Automotive Electrical and Engine Performance 9th Edition
Chapter 7 – Automotive Wiring and Wire Repair
Multiple Choice Questions Quiz A

1. What is the purpose of using braided ground straps in vehicles?

a) To prevent static electricity buildup

b) To reduce the risk of overheating due to poor insulation

c) To allow flexibility with engine movement and reduce radio-frequency interference

d) To simplify the connection between battery and body ground points

2. According to the American Wire Gauge (AWG) system, what happens as the gauge number increases?

a) The wire diameter increases

b) The wire diameter decreases

c) The current capacity increases

d) The insulation thickness decreases

3. In automotive wiring, why is it critical to use rosin-core solder rather than acid-core solder?

a) Rosin-core solder has a higher melting point suitable for automotive environments

b) Acid-core solder is corrosive and can damage wiring over time

c) Rosin-core solder provides additional insulation for automotive circuits

d) Acid-core solder is more conductive and not ideal for vehicles

4. What is the standard recommendation for fuse rating relative to the normal current in a circuit?

a) 10% higher than the normal current

b) 20% higher than the normal current

c) Equal to the normal current

d) 10% lower than the normal current

5. Technician A says that a fusible link should always be located near the battery to protect critical circuits. Technician B says fusible links should only be used in low-current circuits. Who is correct?

a) Technician A only

b) Technician B only

c) Both Technician A and Technician B

d) Neither Technician A nor Technician B

6. Which type of electrical conduit is used to cover wiring that carries high-voltage currents above 60 volts in hybrid-electric vehicles?

a) Black conduit with a blue stripe

b) Orange conduit

c) Blue conduit

d) Yellow conduit

7. When testing a fuse with a test light, a light on one side of the fuse only indicates:

a) A functioning fuse

b) A blown fuse

c) An overload in the circuit

d) A normal voltage drop across the fuse

8. What should be done if a mega fuse fails in a vehicle's high-current circuit?

a) Replace the fuse with one of the same rating immediately

b) Identify and correct the cause of excessive current flow before replacing

c) Increase the fuse rating to prevent further failure

d) Install a circuit breaker as a replacement

9. In the context of wire repair, why are crimp-and-seal connectors particularly recommended by some manufacturers?

a) They are more cost-effective than soldering

b) They combine crimping with a built-in adhesive-lined heat shrink for a sealed connection

c) They can handle higher current levels without risk

d) They do not require any specialized tools

10. What is indicated by a test light that does not illuminate on either side of a fuse?

a) The fuse has blown

b) The fuse holder is defective

c) The circuit is not receiving power

d) The fuse is functioning properly

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Answer Key Quiz A

Correct Answers:

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