

Daily Tutorial Sheet-15

Level - 3

160.(D) The electrons present in a orbital only differ in the spin quantum number. One is spinning clockwise and other spinning anticlockwise.

161.(ABD) (A) Number of subshell = n, n = 3 for M

(B) Number of orbital = n^2 , n = 4 for N

(C) $\text{Cu}^+ - 3d^{10}4s^0$ diamagnetic

162.(ABD) C → Incorrect

Pair production is formation of proton & electron from energy $\therefore h\nu \rightarrow {}^0_{-1}\text{e} + {}^0_{+1}\text{e}$

163.(ACD) $q = ne$

where, n is a positive integer

\therefore Charge, q should be an integral multiple of fundamental charge $-1.6 \times 10^{-19}\text{C}$

164.(ABC) D Incorrect

$$\Delta u_y, \Delta x_z \geq \frac{h}{4\pi m} \Rightarrow \underbrace{\Delta p_y, \Delta x_z}_{\text{heisenberg uncertainty principle}} \geq \frac{h}{4\pi m}$$

position cannot be specified by formula

165.(BCD) Check yourself that A is incorrect.

Normal zeeman effect. i.e. in presence of \vec{B} (external) states of an atom split in $2l+1$ component for $l=2$, so, 5 states.