$C_{SD} = 10$ **Heisenberg uncertainty principle**

→ $\Delta x \times \Delta p \geq \frac{h}{4\pi}$

→ $\Delta x \times \Delta v \geq \frac{h}{4\pi m}$

→ where → Δx = p uncertainty in position

Δp = uncertainty in momentum

Δv = uncertainty in velocity

$C_{SD} = 11$ **Schrodinger wave Equation**

$\bar{e}$ → wave suppose kiya hai

ψ = asijot

↓ slove Equation

Real value of ψ | Imaginary value of ψ (x → not consider)

↓ 2type hote hai

Real function | Real value of ψ

Radial funct^{n} ($f(r)$) (depend upon 'r' (radius)) | Angular wave function ($f(\theta, \phi)$) (depend upon θ, ϕ angle)

↓ slove them

$\psi \neq 0$ | $\psi = 0$ | $\psi \neq 0$ | $\psi = 0$

Radial node or Spherical node

* within the orbital form hote hai
* No of Radial node $= n-l-1$

Angular node or Planar node

* between the orbital milte hai
* No of planar node $= l$

total node $= n-l-1+l = n-1$

* principal, Azimuthal (l) and magnetic Quantum NO. (m) (n) ~~sto~~ solution of schrodinger wave se milte hai