

INDUCED MAGNETISM

- **Definition:**

Induced magnetism is the property by which a magnetic material becomes a temporary magnet when it is brought near a magnet.

- **Key Points:**

- i. Induced magnetism is usually temporary.
- ii. It occurs in magnetic materials such as iron, nickel, and cobalt.
- iii. The object becomes magnetized because of the nearby magnet.
- iv. When the magnet is removed, the induced magnetism decreases or disappears.

- **Different Ways of Inducing Magnetism:**

- 1. By Bringing a Magnet Near It (Magnetic Induction)-**

When a magnet is brought close to an iron object, the object becomes a temporary magnet.

No touching is required.

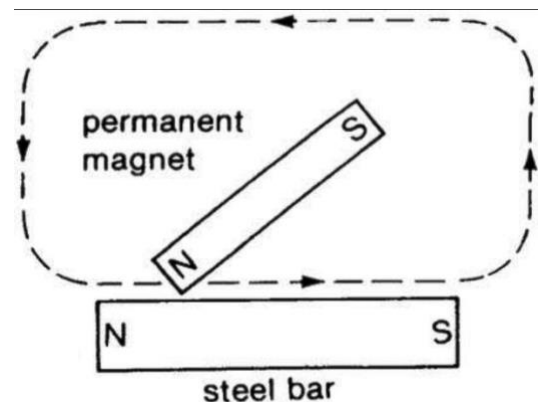
Example: An iron nail attracts pins when a magnet is held near it.

- 2. By Stroking (Touch Method)-**

A magnet is rubbed in one direction along an iron needle or steel bar several times.

The object gradually becomes magnetized.

Example: Making a sewing needle act like a magnet by rubbing it with a bar magnet.



- 3. By Electric Current-**

Passing electric current through a wire wound around an iron core makes it magnetic.

Such a temporary magnet is called an electromagnet.

Example: Electric bells and cranes used to lift scrap iron.