

## Physics XII Chapter: Current Electricity:

---

### Current Electricity:

1. The net charge flowing across the sectional area per unit time is known as:

- a). Electric Current
- b). Ampere
- c). Electric flow
- d). None of these

2. The direction of electric current is that in which:

- a). Negative charge will drift
- b). Positive charge will drift
- c). Both positive and negative charge will drift
- d). None of these

3. Mathematically Electric current  $I$  in a conductor is defined by the relation:

- a).  $I = Q t$
- b).  $Q = I / t$
- c).  $I = Q / t$
- d). None of these

4. The SI unit of current is:

- a). Ampere
- b). Coulomb
- c). Volt
- d). None of these

5. 1 Ampere =

- a). 1 C / S
- b). 1 C / S<sup>2</sup>
- c). 1 Joule / S
- d). 1 N/S

6. "In an electrical circuit, the potential difference across a conductor is directly proportional to the current flowing through it, provided the temperature of the conductor remains the same."  
This is called:

- a). Ohm's Law
- b). Coulomb's Law
- c). Gauss's Law

## Physics XII Chapter: Current Electricity:

---

d). None of these

7. Mathematically Ohm's Law is written as:

- a).  $V = I R$
- b).  $V = I / R$
- c).  $V = Q t$
- d). None of the above

8. Measure of the opposition to the flow the free electron is known as:

- a). Current
- b). Resistance
- c). Conductance
- d). Capacitance

9. The SI unit of electrical resistance is:

- a). Ampere
- b). Volt
- c). Farad
- d). Ohm

10. If the potential difference of 1.0 volt is applied across the end of a conductor and the resulting current flowing through the conductor is one ampere then the resistance of the conductor is said to be:

- a). 1 Ohm
- b). 1 Ampere
- c). 1 Farad
- d). 1 Volt

11. 1 Watt Ohm =

- a). 1 Volt. Amp
- b). 1 Volt / Amp
- c). 1 Coulb / Amp
- d). 1 Joule / Amp<sup>2</sup>

12. It is experimentally observed that in general the resistance R of a given wire increases with increase in:

- a). Temperature
- b). Cross-section area of a wire
- c). Length of a wire
- d). None of these

## Physics XII Chapter: Current Electricity:

---

13. It is experimentally observed that in general the resistance  $R$  of a given wire decreases with increase in:

- a). Temperature
- b). Cross-section Area
- c). Length of a wire
- d). None of the above

14. The change in resistivity per unit original resistivity (or resistance) per degree change in temperature is called:

- a). Resistance
- b). Conductance
- c). Temperature coefficient of resistivity
- d). All of these

15. The resistivity of a class of elements of some critical temperature falls to zero. The materials showing such property are called:

- a). Semi-conductors
- b). Super-conductors
- c). Insulators
- d). Conductors

16. The device which can maintain a potential difference between two points to which they are attached are known as:

- a). Dry cell
- b). sources of power
- c). sources of electromotive force
- d). Sources of heat dissipated

17. The unit of electromotive force is:

- a). Volt
- b). Ampere
- c). Watt
- d). Joule

18. Batteries or cells convert:

- a). Heat energy into electrical energy

## Physics XII Chapter: Current Electricity:

---

- b). Nuclear energy into electrical energy
- c). Kinetic energy into electrical energy
- d). Chemical energy into electrical energy

19. Electrical generators convert:

- a). Chemical energy into electrical energy
- b). Kinetic energy into electrical energy
- c). Mechanical energy into electrical energy
- d). Light energy into electrical energy

20. Thermocouples convert:

- a). Chemical energy into electrical energy
- b). Heat energy into electrical energy
- c). Mechanical energy into electrical energy
- d). Light energy into electrical energy

21. Photo voltaic cell converts:

- a). Chemical energy into electrical energy
- b). Heat energy into electrical energy
- c). Mechanical energy into electrical energy
- d). Light energy into electrical energy

22. In practice, the sources of e.m.f always have:

- a). Zero resistance
- b). Unit resistance
- c). Some resistance
- d). Infinite resistance

23. The e.m.f of a source is equal to the potential difference across the terminals of the source when either its internal resistance is:

- a). Zero
- b). Infinite
- c). Zero or infinite
- d). None of these

24. The electromotive force is written as:

- a).  $E = \text{Work} / \text{Charge}$
- b).  $E = \text{Work} \cdot \text{Charge}$
- c).  $E = Q / I$
- d). None of these