

Magnetic Effect of Electric Current

Previous Year Questions

- Q.1.** What is a solenoid? Draw the pattern of magnetic field lines of a current-carrying solenoid.
- Q.2.** How is an electromagnet different from a permanent magnet?
- Q.3.** How are the magnetic field lines of a bar magnet drawn using a small compass needle? Draw one magnetic field line each on both sides of the magnet.
- Q.4.** AB is a coil of copper wire having a large number of turns. The ends of the coil are connected to a galvanometer. When the North pole of a strong bar magnet is moved towards end B of the coil, a deflection is observed.
- (a) What type of phenomenon is this?
 - (b) State the rule to determine the direction of induced current in the coil.
 - (c) What will happen if the magnet is moved away from the coil?
- Q.5.** Study of displacement of Aluminum rod AB in a magnetic field.
- (a) Why displacement occurs?
 - (b) Write the rule for direction of force.
 - (c) Effect of reversing both current direction and magnet polarity on displacement.
- Q.6.** (A) State the rule to find the direction of magnetic field lines around a straight current carrying conductor.
- (B) If the current in the conductor flows from East to West, find the direction of the magnetic field at a point (i) directly above it, and (ii) directly below it.
- Q.7.** State two factors on which the strength of an electromagnet depends.
- Q.8.** The strength of the magnetic field inside a long straight current carrying solenoid is:
- (A) more at the ends than at the centre.
 - (B) minimum in the middle.
 - (C) same at all points.
 - (D) found to increase from one end to the other.

Q.9. A) State the rule to find the direction of magnetic field associated with a current carrying conductor.

(B) Mention three factors on which the strength of the magnetic field produced by a current carrying solenoid depends.

Q.10. (i) Why is a series arrangement not used for domestic circuits ?

(ii) Explain the function of a fuse in a domestic circuit. (Note: These are related to domestic electric circuits under Magnetic Effects/Electricity chapter).