Answers :-

1) The density of a substance is defined as the mass of a unit volume of that substance.

2) The S.I unit of density is kgm^{-3}

The c.g.s unit of density is $g\,cm^{-3}$

* Relationship between kgm^{-3} and gcm^{-3}

We know that $1kg = 1000\,g$

or $1g = \frac{1}{1000}\,kg$

and $1m^3 = (100\,cm)^3$

$\Rightarrow 100\,cm \times 100\,cm \times 100\,cm$

$\Rightarrow 10,00,000\,cm^3$

or $1\,cm^3 = \frac{1}{1000000}\,cm^3$

Now $1g\,cm^{-3} = \frac{1g}{1cm^3}$

Toad

$$\frac{\frac{1}{1000}\,kg}{\frac{1}{1000000}\,m^3}$$

$$\Rightarrow \frac{1000000}{1000}\,kgm^{-3}$$

$$\Rightarrow 1000\,kgm^{-3}$$

Thus $1\,g\,cm^{-3} = 1000\,kgm^{-3}$

3) The density of water is maximum at 4°C. It decreases w
it is cooled from 4°C to 0°C or it is heated above 4°C to 0°

5) The mass of 5l of water = 5kg
The mass of 5l

$\Rightarrow 1kg = 1000\,g/cm^3$

$5kg \Rightarrow 5 \times 1000\,gcm^{-3}$

$\Rightarrow 5000\,gcm^{-3}$

6)

Mass	Weight
1) It is the quantity of mass contained in a body	1) It is the force with which the earth attracts the body.
2) Its S.I unit is kilogram (kg).	2) Its S.I unit is newton (N)
3) It is constant for a body and it does not change by changing the place of the body	3) It is not constant for a body but changes from place to place
4) It is measured by a beam balance	5) It is measured by a spring balance

7) An object can be in motion relative to one set of objects while at rest relative to some other set of objects. This rest and motion are relative terms. This can be understood by the following example :-

i) Suppose you are sitting in a room. You are at rest in relation to other stationary objects inside the room. But the room (or home) is on Earth and the Earth itself is at rest. The Earth revolves around the Sun. Thus, you are revolving with the Earth around the Sun.

8) In rotatory motion, the axis of rotation passes from a point in the body itself whereas in the circular motion outside the body

9) 1kg = 1 kgs

10) 1kgs = 10 N (Nearly (9.8N)

10) The ~~weight~~ o mass of the body stays constant everywhere on Earth and on other heavenly bodies. But the weight of the body changes from place to place depending on the force of attraction of Earth on the body.

10) Uniform motion	Non- Uniform motion
a) If a moving body travels equal distances in equal intervals of time; then its motion is said to be uniform. b) Ex- The hands of clock	a) If a moving body travels unequal distances in equal intervals of time, it's motion is said to be non-uniform b) Ex- We cycle slowly on a busy road and speedily on a clean road.

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