

- 14** An object, immersed in a liquid in a tank, experiences an upthrust.

What is the physical reason for this upthrust?

- A** The density of the body differs from that of the liquid.
  - B** The density of the liquid increases with depth.
  - C** The pressure in the liquid increases with depth.
  - D** The value of  $g$  in the liquid increases with depth.
- 15** A force of 1000 N is needed to lift the hook of a crane at a steady velocity. The crane is then used to lift a load of mass 1000 kg at a velocity of  $0.50 \text{ m s}^{-1}$ .

How much of the power developed by the motor of the crane is used in lifting the hook and the load? Assume that the acceleration of free fall  $g$  is equal to  $10 \text{ m s}^{-2}$ .

- A** 5.0 kW      **B** 5.5 kW      **C** 20 kW      **D** 22 kW

**Space for working**