



**DEFINITION OF PRINCIPAL S.I.UNITS**

**MASS**

The unit of mass is the kilogramme (kg)

**FORCE**

The unit of force is the Newton, which imparts to a mass of 1 kg an acceleration of 1 metre per second per second

$$1 \text{ Newton} = 10^5 \text{ dyne } 0,101970 \text{ kgf} = 1\text{N}$$

**WORK AND ENERGY**

The unit is the Joule=work produced by a force of 1 Newton over a distance of 1 metre

$$1 \text{ joule} = 1 \text{ Newton metre} = 1 \text{ Nm} = 1\text{J}$$

**POWER**

The unit is the Watt = one Joule per second

$$1 \text{ watt} = 1 \text{ joule/1 second} = \text{J/s} = \text{Js}^{-1}$$

**STRESS AND PRESSURE**

The unit is the Pascal = a force of 1 Newton exerted on a surface of 1 m<sup>2</sup>

$$\text{Pa} = 1\text{N/m}^2 = 1.0197 \cdot 10^{-5} \text{ kg/cm}^2$$