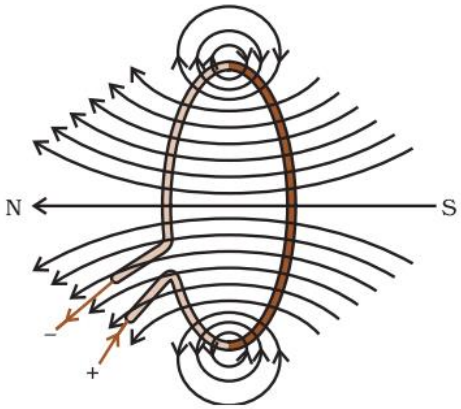
Question 1:

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 direction of the magnetic field inside and outside the loop.

Answer 1:

The magnetic field lines have been shown in Figure given below. As per right-hand rule, we find that inside the loop, the magnetic field lines are directed perpendicular to the plane of paper in the inward direction. Outside the loop magnetic field lines are directed out of the plane of paper.



Magnetic field lines of the field produced by a current-carrying circular loop

Question 2:

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

Answer 2:

The uniform magnetic field is represented by parallel, equidistant lines of equal length as shown in Figure.

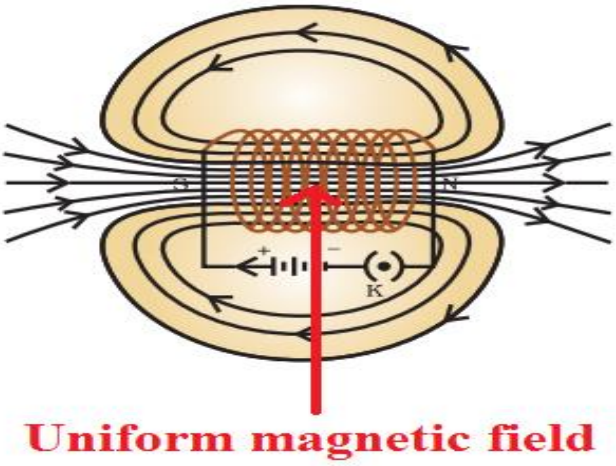
Uniform Magnetic Field Lines

Question 3:

Choose the correct option.
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.

Answer 3:

(d) is the same at all points.



Uniform magnetic field