

B. M. A. College Bahari  
Darbhanga.

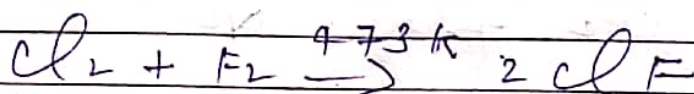
CHEMISTRY, C. CHAUDHARY

Topic :- Inter Halogen Compounds.

Compound containing two or more Halogens are called inter Halogen Compounds.  $ClF$ ,  $BrF$ ,  $ICl_3$

are examples of inter Halogen Compounds.

$ClF$  is prepared by reaction of  $Cl_2$  and  $F_2$  at  $473K$



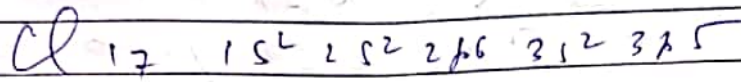
$ClF$  is a covalent compound. It is more reactive than constituents Halogen. It is very good oxidising agent.

Structure of  $ClF_3$ . In this inter Halogen compound "Cl" is central atom. Central atom is  $sp^3d$

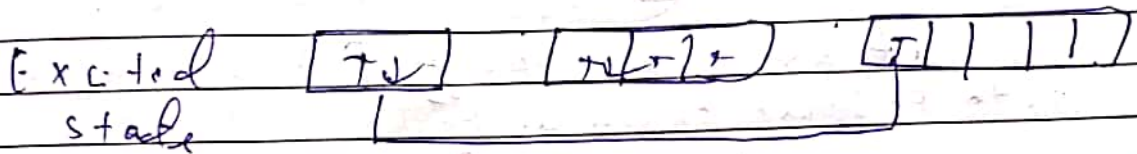
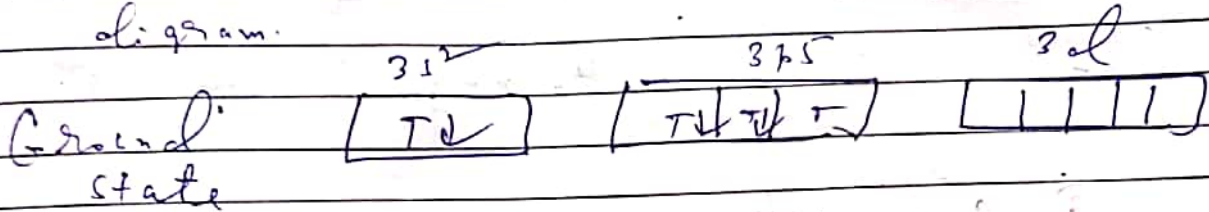
hybridised. which can be

represented in orbital box

diagram as follows.



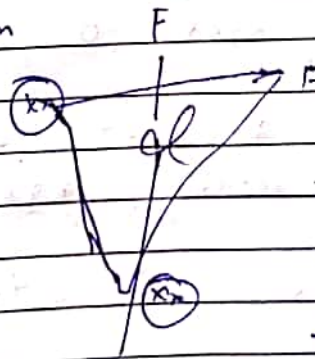
Valence electrons in orbital box diagram.



$sp^3$  hybridisation.

Three F atoms share with  $sp^3$  of unpaired electron

electron



Due to lone pair lone pair electron

Structure of the molecule is

Distorted trigonal bipyramidal

Shape is T shape

Bond angle F-Cl-F is not  $90^\circ$

but it is  $87.6^\circ$