

VALUE BASED QUESTIONS

(1) Scuba divers when come towards the surface, the pressure gradually decreases resulting in the released of dissolved gases leading to formation of bubbles of nitrogen gas in the blood which blocks the capillaries and thus harmful kinds are created. To avoid bends and toxic effects of high concn of nitrogen gas, the air is diluted with helium. After reading the above passage, answer the following questions.

- i) Why is the harmful condition of bends overcome by the use of helium.
- ii) Which law is used to calculate the concentration of gases in solution.
- iii) Mention the value associated with providing divers air diluted with helium.

(I) Helium is less soluble in blood than Nitrogen.

(ii) Henry's Law.

(iii) To avoid bends and toxic effects of high concn of nitrogen gas, the air should be diluted with helium.

(2) Ram takes an open pan to cook vegetables at a hill station while shyam cook the same vegetables in a pressure cooker at the same place.

- (a) Explain with reason who will cook vegetable faster.
- (b) Mention the reason for the delay in cooking.
- (c) Which value is learnt by the student in the process of cooking the food in pressure cooker?

(a) Shyam.

(b) In pressure cooker boiling point is increased and food gets cooked easily.

(c) Cooking food in pressure cooker will save money and time.

3. People taking a lot of salt or salty food experience water retention in tissue cells and intercellular spaces because of osmosis. The swelling or puffiness is called edema. When RBC are placed in this solution water comes out of the cells and they shrink.

(a) Why it is advised to take limited amount of salt?

(b) Give any use of osmosis.