

# Chemistry

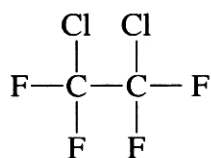
## Section I – Part B (continued)

Marks

### Question 25 (6 marks)

(a) What is the systematic name of the CFC in the diagram?

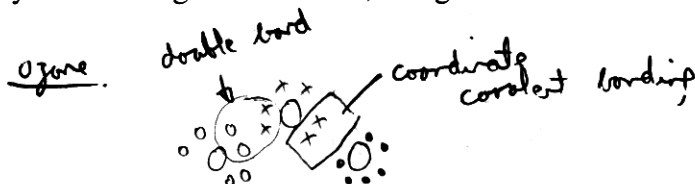
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1,2-dichloro-1,1,2,2-tetrafluorocarbon.

(b) Identify the bonding within ozone, using a Lewis electron-dot diagram.

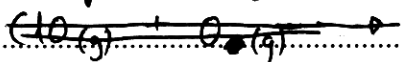
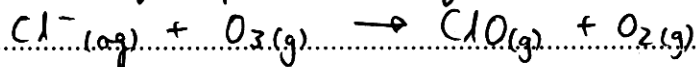
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(c) Discuss how CFCs damage the ozone layer, using relevant equations.

3

CFCs ionise in the atmosphere by UV radiation forming chlorine free radicals, these Cl<sup>•</sup> ions react with ozone (O<sub>3</sub>) molecules thinning the ozone protective layer in the atmosphere.



The ClO(g) molecules then react with other oxygen allotropes in the atmosphere depleting ozone molecules, therefore thinning and damaging the ozone layer. Hence it can be concluded that CFCs causes damage to the ozone layer in the atmosphere.