

**Automotive Electrical and Engine Performance 9th Edition**  
**Chapter 11 – CAN and Network Communications**  
**Multiple Choice Questions Quiz A**

1. What is the primary advantage of multiplexing in vehicle communication networks
  - a) Reduction of redundant sensors and wiring
  - b) Faster data transmission rates
  - c) Decreased electrical interference
  - d) Increased module size for durability
  
2. In a twisted-pair configuration, what is the purpose of twisting the wires?
  - a) To lower the cost of wiring
  - b) To decrease electromagnetic interference (EMI)
  - c) To enhance signal speed
  - d) To prevent short circuits in the CAN bus
  
3. Technician A says that a ring-type network has all modules connected in a continuous loop. Technician B says that in a star link network, modules are connected directly to each other. Who is correct?
  - a) Technician A only
  - b) Technician B only
  - c) Both Technician A and Technician B
  - d) Neither Technician A nor B
  
4. Which protocol is identified as General Motors' implementation of the CAN network?
  - a) CCD
  - b) SWCAN
  - c) GMLAN
  - d) LIN

5. What is the function of the terminating resistors in a high-speed CAN network?
- a) Prevent data loss during high-speed transmission
  - b) Reduce interference and stabilize the network
  - c) Increase data transfer rates in complex networks
  - d) Protect modules from voltage spikes
6. In Ford vehicles, which protocol is commonly used in conjunction with CAN for certain modules?
- a) UART-based protocol (UBP)
  - b) Class 2 communications
  - c) SWCAN
  - d) Ethernet
7. For Chrysler vehicles, what is the typical voltage range used in the PCI (Programmable Controller Interface) protocol?
- a) 12 volts constant
  - b) 7.5 volts to 0 volts
  - c) 5 volts peak
  - d) 10 volts on/off pulsing
8. What diagnostic tool is used to access BUS signals while connecting to the vehicle's data link connector (DLC)?
- a) Digital multimeter
  - b) Oscilloscope
  - c) Breakout box (BOB)
  - d) Test light

9. Which CAN protocol is mandatory for scan tool communication in all vehicles sold in the U.S. after 2008?

- a) Class B CAN
- b) FlexRay CAN
- c) High-speed CAN
- d) MOST CAN

10. When diagnosing network communication issues, a constant high voltage on a data line usually indicates:

- a) A short to voltage
- b) Normal operation of the BUS
- c) A short to ground
- d) An open circuit

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**Answer Key Quiz A**

**Correct Answers:**

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