

Name of the Student: _____

Max. Marks : 21 Marks

Time : 21 Minutes

Mark Schemes

Q1.

(a) Milky Way 1

(b) distance = $300\,000 \times 500$ 1d = $150\,000\,000$ (km) 1*an answer of 150 000 000 scores 2 marks*

(c) 3 1

(d) accept any number greater than 1.0 and less than 12.0 1

(e) $\frac{9}{0.6}$ 1

15 1

*an answer of 15 scores 2 marks***[7]****Q2.**

(a) C 1

(b) weight = 2.5×9.8 1weight = 24.5 (N) 1
*an answer of 24.5 rounded to 25 scores 2 marks**an answer of 24.5 scores 2 marks*

(c) the upthrust is the same as the weight 1

(d) (resultant) force = mass \times acceleration 1
allow $F = m a$

(e) $4.0 = 2.5 \times a$

1

$$a = \frac{4.0}{2.5}$$

1

$$a = 1.6 \text{ (m/s}^2\text{)}$$

1

an answer of 1.6 scores 3 marks

[8]

Q3.

(a) $p = \frac{27}{0.009}$

1

$$p = 3000$$

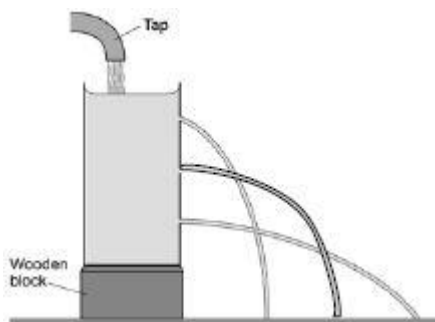
1

Pa

1

an answer of 3000 scores 2 marks

(b)



the water path hits the surface somewhere between the other two paths

1

(c) pressure increases with depth

allow when the pressure is higher, the water travels further

1

(d) pressure acts in all directions

or

pressure causes a force on (all) the surfaces

ignore liquids cannot be compressed

1

[6]