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## COMPOUNDS OF NOBLE GASES.

Although Noble gas elements are least reactive but Xe forms compounds like

$XeF_2$ ,  $XeF_4$ ,  $XeF_6$  and  $XeF_8$ .

$XeF_2$  The structure of  $XeF_2$

molecule is explained as. Atomic no.

of Xe is 54 its electronic configuration is written as.

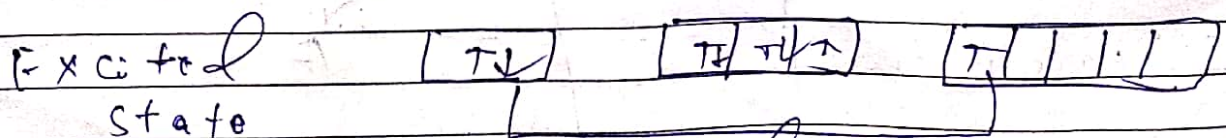
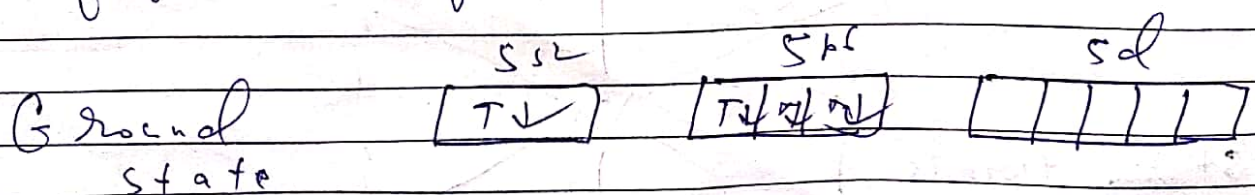
$Xe_{54} \quad 1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6$

From the above electronic configuration

it is clear that outer most electronic

configuration of Xe is  $5s^2 5p^6$ . orbital

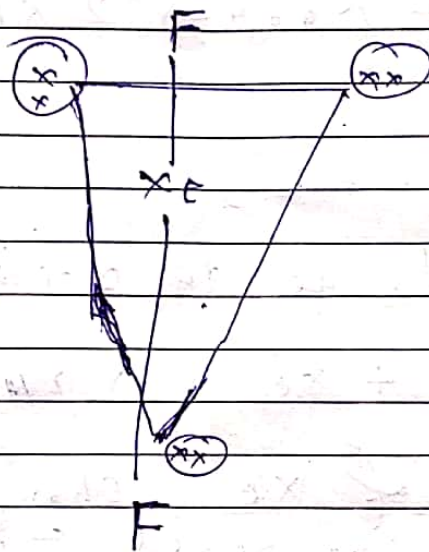
box diagram representation of outer most configuration of Xe is represented as



$sp^3d$  hybridisation

singly occupied orbital of fluorine linearly overlaps with  $sp^3$  orbital with unpaired electron.

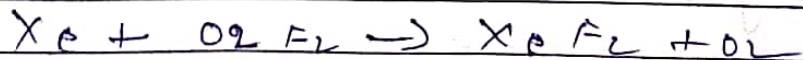
The structure of the molecule is trigonal bipyramidal.



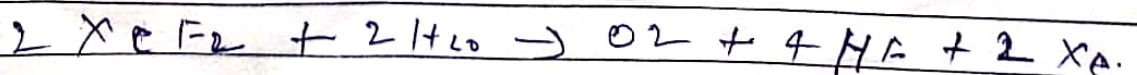
As far as preparation of  $XeF_2$  is concerned  $Xe$  and  $F_2$  in presence of "Ni" catalyst gives  $XeF_2$



(b)  $Xe$  on reaction with  $O_2$  or  $F_2$  gives  $XeF_2$



Properties (c)  $XeF_2$  on reaction with  $H_2O$  gives  $O_2$  and  $HF$



(b)  $XeF_2$  on reaction with  $H_2$  gives  $Xe$

