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SUBJECT:- PHYSICS

CLASS:- XTH

DATE:12/09/XX

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 2. (MAGNETIC EFFECTS OF AN ELECTRIC CURRENT) (BASED ON NCERT PATTERN)

(REVISION)

Question 1:

What is a magnetic field ? How can the direction of magnetic field lines at a place be determined ?

Solution : The space surrounding a magnet in which magnetic force is exerted, is called a magnetic field. The direction of magnetic field lines at a place can be determined by using a compass needle. A compass needle placed near a magnet gets deflected due to the magnetic force exerted by the magnet. The north end of the needle of the compass indicates the direction of magnetic field at the point where it is placed.

Question 2:

Explain why, two magnetic field lines do not intersect each other.

Solution : Two magnetic field lines do not intersect each other 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 lines get intersect one another, this means that resultant force on a north pole placed at the point of interaction will be along two directions, which is not possible.

Question 3:

When an electric current is passed through any wire, a magnetic field is produced around it. Then why an electric iron connecting cable does not attract nearby iron objects when electric current is switched on through it ?

Solution : Because the strength of magnetic field produced by the cable is quite weak.

Question 4:

Which effect of current can be utilised in detecting a current carrying wire concealed in a wall ?

Solution :
Magnetic effect.