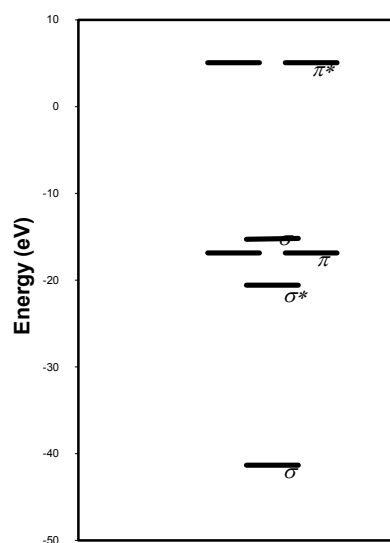


Marks**4**

- Nitrogen gas constitutes about 78% of the Earth's atmosphere.

Complete the MO diagram for the valence electrons for the ground state electronic configuration of the nitrogen molecule by inserting the appropriate number of electrons into the appropriate orbitals.



Is N_2 paramagnetic or diamagnetic? Explain your answer.

The N_2^- anion can be generated as a transient species in an electrical discharge. What is the bond order of this molecular ion?

- Why is the H_2 molecule lower in energy than two isolated H atoms?

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