DPP 1

Edukado Hub

Chapter-2

Units & Measurements

Topics to be covered:

1. System of units.
2. Dimensional analysis
3. Errors in measurement
4. Screw gauge and vernier callipers

Physical quantities:

Q=nxu

Example-
'M' → 5 kg = 5000 gm → n1u1= n2u2

System of units:

System	Length	Mass	Time
FPS	foot	pound	second
CGS	centimeter	gram	second
MKS	meter	kilogram	second

Fundamental and derived quantities:

Quantity	Dimension	Unit	Symbol
length	L	Meter	m
Mass	M	Kilogram	kg
Time	T	Second	s
Current	I	Ampere	A
Temperature	0	Kalvin	K
Amount of substance	N	Mole	mol
Luminous intensity	J	Candela	cd
Plane angle	-	Radian	
Solid angle	-	Steradian	

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Derived quantities:

Velocity = displacement/time
Acceleration = change in velocity/time

Dimensions:

Area =(length)^2
[A] = [L]^2 = [M^0 L^2 T^0]

Velocity = displacement/time
[V]=[L]/[T]= [L^1 T^-1]

* A = B+C, [B]=[C]=[A]
* A = (BxC)/ D, [A]=[BC/D]
* e^x, log x, sin x, Q^x → X is dimensionless

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Units & Measurements 2

Conversion of unit:

n1u1=n2u2

Example: e = 2 gm / cm3 convert int Mks system?

Convert 1 joule into different unit having base unit of mass, length and time as 10 gm,5m and 20