

**Automotive Electrical and Engine Performance 9th Edition**

**Chapter 24 – Scan Tools**

**Multiple Choice Questions Quiz B**

1. What is the primary purpose of the Malfunction Indicator Lamp (MIL)?
  - a. To alert the driver to an emission-related fault
  - b. To monitor fuel efficiency in real-time
  - c. To display pending updates in vehicle software
  - d. To indicate low oil pressure
  
2. What does a flashing MIL typically indicate?
  - a. Low fuel levels in the tank
  - b. An engine misfire causing potential catalytic converter damage
  - c. A system reboot in progress
  - d. An issue requiring an oil change
  
3. Which pin on the Data Link Connector (DLC) is used for a 12-volt power supply?
  - a. Pin 4
  - b. Pin 5
  - c. Pin 14
  - d. Pin 16
  
4. What is the key difference between generic scan tools and OEM scan tools?
  - a. OEM scan tools provide access to all factory parameters and bi-directional testing.
  - b. Generic scan tools can perform reprogramming tasks.
  - c. OEM scan tools are only compatible with vehicles manufactured before 1996.
  - d. Generic scan tools can clear permanent DTCs, unlike OEM tools.

5. What data is captured in freeze-frame memory during a DTC event?
- a. Historical mileage of the vehicle
  - b. Specific operational conditions at the moment the DTC is set
  - c. A list of all previous DTCs cleared by the system
  - d. Battery voltage readings over the last 24 hours
6. What is the purpose of bi-directional testing in diagnostic tools?
- a. To activate and control vehicle components for testing purposes
  - b. To reprogram engine control software
  - c. To monitor the vehicle's real-time GPS location
  - d. To clear and reset permanent codes
7. What is the function of a breakout box in diagnostics?
- a. To measure the engine's fuel efficiency
  - b. To provide easy access to DLC terminals for monitoring and testing
  - c. To replace the scan tool's battery during extended diagnostics
  - d. To simulate sensor data for calibration
8. How are permanent DTCs cleared from a vehicle's system?
- a. Through manual reset using a scan tool
  - b. By disconnecting the battery for 10 minutes
  - c. Automatically after the fault condition has been resolved and self-tests are completed
  - d. By overriding the system using OEM software

9. Why are pre- and post-scans essential in modern vehicle diagnostics?

- a. To ensure software updates are applied accurately
- b. To compare system performance before and after repairs
- c. To monitor tire pressure before and after service
- d. To generate billing records for insurance claims

10. What is the typical location of the DLC in most vehicles?

- a. Under the center console
- b. Behind the glove compartment
- c. Underneath the driver's side dashboard
- d. Inside the engine bay

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**Answer Key Quiz B**

**Correct Answers:**

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