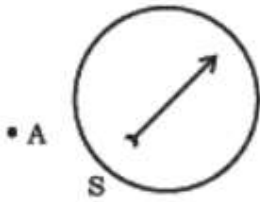


PRACTICE TEST PAPER: CLASS-X

MAGNETIC EFFECTS OF ELECTRIC CURRENT

Q1. A magnetic compass needle is placed in the plane of paper near point A as shown in the figure. In which plane should a straight current carrying conductor be placed so that it passes through A and there is no change in the deflection of the compass? Under what condition is the deflection maximum and why?



Q2. Name four appliances wherein electric motor, a rotating device that converts electrical energy to mechanical energy, is used as an important component. In what respect motors are different from generators?

Q3. What is the role of a fuse, used in series with any electrical appliance? Why should a fuse with defined rating not be replaced by one with a larger rating?

Q4. Nivedita draws magnetic field lines of field close to the axis of a current carrying circular loop. As she moves away from the centre of the circular loop she observes that the lines keep on diverging. How will you explain her observation?

Q5. Explain the phenomenon of electromagnetic induction. Describe an experiment to show that a current is set up in a closed loop when an external magnetic field passing through the loop increases or decreases.

Q6. What is the role of the two conducting stationary brushes in an electric motor?

Q7. Explain with the help of a labelled diagram the distribution of magnetic field due to a current through a circular loop. Why is it that if a current carrying coil has n turns, the field produced at any point is n times as large as that produced by a single turn?

Q8. Describe the working of an AC generator with the help of a labelled circuit diagram. What changes must be made in the arrangement to convert it to a DC generator?

Q9. Under what conditions permanent electromagnet is obtained if a current carrying solenoid is used? Support your answer with the help of a labelled circuit diagram.

Q10. Draw an appropriate schematic diagram showing common domestic circuits and discuss the importance of fuse. Why is it that a burnt fuse must be replaced by another fuse of the identical rating?

DPM EDUCATIONS