- d) Thermostat monitor

6. What condition must be met to trigger the OBD-II oxygen sensor monitor?

- a) The engine must be in closed-loop operation
- b) The coolant temperature must exceed 250°F
- c) The vehicle speed must be zero
- d) The engine must be at wide-open throttle

7. A type B diagnostic trouble code (DTC) will set the malfunction indicator lamp (MIL) after:

- a) One trip
- b) Two consecutive trips
- c) Three ignition cycles
- d) Forty warm-up cycles

8. The role of the task manager in an OBD-II system is to:

- a) Enable or suspend monitors based on specific criteria
- b) Calculate engine load
- c) Control idle speed
- d) Perform repairs on detected faults

9. What information is included in the freeze-frame data when a DTC is set?

- a) Fault history for all monitors
- b) Snapshots of parameters like RPM, coolant temperature, and throttle position
- c) Only the fuel trim settings
- d) Speed and misfire counts for the last cycle

10. Which type of code in an OBD-II system typically indicates a non-emission-related fault?

a) Type A

b) Type B

c) Type C

d) Type D

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Answer Key Quiz A

Correct Answers:

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