

## Non-Credit Practice Questions

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

- 1) Which of the following is NOT needed to form an electric circuit? 1) \_\_\_\_\_  
 A) load B) switch  
 C) conductive path for current D) voltage source
- 2) To measure current with a multimeter, connect it: 2) \_\_\_\_\_  
 A) across the voltage source B) across the load  
 C) across the resistance D) in the current path

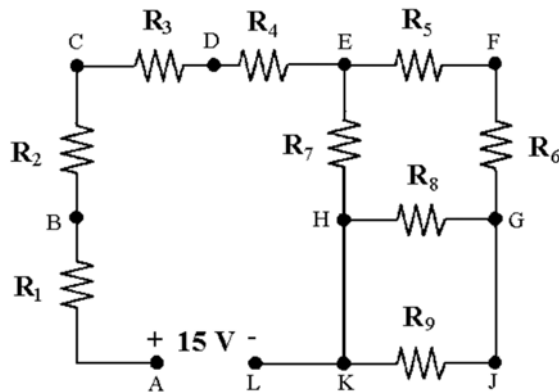


Figure 2-2

- 3) In Figure 2-2, if you place a voltmeter's red lead on point E and its black lead on point H, you will be measuring \_\_\_\_\_. 3) \_\_\_\_\_  
 A)  $V_{R4}$  B)  $V_{R5}$  C)  $V_{R7}$  D)  $V_{R6}$
- 4) To measure the current that flows through  $R_6$  in Figure 2-2, the circuit must be opened and the ammeter placed at point \_\_\_\_\_. 4) \_\_\_\_\_  
 A) E B) F C) H D) G
- 5) In Figure 2-2, the voltage  $V_{GH}$  is the same as \_\_\_\_\_. 5) \_\_\_\_\_  
 A)  $V_{R7}$  B)  $V_{R9}$  C)  $V_{R5}$  D)  $V_{R6}$
- 6) According to Ohm's Law, if voltage were to decrease while resistance remained the same, current would \_\_\_\_\_. 6) \_\_\_\_\_  
 A) decrease B) increase  
 C) remain the same D) no way to determine
- 7) If a  $330\ \Omega$  resistor dissipates 2 W, its voltage drop equals \_\_\_\_\_. 7) \_\_\_\_\_  
 A) 660 V B) 6.6 V C) 25.7 V D) 2.57 V

8) In a series circuit, total power  $P_T$  is calculated as:

A)  $1/P_1 + 1/P_2 + 1/P_3 + \text{etc.}$

B)  $P_1 \times P_2 \times P_3 \times \text{etc.}$

C)  $P_1 \div P_2 \div P_3 \div \text{etc.}$

D)  $P_1 + P_2 + P_3 + \text{etc.}$

8) \_\_\_\_\_

9) In a series circuit, the largest amount of power is dissipated by:

A) the largest resistor.

B) the smallest resistor.

C) the first resistor.

D) any resistor, since the current is the same throughout the circuit.

9) \_\_\_\_\_

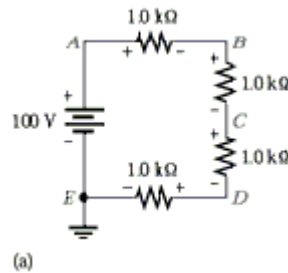


Figure 4-2

10) Refer to Figure 4-2a. Voltage B to ground is less than normal. What could be the cause of failure?

A) short between A and B

B) open between C and D

C) short between E and D

D) open between B and C

10) \_\_\_\_\_

11) Refer to Figure 4-2a. Voltage from C to ground is 100 V. What is the probable cause of failure?

A) open between E and D

B) open between A and B

C) short between A and B

D) voltage reading is normal

11) \_\_\_\_\_

12)  $I_T$  equals 0.1 mA in a 3-branch parallel circuit. If  $I_1 = 0.022$  mA and  $I_2 = 0.007$  mA,  $I_3 = ?$

A) 0.071 mA

B) 0.029 mA

C) 0.142 mA

D) 0.213 mA

12) \_\_\_\_\_

13) If one resistor opens in a parallel circuit, the total circuit resistance \_\_\_\_\_ and the total circuit current \_\_\_\_\_.

A) decreases, decreases

B) increases, decreases

C) decreases, increases

D) increases, increases

13) \_\_\_\_\_

14) The current through any branch of a parallel circuit \_\_\_\_\_.

A) is inversely proportional to the branch resistance

B) depends only on the circuit voltage

C) is directly proportional to the branch resistance

D) depends on the power rating of the resistor

14) \_\_\_\_\_

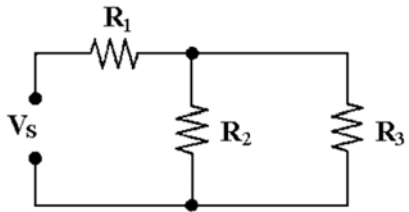


Figure 6-1

- 15) In Figure 6-1,  $R_2$  is connected in \_\_\_\_\_. 15) \_\_\_\_\_  
 A) parallel with  $R_1$  B) series with  $R_1$   
 C) parallel with  $R_3$  D) series with  $R_3$
- 16) If  $R_1 = 4.7 \text{ k}\Omega$ ,  $R_2 = 3.3 \text{ k}\Omega$  and  $R_3 = 1 \text{ k}\Omega$  in Figure 6-1, the total resistance equals \_\_\_\_\_. 16) \_\_\_\_\_  
 A)  $5467 \text{ }\Omega$  B)  $660 \text{ }\Omega$  C)  $4125 \text{ }\Omega$  D)  $5700 \text{ }\Omega$
- 17) If  $V_s = 25 \text{ V}$ ,  $R_1 = 10 \text{ k}\Omega$ ,  $R_2 = 15 \text{ k}\Omega$  and  $R_3 = 50 \text{ k}\Omega$  in Figure 6-1,  $I_T$  equals \_\_\_\_\_. 17) \_\_\_\_\_  
 A)  $2.5 \text{ mA}$  B)  $1.58 \text{ mA}$  C)  $2.17 \text{ mA}$  D)  $1.16 \text{ mA}$
- 18) When finding the total resistance of a series-parallel combination, the most important step is: 18) \_\_\_\_\_  
 A) to know the value of the source voltage.  
 B) to know how to use Ohm's law.  
 C) to define the series and parallel relationships.  
 D) to know the value of the total current.
- 19) When analyzing a series-parallel circuit, the circuit should be: 19) \_\_\_\_\_  
 A) reduced down to find the total voltage first.  
 B) reduced down to one parallel circuit.  
 C) reduced down to find the total current first.  
 D) reduced down to one series circuit.
- 20) When analyzing circuit current in a series-parallel circuit, you start: 20) \_\_\_\_\_  
 A) at the farthest resistor from the source. B) in any parallel branch.  
 C) at the source with total current. D) anywhere in the circuit.

## Answer Key

Testname: PRACTICE BASIC ELECTRONICS QUESTIONS

- 1) B
- 2) D
- 3) C
- 4) B
- 5) B
- 6) A
- 7) C
- 8) D
- 9) A
- 10) C
- 11) A
- 12) A
- 13) B
- 14) A
- 15) C
- 16) A
- 17) D
- 18) C
- 19) D
- 20) C