III. Short Answer Type Questions
Question 1. A ship made of iron does not sink but the iron rod sinks in water, why?
Answer: The iron rod sinks due to high density and less buoyant force exerted by the water on it, but in case of ship the surface area is increased, the upthrust experienced by the body is more. So it floats on water

Question 2. Camels can walk easily on desert sand but we are not comfortable walking on the sand. State reason.
Answer: Camels feet are broad and the larger area of the feet reduces the force/ pressure exerted by the body on the sand. But when we have to walk on the same sand, we sink because the pressure exerted by our body is not distributed but is directional.

Question 3. What is lactometer and hydrometer?
Answer: Lactometer is a device used to find the purity of a given sample of milk. Hydrometer is a device used to find the density of liquids.

Question 4. The relative density of silver is 10.8. What does this mean?
Answer: It means that the density of silver is 10.8 times more than that of water. T

Question 5. he relative density of gold is 19.3. The density of water is 10^3 kg/m^3? What is the density of gold in S.I. unit?
Answer:

$$\text{Relative density of gold} = 19.3$$

$$\text{Relative density of gold} = \frac{\text{Density of gold}}{\text{Density of water}}$$

$$\therefore \text{Density of gold} = \text{Relative density of gold} \times \text{Density of water}$$
$$= 19.3 \times 10^3 \text{ kg/m}^3$$
$$= 19300 \text{ kg/m}^3.$$

Question 6. State Archimedes' principle.
Answer: Archimedes' principle—When a body is immersed fully or partially in a fluid, it experiences an upward force that is equal to the weight of the fluid displaced by it.
It is used in designing of ships and submarines.

Question 7. Two cork pieces of same size and mass are dipped in two beakers containing water and oil. One cork floats on water but another sink in oil. Why?
Answer: The cork floats on water because the density of cork is less than the density of water, and another cork sinks in the oil because the density of cork is more than the oil.

Question 8. What are fluids? Why is Archimedes' principle applicable only for fluids? Give the application of Archimedes' principle.
Answer: Fluids are the substances which can flow e.g., gases and liquids are fluids. Archimedes' principle is based on the upward force exerted by fluids on any object immersed in the fluid.
Hence it is applicable only for fluids.
Applications of Archimedes' principle:

1. It is used in designing of ship and submarine.
2. It is used in designing lactometer, used to determine the purity of milk,
3. To make hydrometers, used to determine the density of liquids.

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