Date Planned : __ / __ / __	Daily Tutorial Sheet-10	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

136. Match each of the diatomic molecules in Column-I with its property/properties in Column-II. **(2009)**

Column-I		Column-II	
(A)	B_2	**(p)**	Paramagnetic
(B)	N_2	**(q)**	Undergoes oxidation
(C)	O_2^-	**(r)**	Undergoes reduction
(D)	O_2	**(s)**	Bond order ≥ 2
		(t)	Mixing of 's' and 'p' orbital

137. The total number of diprotic acids among the following is : **(2010)**

H_3PO_4 H_2SO_4 H_3PO_3 H_2CO_3 $H_2S_2O_7$
H_3BO_3 H_3PO_2 H_2CrO_4 H_2SO_3

138. All the compounds listed in Column-I react with water. Match the result of the respective reactions with the appropriate options listed in Column-II. **(2010)**

	Column-I		Column-II
(A)	$(CH_3)_2SiCl_2$	**(p)**	Hydrogen halide formation
(B)	XeF_4	**(q)**	Redox reaction
(C)	Cl_2	**(r)**	Reacts with glass
(D)	VCl_5	**(s)**	Polymerization
		(t)	O_2 formation

139. The value of n in the molecular formula $Be_nAl_2Si_6O_{18}$ is : **(2010)**

140. Extra pure N_2 can be obtained by heating : **(2011)**

(A) NH_3 with CuO **(B)** NH_4NO_3 **(C)** $(NH_4)_2Cr_2O_7$ **(D)** $Ba(N_3)_2$

141. Among the following, the number of compounds that can react with PCl_5 to give $POCl_3$ is O_2, CO_2, SO_2, H_2O, H_2SO_4, P_4O_{10}. **(2011)**

142. Which of the following hydrogen halides react(s) with $AgNO_3(aq)$ to give a precipitate that dissolves in $Na_2S_2O_3(aq)$? **(2012)**

(A) HCl **(B)** HF **(C)** HBr **(D)** HI

143. Reaction of Br_2 with Na_2CO_3 in aqueous solution gives sodium bromide and sodium bromate with evolution of CO_2 gas. The number of sodium bromide molecules involved in the balanced chemical equation is : **(2011)**

Paragraph for Q. 144 to 146

Bleaching powder and bleach solution are produced on a large scale and used in several household products. The effectiveness of bleach solution is often measured by iodometry.

144. Bleaching powder contains a salt of an oxoacids as one of its components. The anhydride of that oxoacid is : **(2012)**

(A) Cl_2O **(B)** Cl_2O_7 **(C)** ClO_2 **(D)** Cl_2O_6

145. 25 mL of household bleach solution was mixed with 30 mL of 0.50 M KI and 10 mL of 4 N acetic acid. In the titration of the liberated iodine, 48 mL of 0.25 N $Na_2S_2O_3$ was used to reach the end point. The molarity of the household bleach solution is : **(2012)**

(A) 0.48 M **(B)** 0.96 M **(C)** 0.24 M **(D)** 0.024 M

146. Which ordering of compound is according to the decreasing order of the oxidation state of nitrogen ?

(A) HNO_3, NO, NH_4Cl, N_2 **(B)** HNO_3, NO, N_2, NH_4Cl **(2012)**

(C) HNO_3, NH_4Cl, NO, N_2 **(D)** NO, HNO_3, NH_4Cl, N_2

147. The reaction of white phosphorus with aqueous NaOH gives phosphine along with another phosphorus containing compound. The reaction type; the oxidation states of phosphorus in phosphine and the other product are respectively : **(2012)**

(A) redox reaction; -3 and -5

(B) redox reaction; $+3$ and $+5$

(C) disproportionation reaction; -3 and $+5$

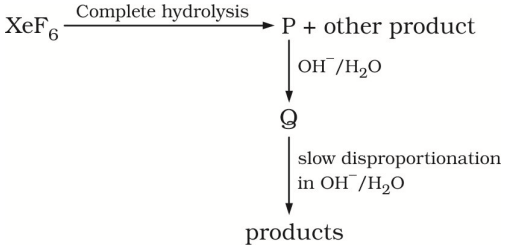
(D) disproportionation reaction; -3 and $+3$

148. The shape of XeO_2F_2 molecule is : **(2012)**

(A) trigonal bipyramidal **(B)** square planar

(C) tetrahedral **(D)** see-saw

149. Under ambient conditions, the total number of gases released as products in the final step of the reaction scheme shown below is : **(2013)**



(A) 0 **(B)** 1 **(C)** 2 **(D)** 3

150. Concentrated nitric acid, upon long standing, turns yellow-brown due to the formation of : **(2013)**

(A) NO **(B)** NO_2 **(C)** N_2O **(D)** N_2O_4