Daily Tutorial Sheet 8	Level – 2

96. (A) In the emission spectrum, the transition is from higher to lower energy orbital.

97.(CD) Given n, $l = 0$ to $n - 1$

$m_l = -l.....0.....+1$

98.(ABCD) **(A)** $v \propto \frac{Z}{n}$ **(B)** $r \propto \frac{n^2}{Z}$ **(C)** $P.E. \propto -\frac{Z^2}{n^2}$ **(D)** $K.E. \propto \frac{Z^2}{n^2}$

99.(BC) $h\nu = W + KE$

Kinetic energy of electrons does not depend on intensity of light $\lambda = \frac{h}{\sqrt{2KE.m}}$

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

101.(AC) s is symmetrical around the nucleus and $3d_{z^2}$ is spherically symmetrical about around z axis.

102.(ABCD) $5-1 \quad 5-2 \quad 5-3 \quad \underbrace{5-4}_{\text{Brackett}}$

$4-1 \quad 4-2 \quad \underbrace{4-3}_{\text{Paschen}}$

$3-1 \quad \underbrace{3-2}_{\text{Balmer}}$

$\underbrace{2-1}_{\text{Lyman}}$

103.(BCD) (D) incorrect $\rightarrow$ In atom, all electrons travel will different velocity

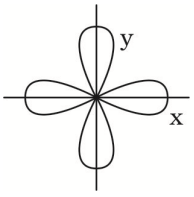
(C) incorrect $\rightarrow$ Orbit angular momentum of $1s, 2s, 3s$ are different value of 'n'

(B) shape is given value of 'ℓ'

104.(ABCD) (A) Atomic number $= 1$ $\boxed{1} \longrightarrow$ half filled orbital ['s']

half filled shell, one electron in valence shell

105.(A) (B) incorrect $\rightarrow$ d_{xy} orbital lies in xy-plane



(C) incorrect