

UNITS



A unit is a standard chosen to measure a physical quantity

PHYSICAL QUANTITY

The quantities which can be measured by an instrument and by means of which we can describe the laws of physics are called physical quantities.

TYPES OF PHYSICAL QUANTITIES

FUNDAMENTAL

Certain physical quantities have been chosen arbitrarily and their units are used for expressing all the physical quantities, such quantities are known as Fundamental, Absolute or Base Quantities.

DERIVED

Physical quantities which can be expressed as a combination of base quantities are called derived quantities.
e.g: Velocity $\left[\frac{m}{s}\right] = \frac{\text{Length [m]}}{\text{Time [s]}}$

SUPPLEMENTARY

Besides the seven fundamental physical quantities, two supplementary quantities are also defined, they are:

- Plane angle
- Solid angle








NOTE : The supplementary quantities have only units but no dimensions.

MAGNITUDE

Magnitude of physical quantity = (numerical value) x (unit)

Magnitude of a physical quantity is always constant. It is independent of the type of unit.

$$n_1 u_1 = n_2 u_2 = \text{constant}$$

FUNDAMENTAL UNITS							
QUANTITY	Length	Mass	Luminous intensity	Amount of substance	Time	Electric current	Temperature
UNITS	Metre	Kilogram	Candela	Mole	Second	Ampere	Kelvin