



Formulae

The formulae below will be supplied in each examination. Any other physics formulae that are required will be provided in the question.

Unit 1

Mechanics	
Kinematic equations of motion	$v = u + at$ $s = ut + \frac{1}{2}at^2$ $v^2 = u^2 + 2as$
Forces	$\Sigma F = ma$ $g = F/m$ $W = mg$
Work and energy	$\Delta W = F\Delta s$ $E_k = \frac{1}{2}mv^2$ $\Delta E_{\text{grav}} = mg\Delta h$
Materials	
Stokes' law	$F = 6\pi\eta r v$
Hooke's law	$F = k\Delta x$
Density	$\rho = m/V$
Pressure	$p = F/A$
Young modulus	$E = \sigma/\epsilon \text{ where}$ $\text{Stress } \sigma = F/A$ $\text{Strain } \epsilon = \Delta x/x$
Elastic strain energy	$E_{\text{el}} = \frac{1}{2}Fx$