

Homework #5

- 1) Write down the configuration for the ground state of
- Calcium
 - Carbon

remember, a configuration is just the Hydrogen-like shell-filling notation, $1s^2 2s$ etc.

- 2) Write down the terms for the ground state of
- Calcium
 - Carbon

remember, a term is the L, S combination of the electrons in an unpaired shell, labeled by $2S+1, L=S, P, D$ etc.

- 3) Write down the states of total angular momentum J for the ground state of
- Calcium
 - Carbon

Use the notation $2S+1 L$

Extra credit: in 2) b), which will be the lowest energy and which will be the largest energy?