REVIEW QUESTIONS

A6 Test Preparation

Note: The lessons, exercises and tests in this manual are great preparation for taking the ASE A6 (electrical) certification test. However, that’s only for the topics we’ve covered. We haven’t covered the basic battery, starting, and charging systems, so we recommend a dedicated A6 test preparation guide if you feel weak in those areas.

1. Which one of these is NOT needed for a complete circuit?
   a. Conductor (wire)
   b. Load
   c. Power and ground
   d. Switch

2. What will result from adding resistance to a series circuit?
   a. Total resistance to decrease
   b. Less current flow
   c. More current flow
   d. None of the above

3. What best describes Voltage?
   a. It resists (prevents or limits) current flow in a circuit
   b. It is measured in Amps
   c. It is the pressure that forces current to flow in a circuit
   d. All of the above

4. Current flow is:
   a. Resistance in a circuit
   b. Voltage drop in a circuit
   c. The flow of electrons in a circuit
   d. None of the above

5. A short in a circuit could cause a:
   a. Fuse to blow
   b. Circuit breaker to close
   c. Battery to discharge
   d. Both ‘a’ and ‘c’

6. Voltage drop is:
   a. Current consumed to push through a load
   b. Resistance used to increase current flow
   c. Voltage consumed to push current though a resistance
   d. All of the above
REVIEW QUESTIONS

7. Current is measured in:
   a. Ohms
   b. Amps
   c. Volts
   d. Watts

8. Resistance is measured in:
   a. Amps
   b. Ohms
   c. Watts
   d. Volts

9. An example of a load is a:
   a. Battery
   b. Fuse
   c. Switch
   d. Motor

10. Which is an example of a power source?
    a. Starter
    b. Alternator
    c. Battery
    d. Both b and c

11. Which represents circuit protection?
    a. Fuse
    b. Circuit breaker
    c. Fusible link
    d. All of the above

True or False?

12. You must have a complete circuit for current to flow
    ______

13. In a series circuit, current flows in multiple paths
    ______

14. An open circuit will cause current to flow
    ______

15. Total resistance in a parallel circuit adds all the loads
    ______

16. Loads in a series circuit are added together to find total resistance
    ______

17. To find resistance, divide voltage by amperage
    ______

18. Voltage will drop over each load in a series circuit
    ______

19. Total Amps in a parallel circuit can be measured in a branch
    ______

20. A relay is both a load and a switch
    ______
REVIEW QUESTIONS

A6 Test Preparation – Continued

Match

21. Series circuit a. electrical pressure
22. Parallel circuit b. prevents current flow
23. Conductor c. one path
24. Insulator d. passes current easily
25. Amperage e. volts times amps
26. Voltage f. unit of resistance
27. Relay g. more than one path
28. Resistance h. quantity of electrons
29. Ohm i. control device
30. Wattage j. slows current flow

31. A DVOM is generally connected in _____ with a load.
   a. Series
   b. Parallel
   c. Both connections show the same results
   d. None of the above

32. An Ammeter is always connected in _____ with a load.
   a. Series
   b. Parallel
   c. Both connections show the same results
   d. None of the above

33. An Ammeter connected between the battery posts will result in:
   a. Battery discharge
   b. Accurate readings
   c. A voltage reading of the battery
   d. A damaged meter

34. An Ohmmeter is connected to both sides of a circuit and reads infinity (or ‘OL’).
   What does this indicate?
   a. A good circuit
   b. An open
   c. Low resistance
   d. Good current flow
35. A 0 (zero) Ohm reading indicates:
   a. High amperage
   b. Low resistance
   c. Incorrect meter hook up
   d. A good voltage drop measurement

36. When choosing a DVOM:
   a. Use one with high impedance
   b. Ensure the proper rating for voltage being measured
   c. Choose one with MIN/MAX recording
   d. All of the above

37. Prior to using your DVOM:
   a. Verify Ammeter fuses are good
   b. Test on a known good power source to ensure accuracy
   c. Verify test leads are properly connected
   d. All of the above

38. Five 20-Ohm resistors are wired in Parallel. Total resistance is:
   a. 0 Ohms
   b. 100 Ohms
   c. 4 Ohms
   d. 5 Ohms

39. How much current will flow in a 12 Volt circuit with 4 Ohms of resistance?
   a. 48 Amps
   b. 3 Amps
   c. .33 Amps
   d. 4.8 Amps

40. In a series circuit:
   a. Current flow is equal at all points in the circuit
   b. Voltage drops in proportion to the individual loads
   c. Total resistance is the sum of all individual resistance
   d. All of the above

41. In a parallel circuit:
   a. Current flow is proportional to the branch resistors
   b. Voltage drops are equal in all branches
   c. Total resistance is less than the smallest branch resistance
   d. All of the above
42. A switch with an N.C. designation indicates
   a. Natural color
   b. Normally closed
   c. Neutral contact
   d. Never closed

43. Location codes are generally given for:
   a. Splices
   b. Connectors
   c. Components
   d. All of the above

44. A dashed line around a component indicates:
   a. A complete component view
   b. A partial component view
   c. A computerized component
   d. High voltage is present

True or False?

45. Infinity is displayed as ‘---’ or ‘OL’ on a DVOM
46. DVOM voltage measurements are polarity sensitive
47. Maximum current flow is measured in kilowatts
48. You never have to convert a DVOM reading to other units
49. Ammeters are always connected in parallel
50. A short circuit will always cause a fuse to blow
51. A short can occur before or after a load
52. Circuits in modern vehicles are always series circuits
53. Computer controlled circuits can be tested with a test light
54. Circuit protection is always located on the ground side
55. A jumper wire can be used to bypass a load
56. A jumper wire can be used to bypass a switch
57. A fused jumper should always be used during circuit testing
58. Voltage drops as ‘work’ is done
REVIEW QUESTIONS

A6 Test Preparation Answers

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15. Total resistance in a parallel circuit adds all the loads F
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17. To find resistance, divide voltage by amperage T
18. Voltage will drop over each load in a series circuit T
19. Total Amps in a parallel circuit can be measured in a branch F
20. A relay is both a load and a switch T
Match

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22. Parallel circuit
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