## **Formulae**

uniformly accelerated motion,

$$s = ut + \frac{1}{2}at^2$$
$$v^2 = u^2 + 2as$$

work done on/by a gas,

gravitational potential,

hydrostatic pressure,

pressure of an ideal gas,

simple harmonic motion,

velocity of particle in s.h.m.,

electric potential,

capacitors in series,

capacitors in parallel,

energy of charged capacitor,

resistors in series,

resistors in parallel,

alternating current/voltage,

radioactive decay,

decay constant,

$$W = p\Delta V$$

$$\phi = -\frac{Gm}{r}$$

$$p = \rho gh$$

$$p = \frac{1}{3} \frac{Nm}{V} < c^2 >$$

$$a = -\omega^2 x$$

$$v = v_0 \cos \omega t$$

$$v = \pm \omega \sqrt{x_0^2 - x^2}$$

$$V = \frac{Q}{4\pi\varepsilon_0 r}$$

$$1/C = 1/C_1 + 1/C_2 + \dots$$

$$C = C_1 + C_2 + \dots$$

$$W = \frac{1}{2}QV$$

$$R = R_1 + R_2 + \dots$$

$$1/R = 1/R_1 + 1/R_2 + \dots$$

$$x = x_0 \sin \omega t$$

$$x = x_0 \exp(-\lambda t)$$

$$\lambda = \frac{0.693}{t_{\frac{1}{2}}}$$