ATOMIC ENERGY CENTRAL SCHOOL

HANDOUT MODULE : 2 CLASS - VII

CHAPTER 14 ELECTRIC CURRENT AND ITS EFFECTS

Glowing Filament of electric bulb:

When the electricity passes through the filament, the coiled wire becomes hot, this causes the filament to glow. Thus light is produced in the bulb.

ELECTRIC FUSE:

An electric fuse is a device that is used to prevent the damage that can occur due to the excess of electric current. The electric fuse is made up of a metal or an alloy which has low melting point. When

High voltage current pass through it the wire melts down and circuit breaks, this prevents further damage of the appliances connected to the circuit.

COMPACT FLUORESCENT LAMP (CFL):

CFLs do not work on the heating effect of electric current. They don't have a filament inside them instead they contain two electrodes that produce light. These have fluorescent coating which brighten ups the light. They prevent the wastage of energy as no electricity is converted into heat.

MINIATURE CIRCUIT BREAKER(MCB):

Miniature circuit breaker is used instead of Fuse. Once a fuse breaks it cannot be reused but in MCB, the switch turns OFF on its own when a circuit overloads. Once the problem is resolved we can reuse it.

ISI MARKING:

ISI stands for Indian Standards Institute which standardizes all electrical appliances. It guarantees the safe use of appliances.

The electric appliances that don't have ISI mark on them are not safe to use.

MAGNETIC EFFECTS OF ELECTRIC CURRENT:

When an electric current is passed through a wire it behaves like a magnet. This is called the magnetic effect of electric current. This was first observed by a scientist, Hans Christian Oersted.

He observed that the needle of a compass deflects when an electric current is passed through a wire placed near the compass. This indicates that a magnetic field is generated near the wire that deflects the needle.

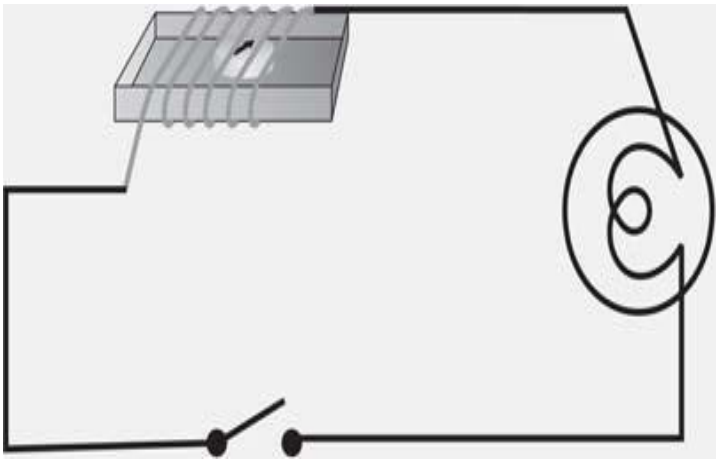

Fig: deflection of needle due to electric current

ELECTROMAGNET: A magnet whose magnetic field is generated by electric current is called an electromagnet. It is made because of the magnetic effect of the electric current. Electromagnets are used in appliances such as electric bell.