

**Automotive Electrical and Engine Performance 8th Edition**  
**Chapter 6 – Scan Tools and Scan Tool Diagnosis**  
**Quiz B**

1. What does a flashing Malfunction Indicator Lamp (MIL) signify?
  - a. The engine has stalled
  - b. A catalytic converter-damaging fault has occurred
  - c. The vehicle needs a scheduled service
  - d. A fault has been temporarily resolved
  
2. What is the function of pins #6 and #14 in a 16-pin data link connector (DLC)?
  - a. Chassis ground
  - b. SAE J1850 communication terminals
  - c. CAN C high-speed terminals
  - d. Battery and signal grounds
  
3. What type of scan tool is required to access bidirectional control features?
  - a. Code reader
  - b. Smartphone scan tool
  - c. Aftermarket scan tool
  - d. Factory scan tool
  
4. What is the primary purpose of freeze-frame data in OBD-II systems?
  - a. To clear permanent DTCs automatically
  - b. To capture data when a fault is detected
  - c. To display the vehicle's fuel trim values in real time
  - d. To simulate various engine operating conditions

5. What should a technician do first before clearing diagnostic trouble codes (DTCs)?
- Record the codes and investigate their causes
  - Perform an all-module scan
  - Disconnect the battery for 10 minutes
  - Replace the vehicle's PCM
6. What makes permanent codes different from other DTCs?
- They are stored in non-volatile memory and cannot be erased manually
  - They are related only to emissions faults
  - They reset after two consecutive drive cycles
  - They are automatically cleared after a battery disconnect
7. Which type of testing allows a technician to activate vehicle components?
- Sensor-only diagnostics
  - Bidirectional control testing
  - Graphing mode testing
  - Passive fault monitoring
8. Why are pre- and post-scans necessary in a repair process?
- To estimate repair costs and confirm all repairs are complete
  - To diagnose engine performance issues exclusively
  - To adjust readiness monitors for emissions testing
  - To reset the MIL after repair completion
9. What should the MAP sensor reading be with the key on and engine off (KOEO)?
- Equal to BARO (barometric pressure)
  - Higher than BARO
  - Lower than BARO
  - Twice as much as BARO

10. What type of tool is commonly used for accessing manufacturer-specific diagnostic data?

- a. Basic code reader
- b. Smartphone scan tool with a free app
- c. OEM factory scan tool
- d. Standalone OBD-II reader

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**Correct Answers:**

1. b

2. c

3. b

4. c

5. a

6. a

7. d

8. d

9. a

10. c