VIDYA BHAVAN, BALIKA VIDYAPEETH

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SUBJECT:- PHYSICS CLASS:- XTH DATE:09/03/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

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

(REVISION)

Question 1. Why does 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.

Question 2. List the properties of magnetic lines of force.
Answer: Properties of magnetic lines of force :

- The magnetic field lines originate from the north pole of a magnet and end at its south pole.
- The magnetic field lines become closer to each other near the poles of a magnet but they are widely separated at other places.
- Two magnetic field lines do not intersect one another.

Question 3. 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 4. What is the principle of an electric motor ?
Answer: A motor works on the principle of magnetic effect of current. When a rectangular coil is placed in a magnetic field and current is passed through it, a force acts on the coil which rotates it continuously.
When the coil rotates, the shaft attached to it also rotates. In this way the electrical energy supplied to the motor is converted into the mechanical energy of rotation.