

# Application of Heating and Magnetic Effect of Current



## Applications of the Heating Effect of Current

Important applications of the heating effect of electric current are described below:

### Electrical heating appliances

- All electrical heating appliances are based on the heating effect of current.
- For example, appliances, such as electric iron, water heater and geysers, etc. are fitted with heating coils made of high resistance wire such as nichrome wire.

### Electric filament bulb

- Inside the glass shell of an electric bulb there is a filament.
- This filament is made from a very thin high resistance tungsten wire.
- When current flows through this filament, it gets heated up. Soon, it becomes white hot and starts emitting light.

### Electric fuse

- Electric fuse is a safety device which prevents damage to the electrical appliances and possible fire.
- Fuses are available in many different kinds and shapes.
- Fuse wire is made from a low- melting alloy. When large current passes through the circuit, this fuse wire gets heated up, and melts away. As a result, the circuit is broken and further damaged to the electrical appliances is prevented.
- A fuse is placed in the live wire. A fuse of proper rating should be use.

# Application of Heating and Magnetic Effect of Current



## Applications of Magnetic Effect of Current

- Electrical appliances such as the electric doorbell, electric fan, and electric motors work on the principle of electromagnets.
- They are used in lifting heavy iron loads and iron scrap.
- They are used to remove iron particles from the wound.
- They are used in the concentration of ores using electromagnetic separation.
- They are used in the preparation of strong permanent magnets used in speakers.
- They are used in loading iron in the furnace.
- Some medical ailments can be detected and cured by electromagnets.
- The principle of electromagnetism is used in high-speed Maglev trains.