Question 9

This question is about density and the transfer of internal energy.

Fig. 3.1 is a graph showing how the volume of a fixed mass of water varies as the temperature increases from –2 °C to 10 °C.

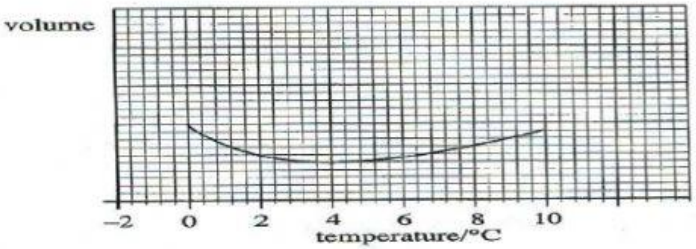


Fig. 3.1

(a) Describe how the volume of the water varies

(i) at 0 °C,

_____

(ii) between 0 °C and 4 °C,

_____

(iii) between 4 °C and 10 °C.

_____ [3]

(b) Use the terms maximum and minimum to describe the volume and density of water at 4 °C.

(i) volume _____

(ii) density _____ [2]

(c) State the term used to describe this property of water.

_____ [1]

(d) Fig. 3.2 shows a section through a small pond.

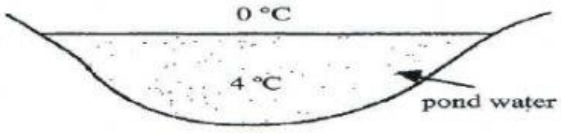


Fig. 3.2

(i) Name the main method of internal energy transfer which will take place from the water at the bottom of the pond to the water at the surface.

_____ [1]

(ii) Describe and explain what happens when the temperature of the water at the bottom of the pond drops to 4 °C.

_____

_____

_____ [3]

Total marks [10]

LIVEWORKSHEETS