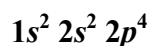
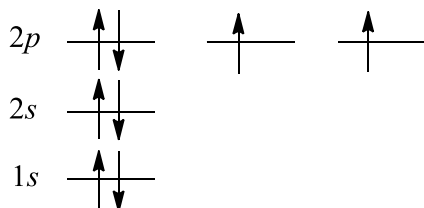


Marks
5

e) The oxygen atom in the reaction in part d) is formed in its ground electronic state. What is the ground state electronic configuration for O?

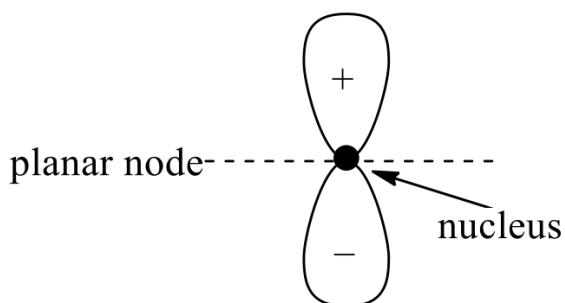


Draw an atomic orbital energy level diagram for the ground state O atom. Name the orbitals and show all electrons.

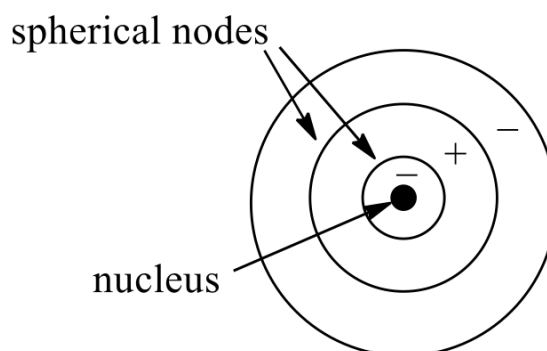


Name and sketch the atomic orbitals for the highest occupied atomic orbital and the lowest unoccupied atomic orbital in the ground state O atom. Make sure all nodes are clearly identified in your sketch.

sketch of highest occupied orbital



sketch of lowest unoccupied orbital



Name: **2p orbital**

Name: **3s orbital**