Name:

Grade and Section: Score: /10.0

Date:

Quiz # 4 on Current, Resistance, and emf

NEWTON SCHOOL OF BRIGHT MINDS INC.

GENERAL INSTRUCTIONS:

1.) Use No. 2 pencil only to shade your answer. To change your answer, neatly erase your old answer and shade the new one. You may request a scratch paper from the proctor whenever you need to.
2.) Scientific calculators are allowed while other electronic devices are prohibited.
3.) Any form of cheating in examinations or any act of dishonesty in relation to studies shall be subject to disciplinary action.

I. Multiple Choice. Shade the letter of the BEST answer (5 points).

1. The resistance of a conductors is **not** dependent with

   (a) mass (b) area

   (c) length (d) resistivity

2. The temperature of wire made from copper is increased. The resistance

   (a) remains the same (b) decreases

   (c) increases (d) depends on the temperature involved

3. An electric heater draws a current of 20 A when connected to a 120 V power source. The resistance is

   (a) 0.17 Ω (b) 6 Ω

   (c) 8 Ω (d) 2400 Ω

4. The 8.0 Ω coil of a loudspeaker carries a current of 0.80 A. The potential difference across the terminals is

   (a) 5.2 V (b) 2.3V

   (c) 6.4 V (d) 11 V

5. When a 100 W, 240 V light bulb was operated at 200 V, the current flowing is

   (a) 0.35 A (b) 0.75 A

   (c) 0.90 A (d) 0.10 A

II. True or False. Determine whether the statements are TRUE or FALSE by shading the BEST ANSWER (3 points).

6. In a circuit, the electromotive force (emf) influences the “pushing” of charges from lower to a higher potential.

   (a) True (b) False

7. To have a steady current in a circuit, the path should form a closed path or loop called a complete circuit

   (a) True (b) False

8. The significant role of a resistor is the highest power it can dissipate without damaging the other components or devices.

(a) True (b) False

III. Problem Solving. Solve the given problem. Write your GIVEN, REQUIRED, SOLUTION and box your final answer with proper statement (2 points).

9. A D cell of emf 1.5 V and internal resistance of 0.3 Ω is connected to a flashlight which resistance is 3.0 Ω Find the current in the circuit and the terminal voltage of the cell.