

Formulae For Physics

Quantity	Formulae
Density	$\frac{\text{mass}}{\text{volume}}$
Speed	$\frac{\text{Distance}}{\text{time}}$
Velocity	$\frac{\text{Displacement}}{\text{time}}$
Acceleration	$\frac{\text{velocity}}{\text{time}}$
Force	Mass x Acceleration
Weight	Mass X Gravity
Momentum	Mass x velocity
Pressure	$\frac{\text{force}}{\text{area}}$
Energy or Work	Force x distance
Power	$\frac{\text{work}}{\text{time}}$
Impulse	Force x time
Horizontal component(u_x)	$u \cos \theta$
Vertical Component(u_y)	$u \sin \theta$
Direction of vector(θ)	$\tan^{-1} \left(\frac{U_y}{u_x} \right)$
Resultant	$U = \sqrt{u_x^2 + u_y^2}$ OR $U = \sqrt{a^2 + b^2 + 2ab \cos \theta}$
Average Speed	$\bar{S} = \frac{D_1 + D_2 + D_3 + \dots + D_n}{T_1 + T_2 + T_3 + \dots + T_n}$
Capacitance	$C = \frac{Q}{V}$ OR $C = \frac{EA}{d}$ Q = charge V = potential difference
Capacitors in series	$\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$
Capacitors in parallel	$C = C_1 + C_2 + C_3$
Energy Stored in Capacitors	$E = \frac{1}{2} QV$

	$E = \frac{1}{2} CV^2$
	$E = \frac{1}{2} \frac{Q^2}{C}$
	Q = charge
	V = potential difference
	C = Capacitance
Velocity Ratio of Inclined plane	$\frac{1}{\sin \theta}$
Velocity Ratio of Hydraulic press	$\frac{R^2}{r^2}$
Velocity Ratio of Wheel and axle	$\frac{R}{r}$
Velocity Ratio of screw jack	$\frac{2\pi \cdot a}{p}$
Mechanical Advantage	$\frac{\text{load}}{\text{effort}}$
Efficiency	$\frac{MA}{VR} \cdot 100$
Time to reach maximum height	$\frac{u \sin \theta}{g}$
Time of flight	$2 \frac{u \sin \theta}{g}$
Maximum Height	$\frac{u^2 \sin^2 \theta}{2g}$
Range	$\frac{u^2 \sin 2\theta}{g}$

“Don’t let anyone ever dull your sparkle”

–Awwal