Date Planned : __ / __ / __	Daily Tutorial Sheet-11	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

***151.** The correct statement(s) about O_3 is(are) : **(2013)**

(A) O – O bond length are equal **(B)** thermal decomposition of O_3 is endothermic

(C) O_3 is diamagnetic in nature **(D)** O_3 has a bent structure

Paragraph for Q. 152 to 153

The reactions of Cl_2 gas with cold-dilute and hot-concentrated NaOH in water give sodium salts of two (different) oxoacids of chlorine, P and Q, respectively. The Cl_2 gas reacts with SO_2 gas, in presence of charcoal to give a product R. R reacts with while phosphorus to give a compound S. On hydrolysis, S gives an oxoacid of phosphorus, T.

152. R, S and T, respectively, are : **(2013)**

(A) SO_2Cl_2, PCl_5 and H_3PO_4 **(B)** SO_2Cl_2, PCl_3 and H_3PO_3

(C) $SOCl_2$, PCl_3 and H_3PO_2 **(D)** $SOCl_2$, PCl_5 and H_3PO_4

153. P and Q, respectively, are the sodium salts of : **(2013)**

(A) hypochlorus and chloric acids **(B)** hypochlorous and chlorus acids

(C) chloric and perchloric acids **(D)** chloric and hypochlorus acids

154. The unbalanced chemical reactions given in List-I show missing reagent or condition (?) which are provided in List-II. Match List-I with List-II and select the correct answer using the code given below the lists : **(2013)**

	List-I		**List-II**
P.	$PbO_2 + H_2SO_4 \longrightarrow PbSO_4 + O_2 +$ other product	**1.**	NO
Q.	$Na_2S_2O_3 + H_2O \longrightarrow NaHSO_4 +$ other product	**2.**	I_2
R.	$N_2H_4 \longrightarrow N_2 +$ other product	**3.**	Warm
S.	$XeF_2 \longrightarrow Xe +$ other product	**4.**	Cl_2

	P	**Q**	**R**	**S**		**P**	**Q**	**R**	**S**
(A)	4	2	3	1	**(B)**	3	2	1	4
(C)	1	4	2	3	**(D)**	3	4	2	1

155. The product formed in the reaction of $SOCl_2$ with white phosphorous is : **(2014)**

(A) PCl_3 **(B)** SO_2Cl_2 **(C)** SCl_2 **(D)** $POCl_3$

156. Consider the following reagents :

Acidified $K_2Cr_2O_7$, alkaline $KMnO_4$, $CuSO_4$, H_2O_2, Cl_2, O_3, $FeCl_3$, HNO_3 and $Na_2S_2O_3$. The total number of reagents that can oxidise aqueous iodide to iodine is_____. **(2014)**

***157.** The correct statement(s) for orthoboric acid is/are : **(2014)**

(A) It behaves as a weak acid in water due to self ionization

(B) Acidity of its aqueous solution increases upon addition of ethylene glycol

(C) It has a three dimensional structure due to hydrogen bonding

(D) It is a weak electrolyte in water

***158.** The correct statement(s) regarding, (i) HClO, (ii) $HClO_2$, (iii) $HClO_3$ and $HClO_4$, is (are) : **(2015)**

(A) the number of Cl = O bonds in (ii) and (iii) together is two

(B) the number of lone pairs of electrons on Cl in (ii) and (iii) together is three

(C) the hybridization of Cl in (iv) is sp^3

(D) amongst (i) to (iv), the strongest acid is (i)

159. Under hydrolytic conditions, the compounds used for preparation of linear polymer and for chain termination, respectively, are : **(2015)**

(A) CH_3SiCl_3 and $Si(CH_3)_4$ **(B)** $(CH_3)_2SiCl_2$ and $(CH_3)_3SiCl$

(C) $(CH_3)_2SiCl_2$ and CH_3SiCl_3 **(D)** $SiCl_4$ and $(CH_3)_3SiCl$

160. The total number of lone pairs of electrons in N_2O_3 is : **(2015)**

161. Three moles of B_2H_6 are completely treated with methanol. The number of moles of boron containing product formed is : **(2015)**

162. The nitrogen containing compound produced in the reaction of HNO_3 with P_4O_{10} : **(2016)**

(A) can also be prepared by reaction of P_4 and HNO_3

(B) is diamagnetic

(C) contain one N – N bond

(D) reacts with Na metal producing brown gas

163. The increasing order of atomic radii of the following Group-13 elements is : **(2016)**

(A) Al < Ga < In < Tl **(B)** Ga < Al < In < Tl

(C) Al < In < Ga < Tl **(D)** Al < Ga < Tl < In

164. The crystalline from of borax has : **(2016)**

(A) tetranuclear $[B_4O_5(OH)_4]^{2-}$ unit

(B) all boron atoms in the same plane

(C) equal number of sp^2 and sp^3 hybridized boron atoms

(D) one terminal hydroxide per boron atom