

# VIDYA BHAWAN BALIKA VIDYAPEETH

## STUDY MATERIAL SCIENCE CLASS-VII

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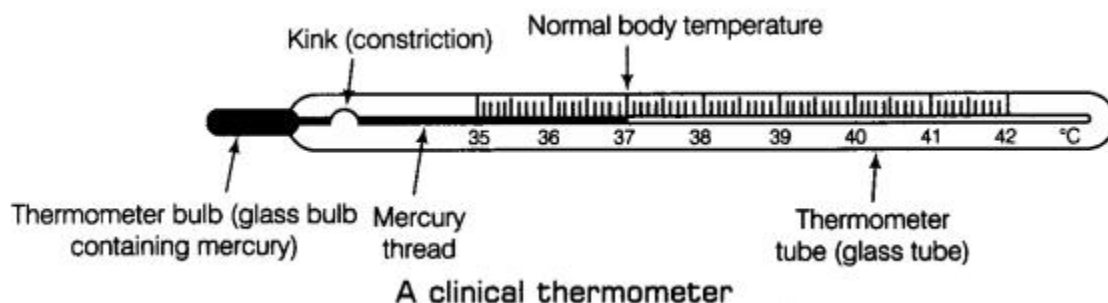
### ► Heat

#### **Clinical Thermometer**

It is the thermometer which is used for measuring the temperature of the human body. In case of fever, it is used by a doctor (or at home) to measure the temperature of the patient. This thermometer consists of a long glass tube having a thin and uniform bore. There is a glass bulb at one end of the glass tube which consists of mercury as shown in the figure given below:

#### **Features of a Clinical Thermometer**

There is a very short range of temperature of a clinical thermometer, i.e. from 35°C to 42°C. The short range of a clinical thermometer is because of the fact that the temperature of human body normally does not go below 35°C or above 42°C.



Just above the bulb containing mercury, a clinical thermometer has a kink in its glass tube which is to prevent the back flow of mercury into the thermometer bulb when the thermometer bulb is removed from the mouth of a patient. This kink prevents the mercury level in the thermometer tube

from falling on its own. Due to this, we can read the correct body temperature of the patient even after removing the thermometer bulb from his mouth.

**Note:** After noting the body temperature, the level of mercury can be brought down by giving jerk to the thermometer tube.

As mercury is very toxic and is difficult to dispose off, so thermometer must be handled carefully. Clinical thermometer should not be used to measure the temperature of objects other than the human body. It should not be kept in the sun or near a flame, otherwise, it may break. Nowadays, digital thermometers are used which do not use mercury.

### **Reading a Clinical Thermometer**

There are following steps to read the temperature on a thermometer.

**Step I:** Firstly, wash the thermometer with an antiseptic solution and if in case, the antiseptic solution is not available, then wash it with clean water.

**Step II:** Gently, hold the thermometer tube in your hand and give it a jerk in such a way that the mercury thread in the thermometer tube falls below the reading of  $35^{\circ}\text{C}$ .

**Step III:** Now, put the bulb of the thermometer under the tongue of the patient for about one minute. Then take out the thermometer from the patient's mouth.

**Step IV:** In order to read the temperature, hold the thermometer horizontally in your hand and rotate it slowly. When we see a magnified image of the mercury thread in its tube, then a position will come. Now, read the temperature on thermometer tube in level with the top of the mercury thread.