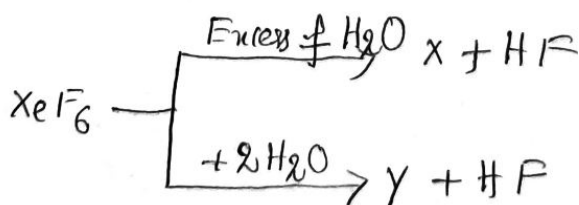


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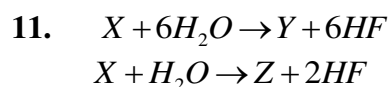
18TH GROUP

- The noble gas can be separated by**
 - 1) passing them through a suitable solution
 - 2) electrolysis of their fluorides
 - 3) Adsorption and desorption on charcoal
 - 4) adsorption and desorption on activate
- Which of the following Xenon compound has the same number of lone pairs of I_3^-**
 - 1) XeO_4
 - 2) XeF_4
 - 3) XeF_2
 - 4) XeO_3
- XeF_2 and XeF_6 are separately hydrolyses then:**
 - 1) both give out O_2
 - 2) XeF_6 gives O_2 and XeF_2
 - 3) XeF_2 alone given O_2
 - 4) Neither of them gives HF
- Xenon tetrafluoride XeF_4 is**
 - 1) tetrahedral and acts as a fluoride donar with SbF_5
 - 2) Square planar an acts as a fluoride donor with PF_5
 - 3) Square planar and acts as a fluoride donor with NaF
 - 4) skew saw shape and acts as a fluoride donor with AsF_5
- Which of the following is not true about helium**
 - 1) It has the lowest boiling point
 - 2) It has the highest first IE
 - 3) It can diffuse through the rubber and plastic
 - 4) It can form clathrate compounds
- SbF_5 reacts with ZrF_4 to form and adduct the shapes of cation and anion in the adduct are respectively**
 - 1) Square planar, trigonal bipyramidal
 - 2) T- shaped, octahedral
 - 3) Square pyramidal, octahedral
 - 4) Square planar, octahedral
- Which of the following is on common hydrolysis product of XeF_2 and XeF_4**
 - 1) Xe
 - 2) XeO_3
 - 3) HF
 - 4) O_2
- In correct statement regarding following reactions is**



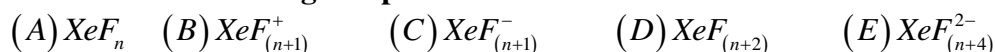
- 1) 'X' is explosive
 - 2) 'y' is an oxyacid of xenon
 - 3) Both are examples of non-redox reaction
 - 4) XeF_6 can undergo partial hydrolysis
- $MF + XeF_4 \rightarrow A$ (M^+ = alkali metal) number of lone pair on central atom of molecule A is / are**
 - 1) 2
 - 2) 1
 - 3) 3
 - 4) 0
 - Total number of lone pair of electron in XeF_4 molecule is**
 - 1) 15
 - 2) 16
 - 3) 18
 - 4) 13

NUMERICAL QUESTIONS



If X is Xenon hexafluoride lone pair electron in Y & Z ?

- Consider the following compound A to E**



If value of n is 4, then calculate value of p + q here p is total number of bond pair and q is total no. of lone pair on central atoms of compound A to E

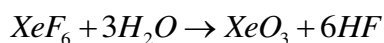
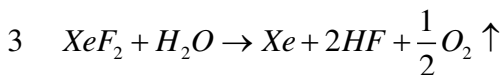
KEY

1) 3	2) 3	3) 3	4) 2	5) 4	6) 2	7) 2	8) 2	9) 1	10) 1
11) 22	12) 35								

SOLUTIONS

1. Conceptual

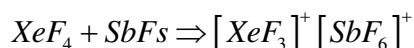
2. Conceptual



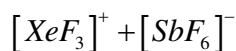
4. $XeF_4 \Rightarrow sp^3d$ - hybridisation 2 lone pairs Square planar structure

5. Due to small size of He. It escapes from interstitials space of molecular lattice of quinols

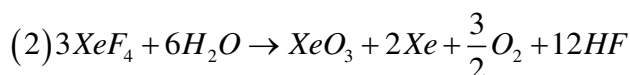
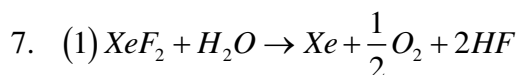
6.



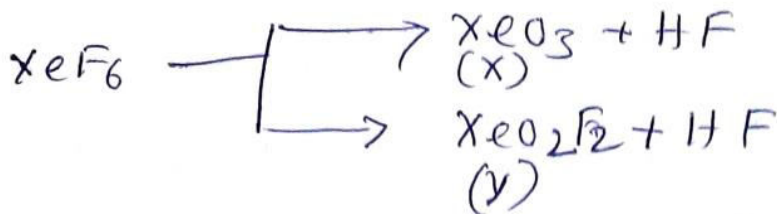
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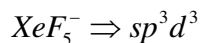
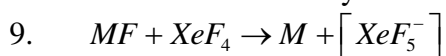
Bent - T- shape octahedral



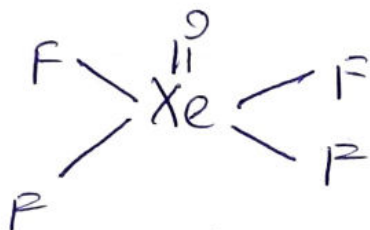
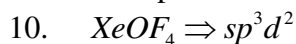
8.



Y is not an oxyacid of Xenon



Lone pair - 2



Lone pair on Xe = 1

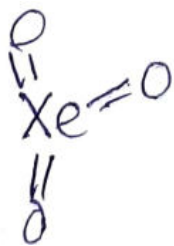
Lone pair on F = $4 \times 3 = 12$

Lone pair on O = 2

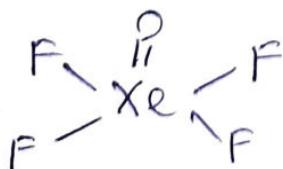
Total = 15

11. $Y = XeO_3 = sp^3$

$Z = XeOF_4 = sp^3d^2$



lone pair on Xe = 1
Lone pair an O = $3 \times 2 = 6$



lone pair on Xe = 1
Lone pair an F = $4 \times 3 = 12$
Lone pair an O = 2