

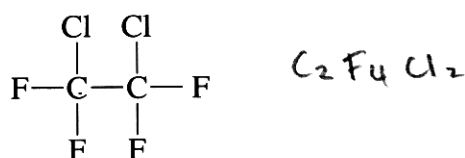
2002 HIGHER SCHOOL CERTIFICATE EXAMINATION
Chemistry

Section I – Part B (continued)

Marks

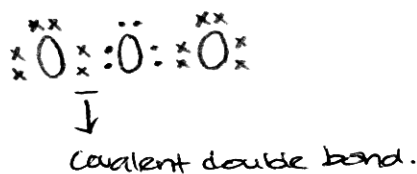
Question 25 (6 marks)

- (a) What is the systematic name of the CFC in the diagram? 1



C₂F₄Cl₂, Chlorofluorocarbons.

- (b) Identify the bonding within ozone, using a Lewis electron-dot diagram. 2



- (c) Discuss how CFCs damage the ozone layer, using relevant equations. 3

Chlorofluorocarbons otherwise known as CFC's is a very common contributor to the break down of the stratosphere's ozone layer. CH₃Cl₂ $\xrightarrow{\text{u.v light}}$ CH₂Cl + Cl⁻, then this Cl⁻ molecule will go and pull a molecule away from the ozone (O₃) \rightarrow O₂ + O⁻. This O⁻ molecule will join with the Cl⁻ molecule and this ClO \rightarrow Cl⁻ + O⁻ along with CH₃Cl₂ $\xrightarrow{\text{u.v light}}$ CH₂Cl + Cl⁻ will repeat itself continually breaking down the O₃ molecule.