

Automotive Technology 7th Edition
Chapter 39: Circuit Testers and Digital Meters
Short Answer Quiz

Name:

Date:

1. Why are high-impedance meters recommended for measuring voltage on computer-controlled circuits?
2. Explain how an ammeter is connected to an electrical circuit and why it's connected in that manner.
3. Why is it crucial to ensure that the circuit is electrically open with no current flowing when using an ohmmeter?
4. Describe the process of testing a diode using a digital multimeter. What readings would you expect for a functioning silicon diode and a light-emitting diode (LED)?
5. Define the term "duty cycle" and explain its significance in automotive applications. What does a 50% duty cycle indicate?

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6. What is frequency, and in which automotive components or scenarios might you need to measure it?

7. Explain the difference between the prefixes "kilo" and "mega" in the context of electrical measurements. Provide an example of converting ohms to kilohms and megohms.

8. What does the term "resolution" mean in the context of a digital multimeter? How do digits and counts relate to a meter's resolution?

9. Differentiate between RMS and average-responding meters when measuring alternating-current voltage waveforms. Why might one be preferred over the other in certain scenarios?

10. Describe the challenges technicians might face when interpreting readings from an autoranging meter. Provide an example involving voltage drop measurements.