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# WBBSE MADHYAMIK

# CHAPTER 6 CURRENT ELECTRICITY

# STUDY MATERIAL

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### MCQ

- 1. What is filled inside the electric valve?
- (a) air
- (b) oxygen
- (c) Nitrogen
- (d) inert gas
- Ans. (d) inert gas.
- 2. What is the unit of a kilowatt hour (kwh)?
- (a) electric power
- (b) electric current
- (c) electrical energy
- (d) none of these
- Ans. (c) of electrical energy.
- 3. Of which element is the filament in the electric bulb made?
- (a) copper
- (b) zinc

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(c) Nichrome

(d) Tungsten

Ans. (d) Tungsten.

- 4. Electric fuse wire is made up of:
- (a) copper
- (b) tin
- (c) Iron
- (d) an alloy of copper and tin
- Ans. (d) an alloy of copper and tin
- 5. Electric heater wire is made of:
- (a) copper
- (b) Iron
- (c) Nichrome
- (d) Tungsten

Ans. (c) Nichrome.

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- 6. In Fleming's left-hand rule, the thumb represents-
- (a) direction of current
- (b) the direction of the magnetic field
- (c) the direction of motion of the driver
- (d) none of these

Ans. (c) the direction of motion of the conductor.

- 7. Which of the following is a semiconductor?
- (a) Nichrome
- (b) iron
- (c) Silicon
- (d) Chromium

Ans. (c) Silicon.

- 8. The value of the potential difference is always equal to the electromotive force
- (a) less
- (b) more

(c) equal

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(d) none of these

Ans. (a) less

9. The color of the cover of the live wire is:

- (a) yellow
- (b) green
- (c) red
- (d) black
- Ans. (c) red
- 10. The unit of the strength of the electric current is-
- (a) Om
- (b) Volt
- (c) Joule
- (d) ampere
- Ans. (d) ampere
- 11. The principle of the electric generator is based on.
- (a) heating effect of current

- (b) electromagnetic induction
- (c) induced magnetism
- (d) induced current
- Ans. (b) on electromagnetic induction.
- 12. One of the basic differences between an A. C. generator and a D. C. generator is that -
- (a) A.C. generator has an electromagnet, while the D.C. motor has a permanent magnet
- (b) A.C. generator produces high voltage
- (c) D.C. generator does not generate high voltage
- (d) A.C. generator has slip rings while the DC generator has a commutator
- Ans. (d) A.C. generators have slip rings, while DC generators have commutators.

13. Domestic wiring consists of three wires hot (live), cold (neutral), and earth (grounded). The colors of these stars are respectively -

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- (a) Green, Black, and Red
- (b) Black, Green, and Red
- (c) Red, Black, and Green.
- (d) Black, Red, and Green
- Ans. (c) red, black and green

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- 14. Which of the following indicates the magnitude of current flow?
- (a) erg/second
- (b) dyne/second
- (c) coulomb/second
- (d) erg/coulomb
- Ans. (c) coulomb/second
- 15. The direction of the induced current is given by -
- (a) Fleming's left-hand rule
- (b) Fleming's right-hand rule
- (c) Ampere's law of floating
- (d) none of these
- Ans. (b) Fleming's right-hand rule.
- 16. Who discovered the magnetic effect of electricity?
- (a) Faraday
- (b) Maxwell
- (c) Oersted

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#### (d) Henry

Ans. (c) Oersted.

- 17. The switch is always added:
- (a) hot wire
- (b) neutral wire
- (c) earth wire
- (d) none

Ans. (a) by a hot wire.

18. The unit of magnetic flux is

- (c) Tesla
- (b) Gauss
- (c) Weber
- (d) Weber / m

Ans. (c) Weber.

- 19. S.I. unit of electric charge is -
- (a) coulomb

#### (b) ampere

- (c) coulomb/ampere
- (d) None
- Ans. (a) coulomb
- 20. The apparatus used to measure the intensity the of electric current is
- (a) Volt meter
- (b) a meter
- (c) Galvanometer
- (d) Meter
- Ans. (b) a meter
- 21. Electricity for domestic purposes is supplied at-
- (a) 220V. 100 Hz
- (b) 110 V. 100 Hz
- ((c) 220V.50Hz

(d) 110 V 50Hz

Ans. (c) 220V.50Hz
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22. What will be the equivalent resistance where two resistances ohms3 ohm and ohms6 ohm are connected in parallel combination?

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- (a) 3 ohms
- (b) 4 ohms
- (c) 2 ohms
- (d) 1 ohm
- Ans. (c) 2 ohm
- 23. On which of the following resistance of a conductor does not depend?
- (a) Temperature of the conductor.
- (b) Pressure exerted on the conductor
- (c) Material of the conductor
- (d) Length of the conductor
- Ans. (b) Pressure exerted on the conductor
- 24. Which of the following converts electrical energy into mechanical energy?
- (a) dynamo
- (b) transformer
- (c) electric motor

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(d) inducer

Ans.(c) electric motor

25. Commonly fuse wire is made of –

- (a) tin
- (b) lead
- (c) the alloy of tin and lead
- (d) Copper
- Ans. (c) alloy of tin and lead

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### 1 Marks

1. What is the unit of electric charge?

Answer: Coulomb.

2. What is the unit of electric potential?

Answer: Volt.

3. Write the names of two semiconductors.

Answer: Silicon and Germanium.

4. Name the fundamental quantity whose unit is B.O.T. Is.

Answer: Unit of electrical energy B.O.T. Is.

5. In which order are valves, fans, and other electrical appliances connected in our house?

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Answer: The valve, fan, and other electrical equipment are connected in parallel order in Hamir's house.

6. C.G.S. and S.I. What is the unit of specific resistance in the system?

Answer: The unit of specific resistance is C.G.S. From Ohm in the method. m. and S.I. The system has an ohm meter.

7. On what principle does the electric heater work?

Answer: Electric heater works on the heating effect of electric current.

8. In what order are the fuse wires connected to the circuit?

Answer: The fuse wire is connected in series to the circuit.

9. S.I. of electrical resistance What is a unit?

Answer: S.I. of electrical resistance the units are ohms  $(\Omega)$ .

10. Which particle causes current flow in a metallic conductor?

Answer: Electrons are the reason for the flow of electric current in a metallic conductor.

11. What is the difference between a dynamo and an electric motor?

Answer: Mechanical energy is converted into electrical energy in a dynamo but electrical energy is converted into mechanical energy in the electric motor.

12. Does that depend on the direction of deflection of the magnetic needle in Ostend's experiment?

Answer: The direction of deviation of the magnetic needle depends on the position of the poles of the magnet and the direction of flow of electric current.

13. What type of electric current flows in our homes?

Answer: Alternating Current or A.C. flows in our homes.

14. If 220v-100w is written on a bulb, what does it mean?

Answer: The bulb will use 100 watts of power at a potential difference of 220v, which means the bulb will spend 60 joules of energy per second.

15. What is S. 1. unit of potential and potential difference?

Ans. Volt

16. What is a coulomb?

Ans. Coulomb of electric charge S.1. is unit.

17. Define the S.I. unit of electric charge.

Ans. S.I. The unit of electric charge in the system is the coulomb. It is represented by "C".

Coulomb: The amount of electric charge per second through a point in a closed circuit that causes an electric current of one ampere. It is called a coulomb.

18. Resistance of a thin wire is lower than thick wire-true or false?

Ans. False: Thinner wire will have more resistance.

19. How is the force between two-point charges changed with the distance between them?

Ans. The force of attraction or repulsion between two charges is inversely proportional to the square of the distance between them.

20. What is the relation between the length and the resistance of a conductor?

Ans. The resistance of a conductor is proportional to the length of the conductor i.e. R an l

21. What will be the change in the motion of a Barlow's wheel if the direction of the current is reversed?

Ans. The direction of rotation of the wheel changes.

22. How much work has to be done when I coulomb of charge is taken against a potential difference of 1 volt?

Ans. 1 joule

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