

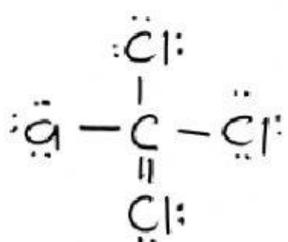
## Question 5 b (iv)

**Predict the molecular geometry, bond angle, polarity and type of IMF of the  $\text{CCl}_4$**

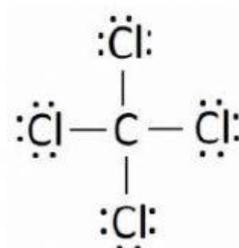
C is in Group 14

Cl is in Group 17

- Total Valence Electron: \_\_\_\_\_
- Calculate Formal charge for each atom and choose the correct Lewis structure of  $\text{CCl}_4$  \_\_\_\_\_

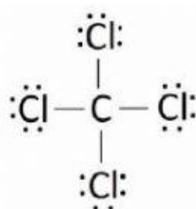


(A)

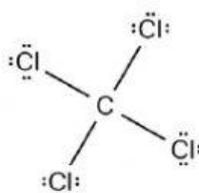


(B)

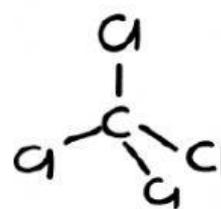
- Electron pair arrangement at central atom C:  
 \_\_\_\_\_ **bonding pairs** electrons.  
 Basic shape is \_\_\_\_\_
- VSEPR: The **repulsion** between the bonding pairs electrons is \_\_\_\_\_.
- State the shape of molecule \_\_\_\_\_ and choose the correct molecular geometry of  $\text{CCl}_4$  \_\_\_\_\_



(D)

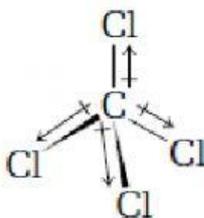


(E)



(F)

- Every Cl-C-Cl bond angle is \_\_\_\_\_ °



- \_\_\_\_\_ is more electronegative than \_\_\_\_\_
- Dipole moment can \_\_\_\_\_ each other.
- Net dipole moment ( $\mu = 0$ )
- Therefore it is a \_\_\_\_\_ molecule.
- Intermolecular forces in  $\text{CCl}_4$ : \_\_\_\_\_

**Note:**

Hydrogen bond = HB

Dipole-dipole force = DDF

London Dispersion forces = LDF