

Automotive Technology 7<sup>th</sup> 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?

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2. Explain how an ammeter is connected to an electrical circuit and why it's connected in that manner.

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3. Why is it crucial to ensure that the circuit is electrically open with no current flowing when using an ohmmeter?

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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)?

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5. Define the term "duty cycle" and explain its significance in automotive applications. What does a 50% duty cycle indicate?

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

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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.

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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?

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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?

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

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