## **EQUATIONS**

You may find the following equations useful.

energy transferred = current 
$$\times$$
 voltage  $\times$  time  $E = I \times V \times t$ 

frequency = 
$$\frac{1}{\text{time period}}$$
  $f = \frac{1}{T}$ 

$$power = \frac{\text{work done}}{\text{time taken}} \qquad P = \frac{M}{t}$$

$$power = \frac{energy transferred}{time taken} \qquad P = \frac{W}{t}$$

orbital speed = 
$$\frac{2\pi \times \text{orbital radius}}{\text{time period}}$$
  $V = \frac{2 \times \pi \times r}{T}$ 

(final speed)<sup>2</sup> = (initial speed)<sup>2</sup> + 
$$(2 \times acceleration \times distance moved)$$

$$v^2 = u^2 + (2 \times a \times s)$$

pressure × volume = constant 
$$p_1 \times V_1 = p_2 \times V_2$$

$$\frac{\text{pressure}}{\text{temperature}} = \text{constant} \qquad \qquad \frac{p_1}{T_1} = \frac{p_2}{T_2}$$

Where necessary, assume the acceleration of free fall,  $g = 10 \text{ m/s}^2$ .