

TL 7-17

Hydrogen atom is in 6th state. So $n=6, l=3$

The energy is given by $E = \frac{E_0}{n^2} = \frac{-13.6\text{eV}}{36}$

$$E = 0.38\text{eV}$$

The angular momentum is

$$L = \sqrt{12} \hbar$$

- And $L_z =$
- $+3\hbar$
 - $= +2\hbar$
 - $= +1\hbar$
 - $= 0\hbar$
 - $= -1\hbar$
 - $= -2\hbar$
 - $= -3\hbar$

} possibilities