

**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?

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

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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:	Name: