**Q1- Select the best Correct answer for each of the following question ?**

* 1.More gases are available in atmosphere?

1. He---- II . Ne ---- III.Ar----- Iv. Kr, v. Xe

* 2.The best xenon compounds are stable?

i. XeF2. Ii. XeF4, iiiXeF6, iv XeO3, v. Xe O2F2

* **3**. **The geometry of XeF4**

**1**- liner **II**-tetrahedral  **III**-square planner **IV**-octahedral V. trigonal bi Pyramidal

* 4.The highest decomposition energy of halogens according?

I. Cl> F>Br> I II. Cl> Br>I > F III. F> Cl>Br>I IV. I > Cl> Br> I>F V. not one of them

* **5**. Ionic halides such as

i. AgI , AgCl, CuCl2 ii. NaF, AgF, KCl iii . CuCl2, NaI, AgF , iv. SnCl4, AgF, PbCl4 V. not one of them

* 6.More toxic compound

I.H2Se II. H2S III. HCN IV. H 2Te V. NH3

* **7. the structure of pyrosulfrous acid ?**

. 2S2O3 , II. H2S2O4, III. H2S2O5 , IV. H2S2O6 V. H2S2O7

* **8. sulfanes Like**

**1.** H2S6 **II.** H2S **… III.** SF4 **…. IV**. S2F2 V. S2F10

* **9**. **The type of hybridization in N2O4 molecules is**

**1**- SP2 **II**-SP3  **III**-SP **IV**-SP3d

* **10.The preparing of Hydrogen of peroxide from**

**I. ethyl anthraquinol II. 2.ethylanthraquinone III. KOH +O3, IV. CsOH + O3**

**V. HOOCl + O3**

* 11.highest of melting point

i. XeF2, ii.XeF4, iii. XeF6 iv. Xe O3 v. Na4XeO6

* 12. Inter halogen compounds such as

i. IF , ICl, BrCl , IBr ii. IF, ICl3 , BrCl, iii . IF, ICl3, IBr, Iv. ICl, BrCl , IBr v .not one of them

* 13. the activity of Halogen florid arrangement according ?

i. ClF3>BrF5> IF7 >BrF3 > ClF ii. BrF5> IF7> ClF >BrF5 iii. ClF >BrF3> IF5 >BrF ,>ClF3 iv. IF7> ClF> BrF5 >BrF v. not one

**14**. **The geometry of XeOF2**

**1**- trigonal Pyramidal **II**-tetrahedral  **III**-square planner **IV**-octahedral V. trigonal bi Pyramidal

* 15. **The geometry of HClO3**?

**1**- trigonal Pyramidal **II**-tetrahedral  **III**-square planner **IV**-octahedral V. trigonal bi Pyramidal

* **16.** covalant halides such as

i. AgF , AgCl, Cu2Cl2 ii. Hg2Cl2 ,AgI , AgF iii . Cu2Cl2, NaI, AgF iv. SnCl4, Cu2Cl2, PbCl4 v. not one of .them

* 17. the strong acids

i. HOCl ii. HClO2, iii .HClO3  iv. HClO4 , v. not one of them

**2. Explanation with reasons? Enhancing your answer with equations**

* SO2 Consider a Lewis acid and a possible Lewis base?
* **What are the properties of the structure of molecular halides?**
* **Compare between PH3 NH3 and PF3?**
* Compare between H2O2 and O2F2, **Peroxide is an oxidizing agent and sometimes a reduced agent?**
* Most transation metal halide have Covalent properties But some of them ionic sach as AgF ?
* **Chlorine has the highest dissociation energy**?
* Can not be stored XeF6 in glass containers?
* What are the expected products to interact of XeF4 with different percentages of water?
* Compare between OF2 and O2F2
* Chlorine has the highest dissociation energy?
* Explain Molcular halides?
* KrF2 that is Fluorination agent ?
* Peroxide is an oxidizing agent and sometimes a reduced agent?
* Compare between PH3 and NH2NH2 ?
* Oxgen have two allotroupes ?
* SO3 have many properties and structure ?
* Prepare fluoride gas , Electrolysis method ?**.**
* Iodine Easy solubility [ KI ]but difficult solubility water ?with equation
* Element Fluorine dose not formed Halogen oxyacid ?
* Iodine Easy solubility [ KI ]but difficult solubility water ?with equation ?
* inter halogen compound diamagnetic properties
* compare between Covalent halide and ionic halide with example?
* Halogens are exist as molecules?
* Reation XeF4 with NaOH and with H2
* Which of them was more stable XeO2, XeO4, XeO6 and explain with reason with equation?
* How can prepare of Na4XeO6?
* . proved that XeO3 is a strong oxidant agent?
* Xenon (VIII) (perxenate ) Considered as Its salts solution basicity?

Give the type of hybridization, the shape and geometry of molecules and coordination number

**a**- P4 O6, **b**- H2SO3 **c**- PCl5  , **d.**S2F10 , **e.** SO3

**f**- Xe O3, **g**-XeO3O2**h**- H5IO6  , **i.**XeF6 , **j.** ClO4-, i - P4 O6, **k**- H2SO3 **L**- PCl5  , **o.**S2F10 , **p.** SO3

B. complete the following and write balanced chemical equation for reaction

HNO3 + P4O10  

NH3 + HCl 

Te + H2CrO4 + HNO3 + H2O2 

NaNH2 + C 

H2S2O7  + H2O 

XeCl2 +H2O XeF2 +H2O ------- 129 53ICl4 ------

KClO3+ H2SO4 + C2H2O4 ------------ HClO4  + P4O10

RnF2 + H2O BrF3  + Rn

XeF2 + HCl

226 88Ra - ---- - +------- -------- Na4XeO6 + H2O 

F2 + H2O

Br2O + NaOH --- H2S2O7  + H2O  -- HClO4 +P4O10 

SCl2 + NaF  ------ AgClO4 +Cl  ---- SCl2 + NaF 

Cl2O + H2O  ---- HClO4  + P4O10 -------