

17. Which of the following sets of quantum numbers represents the highest energy of an atom?

(1) $n=3, l=2, m=l, s= +\frac{1}{2}$

(2) $n=3, l=2, m=l, s= +\frac{1}{2}$

(3) $n=4, l=0, m=0, s= +\frac{1}{2}$

(4) $n=3, l=0, m=0, s= +\frac{1}{2}$

Solution:

Maximum value of $(n + l)$ represents the highest energy of the orbital.

Hence option (2) is the answer.