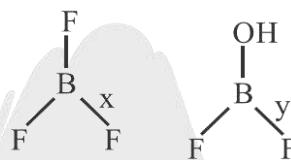


DPP-04

## **Single Correct Type**



- (A)  $x > y$       (B)  $x < y$       (C)  $x = y$       (D) none of these

4. If energy **required** for hybridisation is  $600 \text{ kJ mol}^{-1}$  in case of  $\text{PH}_3$  molecule, then select the correct statement for the energy released during bond formation in  $\text{PH}_3$  :

  - (A) Energy released is more than  $600 \text{ kJ mol}^{-1}$
  - (B) Energy released is less than  $600 \text{ kJ mol}^{-1}$
  - (C) Energy released is exactly equal to  $600 \text{ kJ mol}^{-1}$
  - (D) Energy released has no relation with the formation of hybrid orbitals.

### **More than One Correct Type**

5. Which of the following molecules contains stereochemically inactive lone pair?  
(A)  $\text{SbH}_3$       (B)  $\text{H}_2\text{Se}$       (C)  $\text{XeF}_6$       (D)  $\text{PH}_3$

6. Select the correct statement regarding  $\text{PH}_3$  molecule :  
(A)  $\text{PH}_3$  has much lower solubility in water as compared to that of  $\text{NH}_3$   
(B) formation of  $\text{PH}_4^+$  ion is difficult as compared to that of  $\text{NH}_4^+$   
(C) The complexing ability of  $\text{PH}_3$  is much higher as compound to that of  $\text{NH}_3$ .  
(D) The lone pair donating ability for P in case of  $\text{PMe}_3$  is much less because the lone pair resides at almost pure s orbital.

7. Which of the following order is correct about bond angle ?  
(A)  $\text{PH}_3 < \text{PF}_3$       (B)  $\text{PH}_3 < \text{PBr}_3$       (C)  $\text{PF}_3 < \text{PCl}_3$       (D)  $\text{PH}_3 < \text{PH}_4^+$

8. Select the incorrect order(s) of bond angle among the following :  
(A)  $\text{SiF}_4 < \text{SiH}_4 < \text{SiCl}_4$       (B)  $\text{PH}_3 < \text{PF}_3 < \text{PCl}_3$   
(C)  $\text{BF}_3^- < \text{BF}_4^- < \text{BH}_4^-$       (D)  $\text{H}_2\text{S} < \text{H}_2\text{O} < \text{H}_2\text{Te}$

## Integer Type

- 10.** Find the number of molecules in which hybridisation is absent in underlined atom  
 $\text{P}(\text{SiH}_3)_3$ ,  $\text{P}_4$ ,  $\text{GeH}_4$ ,  $\text{PF}_3$



**ANSWER KEY**

1. D    2. C    3. B    4. B    5. ABD    6. AB    7. ABCD  
8. ACD    9. AB    10. 2

