

Board – ICSE

Class – 8<sup>th</sup>

Topic – Physical quantities and measurement

1. Define the term density of a substance.
2. How does the density of a liquid (or gas) vary with temperature?
3. A given quantity of a liquid is heated. Which of the following quantity will vary and how? (a) mass, (b) volume and (c) density
4. Describe an experiment to determine the density of a liquid.
5. Explain the meaning of the statement 'relative density of aluminium is 2.7'
6. The density of water is  $1.0 \text{ g cm}^{-3}$ . The density of iron is  $7.8 \times 10^3 \text{ g cm}^{-3}$ . The density of mercury is  $13.6 \text{ g cm}^{-3}$ .

Ans the following:

- (a) Will a piece of iron float or sink in water ?
  - (b) Will a piece of iron float or sink in mercury ?
7. It is easier to swim in sea water than in river water. Explain the reason.
  8. Icebergs floating on sea water are dangerous for ships. Explain the reason.
  9. What is a submarine? How can it be made to dive in water and come to the surface of water?
  10. A balloon filled with hydrogen rises in air. Explain the reason.
  11. Name the S.I. unit of density. How is it related to  $\text{g cm}^{-3}$ ?
  12. Describe an experiment to determine the density of the material of a coin.
  13. Define the term relative density of a substance.
  14. Distinguish between density and relative density.
  15. Which of the following will sink or float on water? (Density of water =  $1 \text{ g cm}^{-3}$ )
    - (a) body A having density  $500 \text{ kg m}^{-3}$
    - (b) body B having density  $2520 \text{ kg m}^{-3}$
    - (c) body C having density  $1100 \text{ kg m}^{-3}$
    - (d) body D having density  $0.85 \text{ g m}^{-3}$