Q1(i) Mass of silver = 1000gm = 1kg

volume of silver = $10cm^3 = \frac{10}{1000000} = 10^{-5}$

Density = $\frac{\text{Mass}}{\text{volume}} = \frac{1}{10^{-5}} = \frac{10^5 kg}{m^3}$

(ii) Relative Density = $\frac{\text{Density of silver}}{\text{Density of water}}$

Density of water = $\frac{1kg}{m^3} = \frac{10^5}{1} = 10^5$

Q2)(i) Mass of wood = 150g

volume of wood = $200\ cm^3$

Density = $\frac{M}{V} = D = \frac{150}{200} = D = 0.75\ g/cm^3$

(ii) In SI system = $0.75 \times 1000 = 750\ kg/m^3$

Q3) As the temperature increases, volumes of most of liquids also increases and when the volume increase density decreases. Similarly, when temperature decreases, the volume of most liquids decreases increases the density. However, water shows ano behaviour. water has maximum volume at 4 d

celcius and maximum density at 4 degree celcius. But when water is cooled down further its volume starts increasing and hence, the density of water decreases when cooled farther below than 4 degree celcius.

Hence, the density of water is maximum at 4 degree celcius at 1 gcm^{-3} or $1000 kg/m^{-3}$

Q4) Relative Density is the ratio of mass of the substance to the mass of an equal volume of at 40c. It is a ratio and thus has no units

Q5) the Density of an object determines whether it will float or sink in another substance. An object will float if it is less dense than the liquid it is placed in. An object will sink if it is more dense than the liquid it is placed in.

Q6) The principle of floatation states that when an object floats on a liquid the bouyant force that acts on the object is equal to the weight of the object.

Q7)(a) the bouyant force is the same in each case as the weight of the body is the same in each case and bouyant force is equal to the weight of liquid displaced by the immersed part of the body which balances the weight of the body.

(b) The liquid A has the least density as the body immerses the maximum.

(c) Liquid C has the highest density as the body immerses the least.