

$$(59) \Delta x \Delta p \geq \frac{h}{4\pi} \quad \text{or} \quad \Delta x m \Delta v \geq \frac{h}{4\pi}$$

$$(60) \Delta E \Delta T \geq \frac{h}{4\pi}$$

$$(61) \Delta Q \Delta \phi \geq \frac{h}{4\pi}$$

$$(62) \text{No. of subshells in } n^{\text{th}} \text{ shell} = n$$

$$(63) l \text{ varies from } = (0 \text{ to } 'n-1')$$

$$(64) \text{No. of orbitals in 1 subshell } (l) = 2l+1$$

$$(65) m \text{ varies from } = (-l \text{ to } 0 \text{ to } +l)$$

$$(66) \text{Total no. of orbitals} = n^2$$

$$(67) \text{Total no. of electrons in main shell } (n) = 2n^2$$

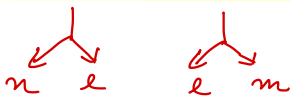
$$(68) \text{Total no. of electrons in sub-shell } (l) = 4l+2$$

$$(69) \text{Total spin} = N\left(\pm\frac{1}{2}\right) \quad (N = \text{No. of unpaired electrons})$$

$$(70) \text{Spin Magnetic moment} = \sqrt{N(N+2)} \text{ BM}$$

$$(71) \text{Orbital angular momentum} = \sqrt{l(l+1)} \frac{h}{2\pi}$$

$$(72) \Psi = R(r) A(\theta, \phi)$$



$R(r) \rightarrow$ depends on ' n ' and ' l ' value

$A(\theta) \rightarrow$ depends on ' l ' and ' m '

$\phi(\phi) \rightarrow$ depends on ' m ' only.

(73) No. of radial nodes = $n - l - 1$

(74) No. of angular nodes = l

(75) No. of total nodes = $n - 1$

(76) No. of peaks in graph $\Rightarrow (n - l)$