Automotive Electrical and Engine Performance 9th Edition
Chapter 4 – Circuit Testers and Digital Meters
Quiz B

1. Which function does a digital multimeter (DMM) perform?

a. Voltage, resistance, and continuity testing

b. Current flow analysis only

c. Advanced ECU programming

d. Signal frequency modulation

2. What does a reading of 0.93 on a digital meter set to the kilohm scale represent?

a. 930 ohms

b. 93 ohms

c. 930,000 ohms

d. 9.3 ohms

3. Why should high-impedance meters be used when measuring voltage in computer circuits?

a. To protect sensitive circuits from excessive current draw

b. To provide precise measurement without calibration

c. To allow continuous operation without interference

d. To handle alternating current flows

4. What type of light is used in high-impedance test lights?

a. Tungsten filament lightbulbs

b. Incandescent lightbulbs

c. LED bulbs

d. Plasma-based indicators

5. When using a fused jumper wire, what should be avoided to prevent damage?

a. Connecting it to the battery terminals

b. Bypassing a resistance in the circuit

c. Using alligator clips instead of test leads

d. Measuring voltage without setting the correct meter range

6. What does OL indicate on a digital multimeter when measuring resistance?

a. Zero resistance

b. Open circuit or infinity resistance

c. Resistance under calibration

d. Voltage drop detected

7. How is current measured using a digital multimeter?

a. Connecting the meter in parallel with the circuit

b. Clamping the meter leads over the wire

c. Placing the meter in series within the circuit

d. Using pulse-width modulation settings

8. What is the significance of the duty cycle measurement on a digital meter?

a. Indicates the efficiency of the charging system

b. Measures the percentage of time a signal is active

c. Determines voltage accuracy during calibration

d. Checks alternator rectification patterns

9. What is a primary advantage of an inductive ammeter?

a. Measures current without disconnecting the circuit

b. Provides higher accuracy for voltage readings

c. Detects resistance in open circuits

d. Simplifies diode testing procedures

10. When measuring voltage with a digital multimeter, why is autoranging recommended?

a. It automatically resets internal fuses

b. It displays values in multiple units for accuracy

c. It simplifies selecting the appropriate scale

d. It enhances resolution during variable measurements

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Correct Answers:

1. a

2. c

3. a

4. c

5. b

6. b

7. c

8. b

9. a

10. c