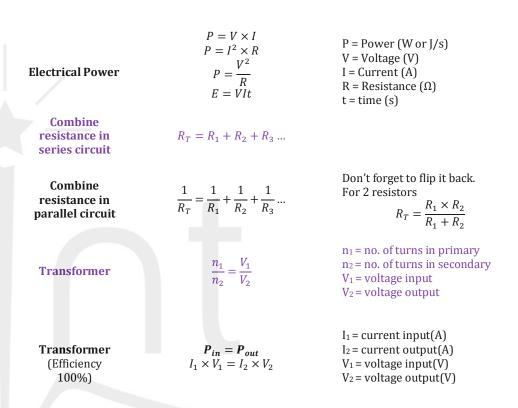
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Density	$ \rho = \frac{m}{V} $	ρ(rho) = density (kg/m³ or g/cm³) m = mass (kg or g) V = volume (m³ or cm³)	s-t graph	Area under s-t graph = distance	Area of trapezium = $1/2 \times (a+b) \times h$ a and b are parallel sides
Constant Speed (only)	$s = \frac{D}{t}$	S = speed (m/s) D = distance (m) t = time (s)	Pressure	$p = \frac{F}{A}$	P = pressure (Pa=Pascal or N/m²) F = force (N) A = area (m²)
Average speed	$average \ speed = rac{Total \ distance}{Total \ time}$	Average speed = (u + v)/2 u = initial speed (m/s) v = final speed (m/s)	Pressure in liquid	$p = \rho \times g \times h$	ρ = density (kg/m ³) g = gravity = 10 m/s ² h = height or depth (m)
Acceleration	$a = \frac{v - u}{t}$	a = acceleration (m/s²) u = initial velocity (m/s)	Boyle's law	$p_1 \times V_1 = p_2 \times V_2$	P = pressure(Pa) V = volume(m³)
Newton's 2nd	$F = m \times a$	v = final velocity (m/s) F = force (N)	Charles' law	$\frac{V_1}{T_1} = \frac{V_2}{T_2}$	V = volume(m³) T = temperature(K=Kelvin)
law		m = mass(kg) a = acceleration (m/s ²) W = weight (N)	Pressure law	$\frac{p_1}{T_1} = \frac{p_2}{T_2}$	P = pressure(Pa) T = temperature(K)
Weight	$W = m \times g$	g = gravity (m/s^2) = 10 m/s ² m = mass (kg)	Gas law	$\frac{p_1 \times V_1}{T_1} = \frac{p_2 \times V_2}{T_2}$	P = pressure(Pa) T = temperature(K) V = volume(m³)
Moment	$Moment = F \times d$	F = Force (N) d = perpendicular distance from pivot (m or cm)	Work done	$W = F \times d$	W = work done (J=joule) F = force(N) d = distance moved in direction of
principle of moment	$M_{clockwise} = M_{anticlockwise}$				force (m)
Momentum	$p = m \times v$	p = momentum (kgm/s) m = mass (kg) v = velocity (m/s)	Specific Heat capacity	$Q = m \times c \times \Delta T$	Q = heat energy(J) m = mass(kg) c = specific heat capacity(J/kg C°) ΔT = change in temperature (C°)
Impulse	I = mv - mu = Ft	I = Impulse (Ns or kgm/s) m = mass (kg) u = initial velocity (m/s) v = final velocity (m/s)	Specific Latent heat	$Q = m \times L$	Q = heat energy (J) m = mass(kg) L = specific latent heat (J/kg)
D-t graph	Gradient of D-t graph = speed	F = Force (N) t = time (s)	Thermal Capacity	$C = \frac{Q}{\Delta T}$	Q = heat energy(J) C = Thermal capacity(J/C°) ΔT = change in temperature (C°)
s-t graph	Gradient of b-t graph = speed Gradient of s-t graph = acceleration		Gravitational potential energy	$GPE = m \times g \times h$	GPE = gravitational potential energy (J) g = gravity (10 m/s²) h = height (m)

Physics IGCSE CIE Formula

Kinetic energy	$KE = \frac{1}{2}mv^2$	<pre>KE = kinetic energy(J) m = mass(kg) v = velocity(m/s)</pre>
Power	$P = \frac{E}{t}$	P=power (W=Watt or J/s) E = energy or Work done(J) t = time(s)
Efficiency	$Eff = \frac{E_{out}}{E_{in}} = \frac{P_{out}}{P_{in}}$	E _{out} = useful energy output (J) E _{in} = energy input(J) P _{out} = power output(W) P _{in} = power input(W)
Frequency	$f = \frac{1}{T}$	f = frequency(Hz=hertz) T = time period(s)
Wave equation	$v = f \times \lambda$	v = velocity of wave (m/s) f = frequency (Hz) $\lambda(lambda) = wavelength (m)$
Refractive index (no unit)	$\frac{n_2}{n_1} = \frac{\sin \theta_i}{\sin \theta_r}$	n_1 = refractive index in medium 1 n_2 = refractive index in medium 2 θ_i = angle of incidence θ_r = angle of refraction refractive index in air = 1
Refractive index (n)	$n = \frac{speed \ of \ light \ in \ vacuum}{speed \ of \ light \ in \ medium}$	speed of light in vacuum = 3×10^8 m/s \approx in air
Critical angle	$\sin \theta_c = \frac{1}{n}$	θ_c = critical angle n = refractive index
Current (I)	$I = \frac{Q}{t}$	<pre>I = current (A or C/s) Q = charge (C=coulomb) t = time (s)</pre>
Voltage or Potential Difference (V)	$V = \frac{E}{Q}$	V = voltage or Potential Difference (V or J/V) E = energy (J) Q = charge (C)
Ohm's law	$V = I \times R$	V = voltage(V) I = current(A) R = resistance (Ω = Ohm)
Potential Difference (V)	v	E = energy (J) Q = charge (C) V = voltage(V) I = current(A)
		$R = resistance (\Omega = Onin)$





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