



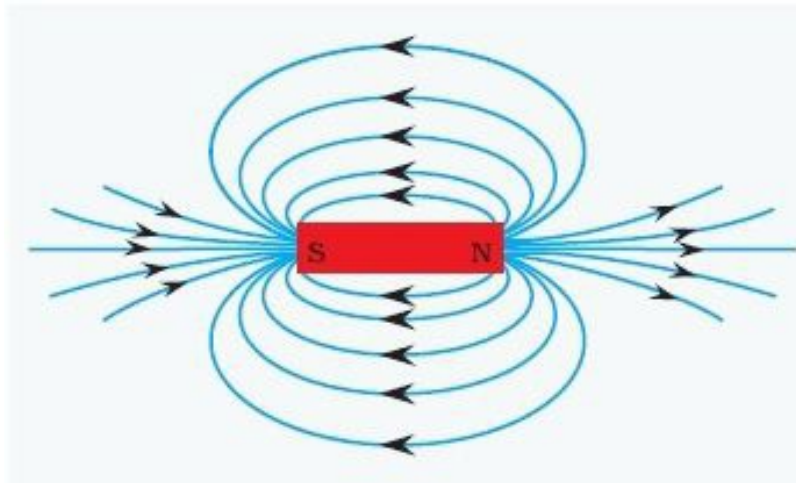
Question 1. Why does a compass needle gets deflected when brought near a bar magnet?

Solution:

A compass needle is, in fact, a small bar magnet. If this is brought near another bar magnet, the like poles repel and the needle gets deflected.

Question 2. Draw magnetic field lines around a bar magnet?

Solution:



Question 3. List the properties of magnetic lines of force.

Solution:

- a) Magnetic lines are directed from the north pole towards the south pole.
- b) They do not cross each other.
- c) They are more crowded near the poles than at any other region in the field.
- d) They are closed curves.
- e) In the uniform magnetic field, the lines of force are parallel to one another.

Question 4. Why don't two magnetic lines of force intersect each other?

Solution:

No two field-lines are found to cross each other. If they did, it would mean that at the point of intersection, the compass needle would point towards two directions, which is not possible.

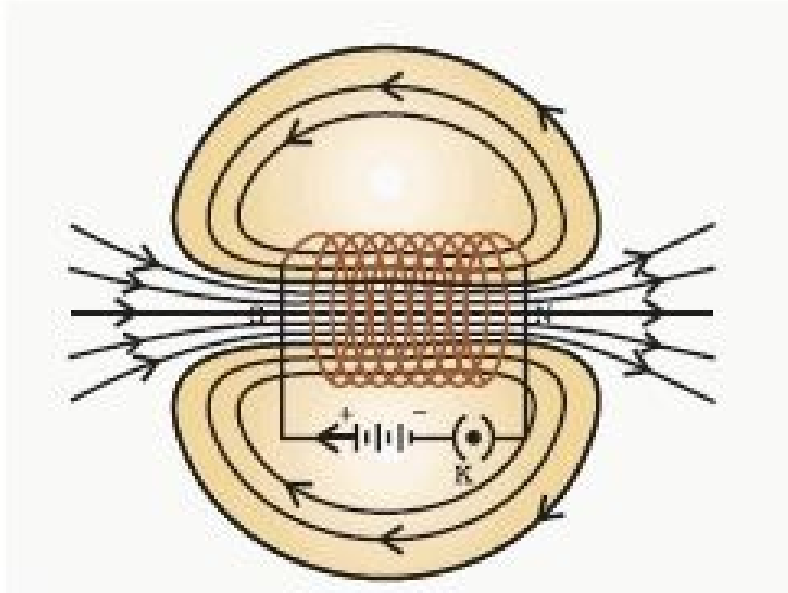
Question 5. Consider a circular loop of wire lying in the plane of the table. Let the current pass through the loop clockwise. Apply the right-hand rule to find out the magnetic field inside and outside the loop.

Solution:

At every point of a current -carrying loop, the concentric circles representing the magnetic field around it would become larger and larger as we move away from the wire. By the time we reach at the center of the circular loop, the arc of these big circles would appear as straight lines.

Question 6. The magnetic field in a given region is uniform. Draw a diagram to represent it.

Solution:



Question 7. The magnetic field inside a long straight solenoid-carrying current

- a) is zero
- b) decreases as we move towards its end
- c) increases as we move towards its end
- d) is the same at all points

Solution:

- d) is the same at all points

Question 8. Which of the following property of a proton can change while it moves freely in a magnetic field?

- (a) Mass
- (b) Speed
- (c) Velocity
- (d) Momentum

Solution:

- c) Velocity d) Momentum.

***** END *****