CBSE 10th Magnetic Effect of Electric Current Unsolved Paper

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SECTION – A

Q.1. The magnetic field near a long straight wire is described by

(a) Straight field lines parallel to the wire.
(b) Straight field lines perpendicular to the wire.
(c) Connective circle centered on the wire.
(d) Radial field lines starting from the wire.

Q.2. Figure shows the magnetic field lines between the two faces A and B of two magnets.

(a) Both faces A and B of two bar magnets are North pole.
(b) Both faces A and B of two bar magnets are South pole.
(c) Face A is south pole while face B is north pole.
(d) None of the above.

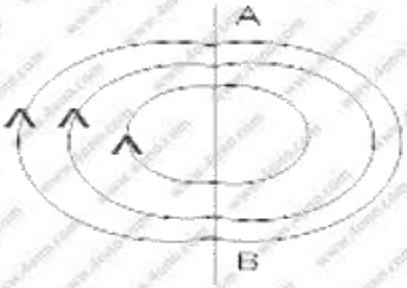
Q.3. Magnetic field lines determine

(a) The shape of magnetic field
(b) Only the direction of magnetic field
(c) Only the relative strength of the magnetic field
(d) Both the direction and the relative strength of magnetic field

Q.4. A positively charged particle say an alpha particle projected towards west is deflected toward north by a magnetic field. The direction of the magnetic field is

(a) Upward
(b) downward
(c) towards south
(d) towards east.

Q.5. Concentric circles with arrows centered at the wire AB are shown in figure.



(a) No current in AB
(b) Current flows from B to A
(c) Current – flows from A to B
(d) None of these

Q.6. A device for producing electric current is called a

(a) Galvanometer
(b) Motor
(c) Generator
(d)Ammeter

Q.7. Forces acting on a stationery charge of in the magnetic field B is

(a) BQ v
(b) BQ/v
(c) Bv/Q
(d) zero

Q.8. Potential difference between a live wire and a neutral wire is

(a) 200 volt
(b) 150 volt
(c) 210 volt
(d) 220 volt

Q.9. Electric motor converts

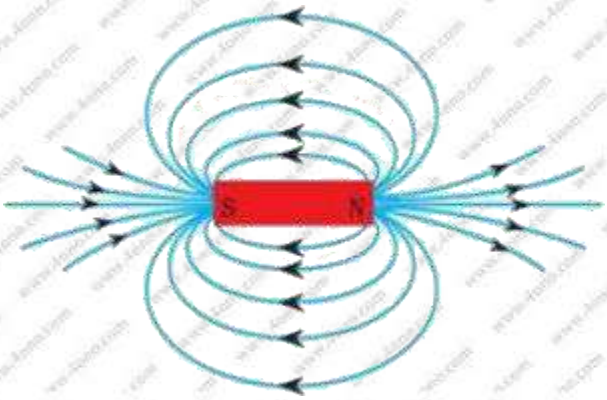
(a) Mechanical energy into electrical energy
(b) Mechanical energy into heat energy
(c) Electrical energy into heat energy
(d) Electrical energy into mechanical energy

Q.10. A current carrying conductor placed in magnetic field experiences a force. The displacement of the conductor in magnetic field can be increased by

(a)Decreasing the magnetic field.
(b) Decreasing the current in the conductor.
(c) Increasing the magnetic field.
(d) None of the above.

SECTION – B

Q.11. Draw magnetic field lines around a bar magnet? Give one point of difference between uniform and non- uniform magnetic field.



Q.12. State two properties of magnetic lines of force?

Q.13. what is an electromagnet? Write two uses of an electromagnet?

Q.14. what is electric fuse? Where it is connected in a circuit?

Q.15. why do not two magnetic field lines intersect each other?

Q.16. Write two ways to induce current in a coil?

Q.17. The magnetic field lines in a given region is uniform. Draw a diagram to represent.

SECTION – C

Q.18. State three factor on which magnetic field produced by a current carrying solenoid depends.

Q.19. We know a current carrying conductor placed in a magnetic field experiences a force due to which the conductor moves. How do we think the rod displaces if-

(a) Current in rod is increased
(b) A stronger horse shoe is inserted
(c) Length of the rod is increased.

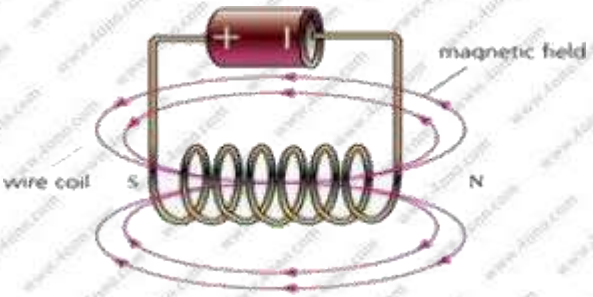
Q.20. (a) What is short circuiting?
(b) What is overloading? How can you avoid overloading?

Q.21. (a) what is the standard colour code followed for

(i) Live
(ii) Neutral and
(iii) Earth wires used in electric circuits?

(b) Which part of an electric appliance is earthed and why?

Q.22. What is a solenoid? Draw magnetic field lines showing the magnetic field inside and outside the current carrying solenoid?



Q.23. What is the principle of electric motor? State the function of

(i) split ring
(ii) field magnet used in electric motor.

Q.24. What is the function of an earth wire? Why is if necessary to earth metallic casing of electric appliance?

SECTION – D

Q.25. Draw a labelled diagram of an electric motor. Explain its principle and working. What is the function of split ring in an electric motor?

Q.26. Explain the underlying principle and working of an electric generator by drawing a labeled diagram. What is the function of brushes?

Q.27. Explain the principle, construction and working of an electric motor with a help of labeled diagram?

Q.28. Consider a circular loop of wire lying in the plane of the paper. Let the current pass through the loop clockwise. With the help of a diagram, explain how the direction of the magnetic field can be determined inside and outside the loop. Name the law used to find the direction of magnetic field.

Q.29. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is

(a) pushed into the coil,
(b) withdrawn from inside the coil,
(c) held stationary inside the coil?

Q.30. What is short circuiting? State one factor/condition that can lead to it. Name a device in the household that acts as a safety measure for it. State the principle of its working.

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