Mass = $10 cm^3$

Volume = 103gm

NUMERICAL

1→ The mass of $10cm^3$ of silvere is 103 gm. find.
(a) The density of silvere in kg/m^3.
(b) Relative density of silvere.

A→(a) Mass = $10cm^3$ 103gm

Volume = $10 cm^3$

Density = $\frac{M}{V}$

$$\frac{103g}{10cm^2} = 10.3 g/cm^{-3}$$

$$1kg = 100g = 10.3 \times 1000 kg/m^{-3}$$

$$= 10300 kg/m^{-3}$$

b→ R.D. of silver

Lets assume the liquid/water = $1000 kg/m^{-3}$

Density of silver / Density of water

$$\frac{10300\,kg\,m^{-3}}{1000\,kg\,m^{-3}} = 10.3$$

2→ A piece of wood of mass 150g has a volume of $200\,cm^3$. Find the density of wood in c.g.s. unit and SI unit.

A→ Mass = 150g

Volume = $208\,cm^3$

SI unit = kg/m^3

$$D = \frac{M}{V} = \frac{150}{200} = \frac{15 \times 5}{20 \times 5} = \frac{75}{100}$$

$0.75\,g/cm^3$

$1\,kg = 1000\,g/m^{-3}$

$0.75\,g/cm^3 \times 1000\,kg/m^{-3} =$

$7500\,kg/m^{-3}$

C.G.S Unit = g/cm^3

$$\rho = \frac{M}{V} = \frac{150}{200} = \frac{15 \times 5}{20 \times 5} = \frac{75}{100}$$

$0.75\,g/cm^3$

3→ How does the density of a liquid (or gas) very with temperature?

A→ As we increase temprature in liquid the temprature increase and volume descreas. and when it is called the desity decrease and volume increase,

4→ Debine the term relative density of a substance. what is the unit of relative density?

A→ The relative desity is a nethod which gives us the the ratio of a liquid The unit of R.D. is g/cm^3.

5→ How does the density of a body and that of a liquid determine whether the body

will float or sink into that liquid?

A→ The float and sinking is based in the desity because if the liquid is more dense than the solid that it will float. If the solid is more denser than liquid that it will sink.

6→ What is the law of floatation?

A→ The lawe tell us that the weight of floating body is weight of the displaced water by its immersed parts. All the weight of the floating sinking parts are equal

The diagram given below shows a body floating in three different liquids A, B and C at different levels.

a) in which liquid does the body experience the greatest booyant force?

A) No oleject will experience greatest boouyancy force because the weight of water and solid is all equal. So we cannot say which solid experiences the greatest booyancy force

~~Liquid C has~~

b) which liquid has the least density?

A) Liquid C has the least density

c) which liquid has the highest density?

A) Liquid A has the highest density