

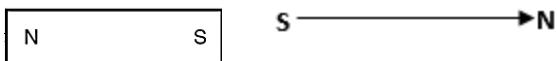
PHYSICS

Board – ICSE

Class – 9th

Topic – Magnetism

1. A small magnet is suspended by a silk thread from a rigid support such that the magnet can freely swing. How will it rest? Draw a diagram to show it.
2. What do you understand by magnetic induction. What role does it play in attraction of a piece of iron by a magnet?
3. 'Induction precedes the attraction'. Explain the statement.
4. State four properties of the magnetic field lines.
5. Explain the method of plotting the magnetic field lines by using a small compass needle.
6. Fig. shows a bar magnet placed on the table top with its north pole pointing towards south. The arrow shows the north-south direction. There are no other magnets or magnetic materials nearby.



- (a) Insert two magnetic field lines on either side of the magnet using arrow head to show the direction of each field line.
- (b) Indicate by crosses, the likely position of the neutral points.
- (c) What is the magnitude of the magnetic field at each neutral point? Give reason for your answer.
7. What is a neutral point? How is the position of neutral point located with the use of a compass needle?
8. State the position of neutral points when a magnet is placed with its axis in the magnetic meridian and with its north pole
 - (i) Pointing towards the geographic north.
 - (ii) Pointing towards the geographic south.
9. How is an electromagnet made? Name two factors on which the strength of magnetic field of the electromagnet depends.
10. Show with the aid of a diagram how a wire is wound on a U – shaped piece of soft iron in order to make it an electromagnet. Complete the circuit diagram and label the poles of the electromagnet.
11. State two ways through which the strength of an electromagnet can be increased.
12. State two advantages of an electromagnet over a permanent magnet.

13. How is the working of an electric bell affected , if alternating current be used instead of direct current ?
14. You are required to make an electromagnet from a soft iron bar by using a cell, an insulated coil of copper wire and a switch .
 - (a) Draw a circuit diagrams to represent the process.
 - (b) Label the poles of the electromagnet.
15. Why is soft iron used as the core of the electromagnet in an electric bell ?