

Automotive Electrical and Engine Performance 9th Edition
Chapter 16 – Charging System Diagnosis and Service
Multiple Choice Questions Quiz A

1. Which tool setting is necessary for checking the charging voltage directly at the battery terminals?

- a) AC volts
- b) DC volts
- c) AC amps
- d) DC amps

2. In a charging system, what voltage reading would indicate a problem with the rectifier diodes when testing for AC ripple voltage?

- a) Above 0.5 volts AC
- b) Less than 0.2 volts AC
- c) Between 0.1 and 0.3 volts AC
- d) A stable 1 volt AC

3. When performing a voltage drop test on the charging ground circuit, which reading would be acceptable?

- a) Less than 0.4 volts
- b) Exactly 1 volt
- c) Less than 0.2 volts
- d) 0.6 volts or higher

4. What is a primary purpose of the AC ripple current test on an alternator?

- a) To verify battery capacity
- b) To measure alternator efficiency directly
- c) To detect faulty diodes or stator windings
- d) To test for correct voltage regulation

5. How should a technician determine the minimum required output of an alternator?
- a) Check that output is 5 amps greater than the accessory load
 - b) Confirm that output is above 100 amps
 - c) Ensure the output meets the voltage of 12.6 volts
 - d) Verify output current is below 3% of rated value
6. When inspecting a worn drive belt, which tool can provide a direct measurement of belt wear?
- a) A standard torque wrench
 - b) A belt tension gauge
 - c) A vacuum gauge
 - d) An ohmmeter
7. Which of the following steps should be performed first when removing an alternator?
- a) Remove the drive belt
 - b) Disconnect the positive battery cable
 - c) Disconnect the negative battery cable
 - d) Verify the alternator's rated output
8. A technician performs a charging system voltage drop test and finds that the voltage drop exceeds 0.4 volts. What does this indicate?
- a) The alternator is working correctly
 - b) High resistance exists within the wiring or connections
 - c) The battery is weak or damaged
 - d) The alternator ground is faulty
9. During an alternator output test, what precaution should be taken regarding the voltage?
- a) The voltage should remain below 11 volts
 - b) Voltage should stay above 12.6 volts
 - c) The alternator output should be disconnected during testing
 - d) Battery voltage should be tested first

10. What is an initial step in verifying a replacement alternator's compatibility before installation?

a) Check the alternator's pulley type

b) Confirm the alternator's amperage rating matches specifications

c) Replace the accessory drive belt

d) Measure battery voltage before alternator installation

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Answer Key Quiz A

Correct Answers:

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