

## Worksheet: Chemical Bonding and Molecular Structure

ISC · Class 11 · Chemistry · 5 questions · 14 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 14

**Q1.** Determine the hybridisation and shape of SF<sub>4</sub>. [3 marks]

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**Q2.** Why is H<sub>2</sub>O bent but CO<sub>2</sub> linear? [3 marks]

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**Q3.** Why does water have a higher boiling point than H<sub>2</sub>S? [2 marks]

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**Q4.** Calculate the bond order of O<sub>2</sub><sup>2-</sup> (peroxide ion) and predict its magnetic behaviour. [3 marks]

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**Q5.** Explain why O<sub>2</sub> is paramagnetic using molecular orbital theory. [3 marks]

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