PHYSICS

BOOKS - HC VERMA

MAGNETIC EFFECT OF ELECTRIC CURRENT

Question Bank

1. A magnetic field line is used to find the direction of

A. south-north

B. a bar magnet

C. a compass needle

D. magnetic field

Answer: D

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2. An electric current passes through a straight wire. Magnetic compasses are placed

at the points A and B.

A. Their needles will not deflect .

B. Only one of the needles will deflect.

C. Both the needles will deflect in the same direction.

D. The needles will deflect in the opposite directions.

Answer: D

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3. The magnetic field lines due to a straight wire carrying a current are

A. straight

B. circular

C. parabolic

D. elliptical

Answer: B

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4. The magnetic field lines inside a long current-carrying solenoid nearly

A. straight

B. circular

C. parabolic

D. elliptical

Answer: A

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5. The direction of the force on a current - carrying wire placed in a magnetic field depends on

A. the direction of the current but not on the direction of the field

B. the direction of the field but not on the direction of the current

C. the direction of the current as well as the direction of the field

D. neither the direction of the current nor the direction of the field

Answer: C

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6. An electric current can be produced in a closed loop

A. by connecting it to a battery, but not by moving a magnet near it

B. By moving a magnet near the loop, but not by connecting a battery

C. By connecting it to a battery, as well as by moving a magnet near it

D. neither by connecting a battery nor by moving a magnet near it

Answer: C

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7. Which of the following involves electromagnetic induction ?

A. A rod is charged with electricity.

B. An electric current produces a magnetic field.

C. A magnetic field exerts a force on a current-carrying wire.

D. The relative motion between a magnet and a coil produces an electric current .

Answer: D

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8. You have a coil and a bar magnet. You can produce an electric current by moving

A. the magnet, but not the coil

B. the coil, but not the magnet

C. either the magnet or the coil

D. neither the magnet nor the coil

Answer: C

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9. An electric motor

A. provides a constant potential difference

B. measures electric current

C. measures potential difference

D. converts electrical energy into kinetic energy

Answer: D

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10. A device that can be used to produce an electric current in a circuit is

A. an ammeter

B. a motor

C. a generator

D. a galvanometer

Answer: C

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11. A commutator changes the direction of current in the coil of

A. a DC motor

B. a DC motor and an AC generator

C. a DC motor and a DC generator

D. an AC generator

Answer: A

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12. An AC generator is connected to an electric appliance. In 10 revolutions of the armature, the current in the appliance changes direction

A. 5 times

B. 10 times

C. 20 times

D. 40 times

Answer: C

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13. Which of the following describes the common domestic power supplied in India ?

A. 220 V, 100 Hz

B. 110 V, 100 Hz

C. 220 V, 50 Hz

D. 110 V, 50 Hz

Answer: C

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14. In electron fitting in a house

A. the live wire goes through the switch

B. the neutral wire goes through the switch

C. the earth wire goes through the switch

D. No wire goes through the switch

Answer: A

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15. An electric fuse is based on

A. the heating effect of the current

B. the chemical effect on the current

C. the magnetic effect of the current

D. none of these

Answer: A

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16. An electric fuse can prevent accidents arising from

A. an overload but not due to a short circuit

B. a short circuit but not due to an overload

C. an overload as well as a short circuit

D. neither an overload nor a short circuit

Answer: C

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17. Mark the statement True(T) or False (F).

Fleming 's left-hand rule is used to find the direction of the magnetic field due to a straight current.

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18. Mark the statement True(T) or False (F).

Maxwell's right-hand thumb rule is used to find the direction of the magnetic field due to a straight current .

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19. Mark the statement True(T) or False (F).

The magnetic field at the centre of a current - carrying coil is perpendicular to the plane of the coil.

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20. Mark the statement True(T) or False (F).

The magnetic field lines inside a current - carrying solenoid are circular.

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21. Mark the statement True(T) or False (F).

A motor is used to generate electricity from the mechanical motion of a coil.

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22. Mark the statement True(T) or False (F).

A generator is used to generate electricity electricity from the mechanical motion of a coil.

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23. Mark the statement True(T) or False (F).

When a coil is moved towards a bar magnet

placed perpendicular to it, an electric current is induced in the coil.

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24. Mark the statement True(T) or False (F).

A battery provides an AC voltage.

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25. Mark the statement True(T) or False (F).

If a coil and a magnet are moved in the same

direction and with the same speed, an electric current will be induced in the coil.

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26. Mark the statement True(T) or False (F).

Two coils are kept near each other. If a constant current flows through one, a current will be induced in the other.

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27. Mark the statement True(T) or False (F).

A fuse is connected in series with the circuit it protects.

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28. Mark the statement True(T) or False (F).

The current through a short circuit is very high.

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29. Mark the statement True(T) or False (F).

fans, lamps, etc., are connected in parallel in household wiring.

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30. Mark the statement True(T) or False (F).

The earth wire connected to an electric appliance does not carry an electric current unless a fault develops in the insulation of the wires.

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