

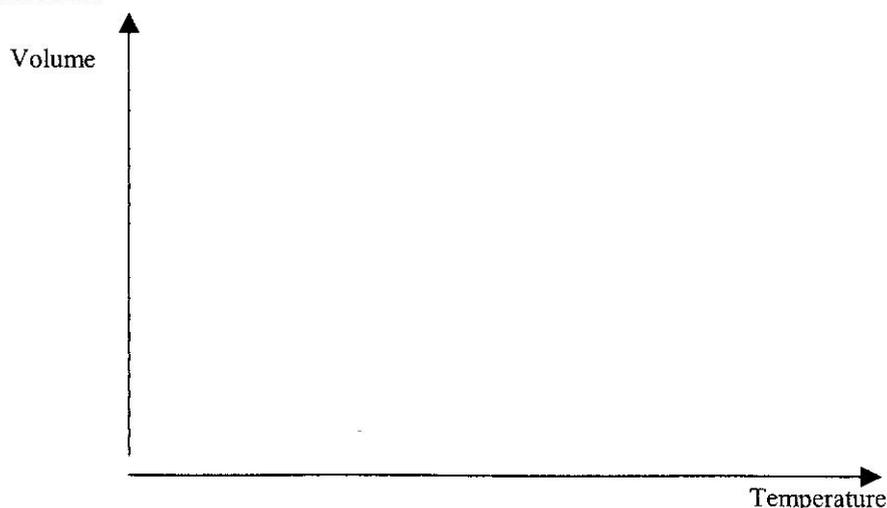
Physics teachers should explain carefully the circumstances where a body is said to be stable, unstable or in neutral equilibrium. In this question majority of candidates could not see that the block remains in a stable state and **NOT** unstable state even when water was added, it only became less stable.

Expected Response

- Stability is reduced; or less stable or stability is lowered
- Adding water makes the upper section heavier; thus raising the centre of gravity of the block; hence reducing stability.

Question 5

The temperature of water in a measuring cylinder is lowered from about 20°C to 0°C. On the axes provided, sketch the graph of volume against temperature assuming the water does not freeze. (1 mark)



Candidates were expected to recall that water behaves in a peculiar manner when cooled from room temperature to zero degrees centigrade – the volume is the lowest at 4°C after which it expands until it is 0°C. Candidates were expected to show this graphically on the space provided.

Weaknesses

Candidates were not able to demonstrate this behaviour graphically. Some drew graphs showing lowest volume at 4°C but drew straight-line graphs instead of smooth curves.