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SUBJECT:- PHYSICS

CLASS:- XTH

REVISION:- 07/03/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 2. (MAGNETISM) (BASED ON NCERT PATTERN)

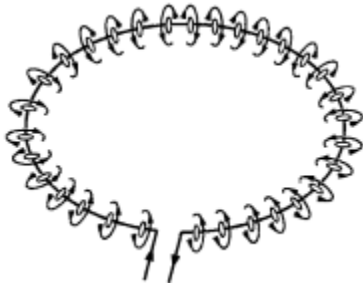
(REVISION)

Question 1. Why don't two magnetic lines of force intersect each other ?

Answer: This is due to the fact that the resultant force on a north pole at any point can be only in one direction. But if the two magnetic field lines intersect one another, then the resultant force on north pole placed at the point of intersection will be along two directions, which is not possible.

Question 2 . Consider a circular loop of wire lying on 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: As shown in figure alongside, each section of wire produces its concentric set of lines of force. By applying right hand thumb rule, we find that all the sections produce magnetic field downwards at all points inside the loop while at the outside points, the field is directed upwards. Therefore, the magnetic field acts normally into the plane of the paper at the points inside the loop and normally out of the plane of paper at points outside the loop.



Question 3. Why a compass needle get deflected when brought near a bar magnet ?

Answer: The magnetic field of the magnet exerts force on both the poles of the compass needle. The forces experienced by the two poles are equal and opposite. These two forces form a couple which deflects the compass needle.