

PHYSICS QUESTIONS – ELECTRICITY

1. What does E.M.F stand for in the context of electricity?
a) Electric Motor Force b) Electromagnetic Frequency c) Electromotive Force d) Electric Magnetic Flux
2. In a circuit, what is the purpose of a resistor?
a) To increase current b) To store electrical energy c) To regulate voltage d) To decrease current
3. Which unit is used to measure potential difference?
a) Ampere (A) b) Volt (V) c) Ohm (Ω) d) Joule (J)
4. According to Ohm's Law, what is the relationship between voltage (V), current (I), and resistance (R)?
a) $V = IR$ b) $I = VR$ c) $R = VI$ d) $V = I/R$
5. If a circuit has a resistance of 10 ohms and a current of 2 amperes, what is the potential difference?
a) 5 volts b) 12 volts c) 20 volts d) 2 volts
6. What is the SI unit of electric current?
a) Volt (V) b) Ampere (A) c) Ohm (Ω) d) Watt (W)
7. If the resistance in a circuit is doubled, and the voltage remains constant, what happens to the current?
a) It doubles b) It halves c) It remains the same d) It quadruples
8. What is the relationship between resistance and temperature in most conductors?
a) Resistance decreases with increasing temperature b) Resistance remains constant with temperature changes c) Resistance increases with increasing temperature d) Resistance is not affected by temperature
9. In a parallel circuit, how does the total resistance compare to the individual resistances?
a) Total resistance is less than any individual resistance b) Total resistance is equal to the sum of individual resistances c) Total resistance is greater than any individual resistance d) Total resistance is unrelated to individual resistances
10. Which of the following materials is typically a good conductor of electricity?
a) Rubber b) Wood c) Copper d) Glass

11. What is a material that allows electric current to flow through it easily known as?

- a) Insulator b) Conductor c) Resistor d) Capacitor

12. Which of the following is an example of a non-conductor?

- a) Copper b) Aluminum c) Plastic d) Silver

13. What property of a material determines its ability to conduct electricity?

- a) Density b) Hardness c) Conductivity d) Elasticity

14. In terms of conductivity, which of the following is a characteristic of insulators?

- a) High conductivity b) Low conductivity c) Variable conductivity d) Superconductivity

15. What is the purpose of an insulator in an electrical system?

- a) To increase current flow b) To regulate voltage c) To prevent the flow of electric current d) To store electrical energy

16. Which of the following is a good insulator commonly used in electrical wiring?

- a) Copper b) Aluminum c) Rubber d) Silver

17. What happens to the resistance of a conductor as its temperature increases?

- a) Increases b) Decreases c) Remains constant d) Unpredictable

18. If the resistance of a wire is 20 ohms and the current is 5 amperes, what is the voltage?

- a) 25 volts b) 100 volts c) 4 volts d) 1 volt

19. Which of the following materials is a semiconductor?

- a) Copper b) Silicon c) Aluminum d) Gold

20. What is the main purpose of a fuse in an electrical circuit?

- a) To increase resistance b) To regulate voltage c) To prevent overcurrent d) To store electrical energy