

Test Yourself

A. Objective Questions :-

① Write True or False for each statement :-

a) S.I unit of temperature is fahrenheit.

Ans - False

b) Every measurement involves two things - a no. and a unit.

Ans - True

c) Mass is the measure of quantity of matter.

Ans - True

d) The S.I unit of time is hour.

Ans - False

e) The area can be expressed as the product of length of two sides.

Ans - True

② Fill in the blanks :-

a) The S.I unit of length is metre, of time is second and of mass is kilogram.

- b) $^{\circ}\text{C}$ is the unit of temperature.
- c) 1 metric tonne = 1000 kg.
- d) The zero mark in Celsius thermometer is the melting point of ice.
- e) The thermometer used to measure the human body temperature is called the clinical thermometer.
- f) The normal temperature of human body is 37°C and 98.6°F .
- g) The mass of an object is measured with the help of a beam balance.

③ Match the following columns:-

Column A

Column B

a) length of a housing plot.

i) clock (d)

b) Breadth of a book

ii) Beam balance (c)

c) Mass of an apple

iii) Thermometer (e)

d) Period of time
for study

e) Temperature of a
body.

f) Surface area of
a leaf.

iv) Measuring tape (a)

v) Graph Paper. (b)

vi) Metre ruler. (b)

4) a) i) 10°C

b) ii) 1 cm

c) iii) area

d) iv) mm

e) v) $^{\circ}\text{C}$

B. Short/Long Answer Questions :-

1) Measurement is a comparison of an unknown quantity with a known fixed quantity of the same kind.

The value obtained on measuring a quantity is called its magnitude. The magnitude of a quantity is expressed as numbers in its unit.

② Two characteristics of unit :-

→ It should be of convenient size.

→ It must be universally accepted, i.e., its value must remain same at all places and at all times.

③ In our daily life, we measure the following four basic physical quantities -

(i) length

(ii) mass

(iii) Time

(iv) Temperature.

④ SI units are as follows -

Quantity	S.I. unit	Symbol of S.I unit
(i) mass	kilogram	kg
(ii) length	metre	m
(iii) Time	second	s
(iv) Temperature	kelvin	K

⑤ one metre is defined as the distance travelled by light in air is $\frac{1}{299,792,458}$ of a second.

Multiple of metre = kilometre

Sub-multiple of metre = centimetre.

⑥ a) 12 inch = 1 ft

b) 1 ft = 30.48 cm

c) 20 cm = 0.2 m

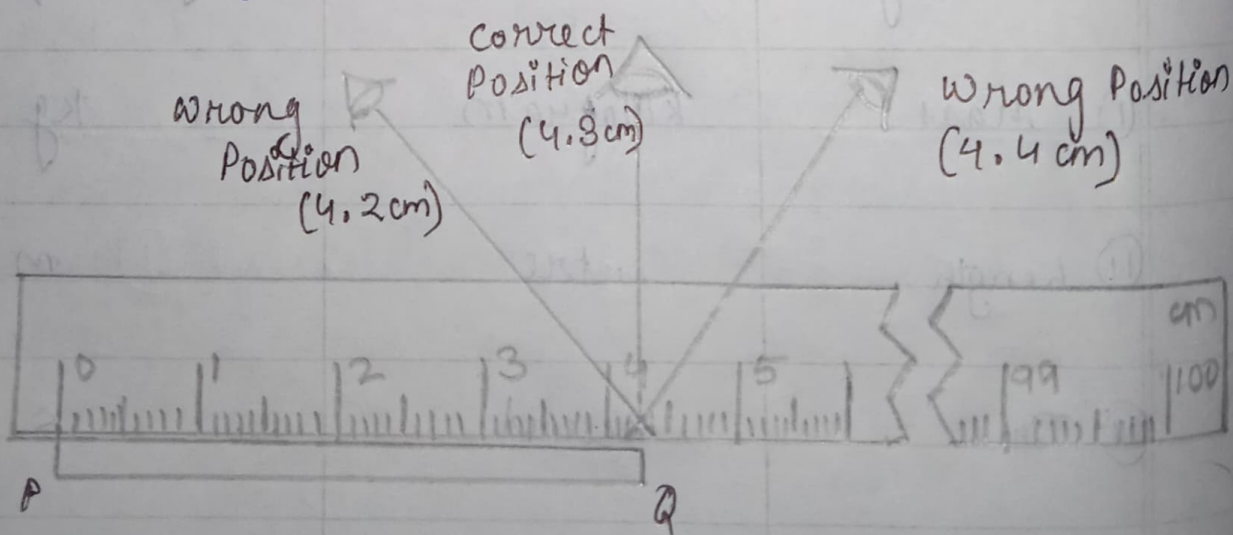
d) 4.2 m = 420 cm

e) 0.2 km = 200 m

f) 0.2 cm = 2 mm

g) 1 yard = 0.91 m

⑦ a) To measure the length of a pencil using a metre rule, place metre rule with its marking close to the object. Let PQ be a pencil.



The end P of the pencil coincides with the zero mark on the ruler. The end Q of the pencil is read by keeping the eye at position 'B' vertically above the end Q. So the length of the pencil is 4.3 cm.

- 6) The ends of the ruler get damaged with use and its 0 mark may not be visible. To measure the length of an object with such a ruler, the object is placed close to a specific markings on the ruler and positions of both ends of the object are read on the ruler.

The difference of the two readings gives the length of the object. In the figure the reading on ruler at the end N is 1 cm and at the end X is 4.3 cm. So, the length of the rod NX is $4.3 - 1.0 = 3.3$ cm.

- 8) we will use a measuring tape to measure the perimeter of our playground. To measure the length of playground the tape is spread along the length of the curved area.

Laboratory Thermometer	Clinical Thermometer.
→ The stem has markings from -10°C to 110°C .	→ It has markings from 35°C to 42°C / 95°F to 110°F
→ It doesn't have a kink which called a constriction.	→ It has kink, known as constriction, to prevent the mercury from falling back all by itself

TEST YOURSELF

B. Short / Long Answer Question.

(19) Name the instrument used for measuring the temperature a person. Draw its neat labelled diagram.

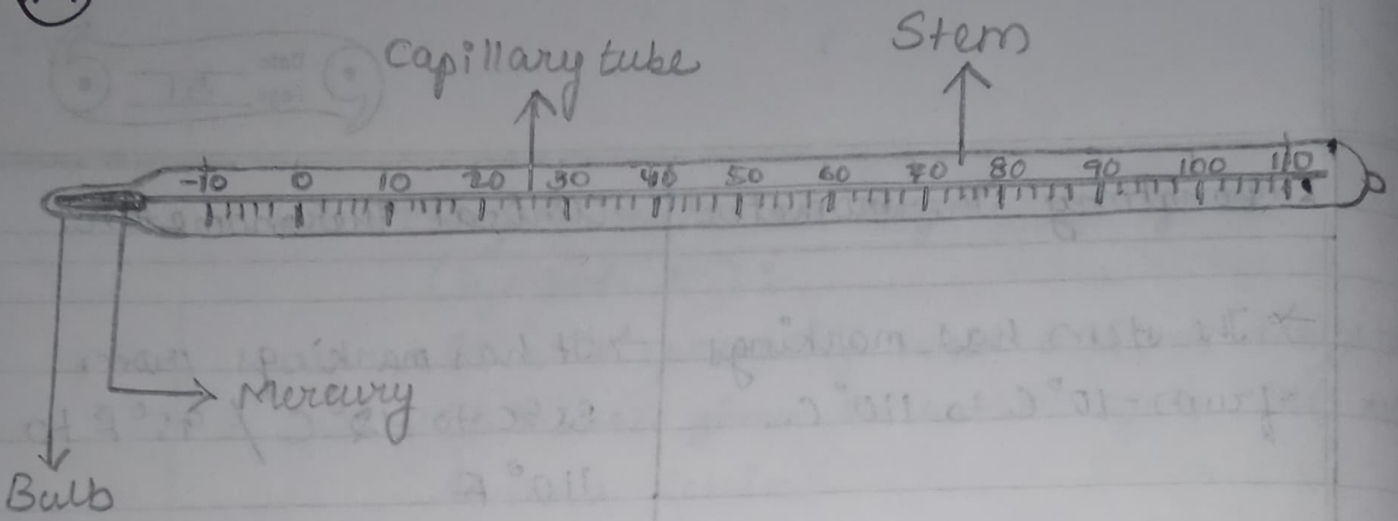
Ans - The temperature is measured with a thermometer.

(20) Write the temperature of :

i) Melting point = 0°C / 32°F / 273 K

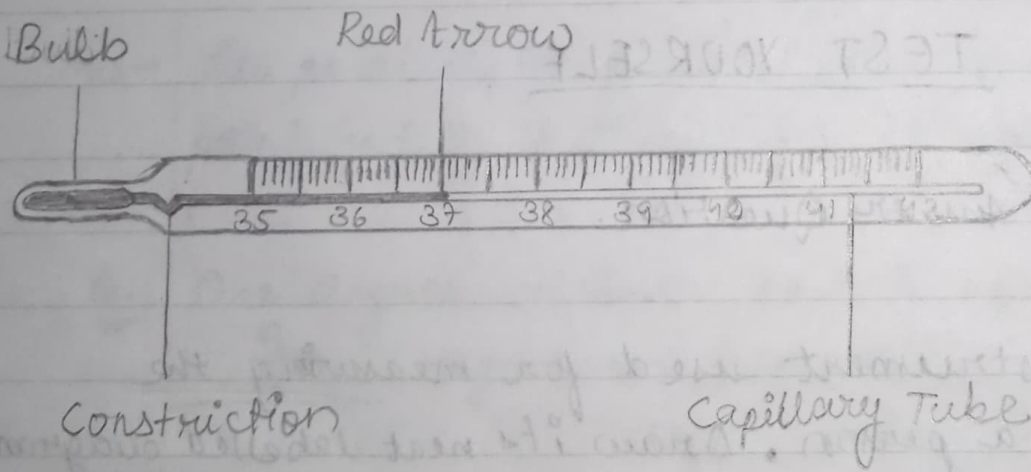
ii) Boiling point = 100°C / 212°F / 373 K

19



Laboratory Thermometer

20



Clinical Thermometer

if Melting point = $0^{\circ}\text{C} / 32^{\circ}\text{F} / 273\text{K}$
 if Boiling point = $100^{\circ}\text{C} / 212^{\circ}\text{F} / 373\text{K}$

(21) What is a clinical thermometer? State its special features. Draw a neat labelled diagram of a clinical thermometer showing the range of temperature marked on it.

Ans- Doctors use a special thermometer called the clinical thermometer for measuring the temperature of the patient's body. This ~~is~~ thermometer has markings from 35°C to 42°C . It has a slight bend or kink in the stem just above the bulb, this kink is called constriction, which prevents the mercury from falling back all by itself. The temperature of a healthy person is 37°C and is marked by a red arrow.