







Physics 3204

Unit 2: Section 2 -Current Electricity

Worksheet 1: Electric Current

Part A : Multiple choice

- What term describes electricity in which electrons flow?
 - Current electricity
 - Electromagnetism
 - Magnetism
 - Static electricity
- What feature of a river is most similar to current in an electric circuit?
 - The depth of the river measured in metres
 - The temperature of the water measured in degrees Celsius
 - The vertical drop between two points along the river measured in metres
 - The volume of water moving past a point measured in litres per second
- What is the unit of measurement for electric current?
 - Amperes
 - Coulombs
 - Joules
 - Volts
- Which circuit element controls the flow of current?
 - Battery
 - Lamp
 - Switch
 - Wire
- What instrument is used to measure electric current?
 - ammeter
 - ohmmeter
 - switch
 - voltmeter
- Which symbol represents a battery?

(A) 	(B) 
(C) 	(D) 

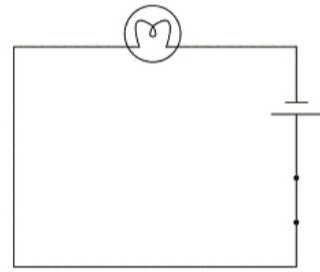
7. Which is true about bulbs connected in series?
- (A) If an extra bulb is added to the circuit, the brightness of all bulbs stays the same.
 - (B) If one bulb is removed from the circuit, the others will not light.
 - (C) If one bulb is removed from the circuit, the remaining bulbs stay lit
 - (D) If an extra bulb is added to the circuit, the resistance decreases.

8. Which statement best describes the movement of electrons around a series circuit?
- (A) The current is higher near the power source than anywhere else in the circuit.
 - (B) The current is lower near the power source than anywhere else in the circuit.
 - (C) The electrons take one of several possible paths.
 - (D) The electrons follow the same path around the circuit.

9. Which statement best describes the movement of electrons around a parallel circuit?
- (A) The electrons take one of several possible paths.
 - (B) More electrons pass through the branch with higher voltage.
 - (C) Electrons move faster before the junction point than anywhere else in the circuit.
 - (D) The electrons follow the same path around the circuit.

10. When the switch is opened, what happens to the electrons in the circuit?

- (A) More are added.
- (B) Some are removed.
- (C) They begin to move.
- (D) They stop moving.



11. What charge flows past a point in a wire in 6.0 s if the wire carries a current of 2.0 A?

- (A) 0.33 C
- (B) 3.0 C
- (C) 12 C
- (D) 24 C

12. If a circuit element can withstand a maximum current of 15 A, how many electrons can pass through it each second?

- (A) 2.4×10^{-18}
- (B) 1.5×10^1
- (C) 6.3×10^{18}
- (D) 9.4×10^{19}

13. What is current a measure of?

- (A) amount of energy given to a charged object
- (B) charge passing a point in a given time
- (C) number of charges stored in a cell
- (D) resistance to the flow of particles

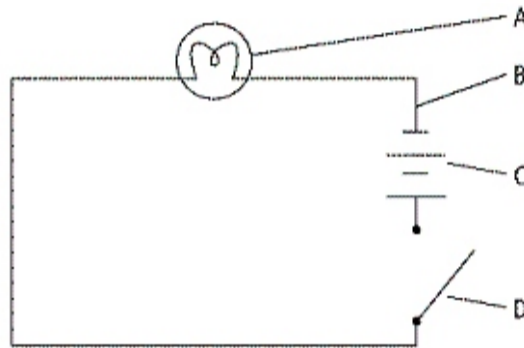
14. How many electrons are transferred in a 10.0 A current that runs for 3.0 s?

- (A) 3.0×10^1
- (B) 1.9×10^{20}
- (C) 6.2×10^{19}
- (D) 3.3×10^{31}

15. If 2.00×10^2 mA of current flows through the filament of a light bulb, how many electrons would pass through the filament in 30.0 s?
- (A) 2.67×10^{-23}
 (B) 2.67×10^{-20}
 (C) 3.75×10^{19}
 (D) 3.75×10^{22}
16. How many electrons are on the move in a circuit where a current of 2.0 A flows for 2.0 minutes?
- (A) 240
 (B) 3.84×10^{-17}
 (C) 1.5×10^{21}
 (D) 6.25×10^{18}

PART B: Fill in the blank

Instruction : Use the circuit diagram to answer the next question. Place your answer on the Scantron



17. The source in the electrical circuit is represented by_____
18. The conductor in the electrical circuit is represented by_____
19. The switch in the electrical circuit is represented by_____
20. The load in the electrical circuit is represented by_____