**Aarambh classes**

**Class X(CBSE)**

**Science test**

**Electromagnetism and carbon compounds**

**Time : 2 hour M.Marks: 60**

1. (i)What is an electromagnet?

(ii)Explain,why an electromagnet is calLeda temporary magnet.

(iii)Explain why,the core of an electromagnet should be of soft iron and not of steel.

1. The directions of current flowing in the coil of an electromagnet at its two ends Xand Y are as shown below:
2. What is the polarity at end X?
3. What is the polarity of end Y?
4. Name and state the rule which you have used to determine the polarities.
5. (a) State what would happen to the direction of rotation of amotor if:

(i)the current were reversed

(ii)the magnetic field were reversed

(iii)both current and magnetic field were reversed simultaneously.

(b)In what ways can a motor be made more powerful?

4. A stream of positively charged particles moving towards west is deflectrd towards north by a magnetic field .Find the direction of the magnetic field.

5. Think you are sitting in a chamber with your back to one wall.An electron beam moving horizontally from back wall towards the front wall is deflected by a strong magnetic field to your right side.What is the direction of the Magnetic field?

6. A coil of insulated copper wire is connected to a galvanometer.What will happen if a bar magnet is :

(a) pushed into the coil?

(b)held stationary inside the coil?

(c) withdrawn from inside the coil?

7. Explain why,the direction of induced current in the coil of an AC generator changes after every half revolution of the coil.

8. (a)What do you understand by the term ‘electromagnetic induction?

(b)Name some sources of direct current and some of alternating current.

(c)State an important advantage of alternating current over direct current.

(d)What is the frequency of AC supply in india?

9. What is the function of split rings in a dc motor?

10. If you hold a coil of wire next to a magnet ,no current will flow in the coil.What else is needed to induce a current?