

NEET & JEE Physics Formula Sheet

Complete Class 11 + 12 • all 28 chapters

49

pages

28

chapters

129

formulas

19

diagrams

HOW TO USE THIS SHEET

One chapter per page, in syllabus order. Each page gives you the formulas, what every symbol means, when to use it, the mistake that costs marks, and how the board actually asks it.

Revise by covering the middle column and saying what each symbol means before you look.

SCOPE CHECKED

*Every formula here was checked against the official CBSE 2026-27 curriculum. Anything removed in rationalisation is marked **OUT OF SYLLABUS** so you do not waste revision time on it.*

What is inside

Marks distribution: Mechanics · Properties of Matter · Thermodynamics · Oscillations & Waves · Electrostatics · Current · Magnetism · EMI & AC · Optics · Modern Physics

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READ THIS FIRST

Chapters marked ♦ carry a diagram on the page after them, redraw each one yourself. A formula sheet is for **recall**, not for learning something the first time. Work through your textbook or notes first, then use these pages to keep everything fresh, daily, in short bursts, right up to the exam.

Units & Measurement

Formula	What it means	When to use it
$[M^a L^b T^c]$	dimensional formula	check any equation's consistency
$\frac{\Delta z}{z} = \frac{\Delta a}{a} + \frac{\Delta b}{b}$	relative error for products and quotients	errors ADD, always
$\frac{\Delta z}{z} = n \cdot \frac{\Delta a}{a}$	for $z = a^n$	powers multiply the error

THE MISTAKE THAT COSTS MARKS

Errors always add, never cancel, even in a division. And a dimensionally correct equation can still be wrong by a numerical factor.

HOW THE BOARD ASKS IT

Count significant figures • find the dimensions of an unknown constant • least-count numericals

Motion in a Straight Line

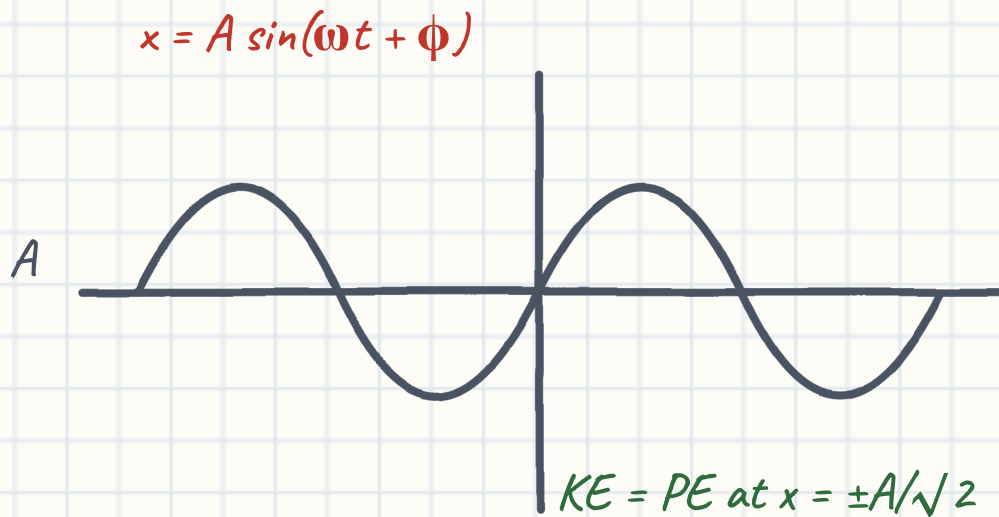
Formula	What it means	When to use it
$v = u + at$	velocity-time	constant acceleration only
$s = ut + \frac{1}{2}at^2$	displacement-time	constant acceleration only
$v^2 = u^2 + 2as$	velocity-displacement	when time is not involved
$s_{nth} = u + a(2n-1)/2$	distance in the n th second	note: not the same as s at $t = n$

THE MISTAKE THAT COSTS MARKS

On a v - t graph the slope is acceleration and the AREA is displacement. Reading area as velocity is the classic graph error.

Class 11 • Chapter 13

Draw it to remember it



Simple harmonic motion

REDRAW THIS FROM MEMORY

Cover the diagram and sketch it in the space below. A diagram you can reproduce is worth more in the exam than one you have only looked at, and most papers award the marks for the labels, not the artwork.

YOUR TURN

HOW THE BOARD ASKS IT

Find ω , A and ϕ from an equation • where KE equals PE • pendulum on the moon or a mountain

Waves

Formula	What it means	When to use it
$v = f\lambda = \omega/k$	wave speed	all waves
$v = \sqrt{T/\mu}$	wave on a string; μ = mass per unit length	stretched strings
$v = \sqrt{\gamma P/\rho}$	sound in a gas. Newton-Laplace	independent of pressure
open pipe: all harmonics · closed pipe: ODD harmonics only	organ pipes	closed pipe fundamental is half
beat frequency = $ f_1 - f_2 $	two close frequencies	beats

THE MISTAKE THAT COSTS MARKS

Sound speed in air is independent of pressure, because P and ρ change in step, but it does increase with temperature.