

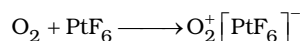
Date Planned : __ / __ / __	Daily Tutorial Sheet - 15	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 3	Exact Duration : _____

- \*159. Intermolecular hydrogen bonding increases the enthalpy of vaporization of a liquid due to
- (A) decrease in the attraction between molecules  
(B) increase in the attraction between molecules  
(C) decrease in the molar mass of unassociated liquid molecules  
(D) increase in the effective molar mass of hydrogen-bonded molecules
160. In which of the following compounds are the molecules joined by intermolecular hydrogen bonds ?
- (A) 4-Nitrophenol (B) 2-Nitrophenol  
(C) 2-Nitrobenzoic acid (D) None of these
161. Match List-I with List-II.

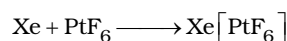
List - I		List - II	
(A)	C—H bond in Ethyne	(P)	sp-s overlap
(B)	P—Cl bond in POCl <sub>3</sub>	(Q)	sp <sup>3</sup> d-p overlap
(C)	Br—Br bond in Br <sub>3</sub> <sup>-</sup>	(R)	sp <sup>3</sup> -p overlap
(D)	C—C bond in Ethane	(S)	sp <sup>3</sup> -sp <sup>3</sup> overlap

**Paragraph for Question No. 162 - 164**

The first compound of the noble gases was made in 1962. Bartlett and Lohman had previously used the highly oxidizing compound platinum hexafluoride to oxidize dioxygen.



The first ionization energy for  $\text{O}_2 \rightarrow \text{O}_2^+$  is 1165 kJ mol<sup>-1</sup>, which is almost the same as the value of 1170 kJ mol<sup>-1</sup> for  $\text{Xe} \rightarrow \text{Xe}^+$ . It was predicted that xenon should react with PtF<sub>6</sub>. Experiment shows that when deep red PtF<sub>6</sub> vapour was mixed with an equal volume of Xe, the gases combined immediately at room temperature to produce a solid.



162. Which of the following compounds of Xenon involve sp<sup>3</sup> hybridisation ?
- (A) XeF<sub>2</sub> (B) XeO<sub>3</sub> (C) XeOF<sub>4</sub> (D) XeO<sub>2</sub>F<sub>2</sub>
163. Noble gases are water insoluble, however their solubility in water increases down the group due to increase in :
- (A) dipole-dipole attraction  
(B) dipole-induced dipole attraction  
(C) instantaneous dipole-induced dipole attraction  
(D) none of these
164. Which of the following species does not have perfect octahedron structure ?
- (A) XeF<sub>6</sub> (B) SiF<sub>6</sub><sup>2-</sup> (C) PCl<sub>6</sub><sup>-</sup> (D) XeO<sub>6</sub><sup>4-</sup>