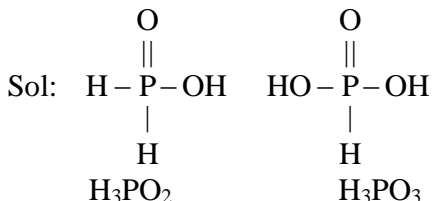


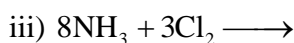
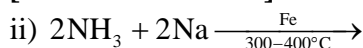
10. GROUP 15 ELEMENTS (V A GROUP ELEMENTS) PREVIOUS EAMCET BITS

1. Which pair of oxyacids of phosphorous contain P – H bonds [EAMCET 2009 E]
 1) $\text{H}_3\text{PO}_4, \text{H}_3\text{PO}_3$ 2) $\text{H}_3\text{PO}_3, \text{H}_4\text{P}_2\text{O}_7$ 3) $\text{H}_3\text{PO}_3, \text{H}_3\text{PO}_2$ 4) $\text{H}_3\text{PO}_2, \text{HPO}_3$

Ans: 3

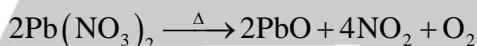


2. Which of the following reactions yields elementary gases like $\text{N}_2, \text{H}_2, \text{O}_2$, as the by products [EAMCET 2009 M]



- 1) i and ii only 2) ii, iii and iv only 3) i, ii and iii only 4) all of these

Ans: 4



3. The correct order of reducing abilities of hydrides of V group elements is [EAMCET 2008 E]

- 1) $\text{NH}_3 < \text{PH}_3 < \text{AsH}_3 < \text{SbH}_3 < \text{BiH}_3$ 2) $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3 > \text{BiH}_3$
 3) $\text{NH}_3 < \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3 > \text{BiH}_3$ 4) $\text{SbH}_3 > \text{BiH}_3 > \text{AsH}_3 > \text{NH}_3 > \text{PH}_3$

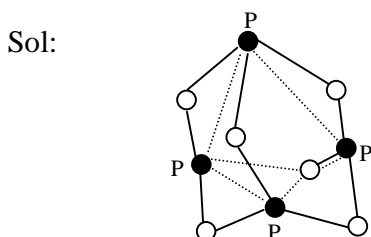
Ans: 2

Sol: Reducing ability of hydrides of VA group elements increases from NH_3 to BiH_3

4. The number of P – O bonds and lone pairs of electron present in P_4O_6 molecule respectively [EAMCET 2008 M]

- 1) 12, 16 2) 12, 12 3) 8, 8 4) 12, 4

Ans: 1



Number of P – O bonds = 12

Number of pair of electron = 16

5. The following are some statements related to VA group hydrides [EAMCET 2007 E]
 I) reducing property increases from NH_3 to BiH_3
 II) Tendency to donate lone pair decreases from NH_3 to BiH_3
 III) Bases of replacing H with Cl decreases from NH_3 to BiH_3
 IV) Base of formation of hydrides decreases from NH_3 to BiH_3

The correct statements are of

- 1) I, II, III and IV 2) I, III and IV 3) I, II and IV 4) I and IV

Ans: 1

Sol: All statements I, II, III, IV are correct

6. Which is in the decreasing order of boiling points of V group hydrides [EAMCET 2007 M]

- 1) $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$ 2) $\text{SbH}_3 > \text{AsH}_3 > \text{PH}_3 > \text{NH}_3$
 3) $\text{PH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{SbH}_3$ 4) $\text{SbH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{PH}_3$

Ans: 4

Sol: Decreasing order of boiling point $\text{SbH}_3 > \text{NH}_3 > \text{AsH}_3 > \text{PH}_3$

7. Hydrolysis of NCl_3 gives NH_3 and X. Which of the following is X [EAMCET 2006 E]

- 1) HClO_4 2) HClO_3 3) HOCl 4) HClO_2

Ans: 3

Sol: $\text{NCl}_3 + 3\text{H}_2\text{O} \longrightarrow \text{NH}_3 + 3\text{HOCl}$

8. What is the order of basic nature of hydride of group V elements [EAMCET 2006 M]

- 1) $\text{AsH}_3 > \text{SbH}_3 > \text{PH}_3 > \text{NH}_3$ 2) $\text{NH}_3 > \text{SbH}_3 > \text{PH}_3 > \text{AsH}_3$
 3) $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$ 4) $\text{PH}_3 > \text{NH}_3 > \text{SbH}_3 > \text{AsH}_3$

Ans: 3

Sol: Basic nature order $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3 > \text{SbH}_3$

9. Which of the following is not correct [EAMCET 2005]

- 1) Ammonia is used as refrigerant
 2) A mixture of $\text{Ca}(\text{CN})_2$ and C is known as nitrolium
 3) A mixture of $\text{Ca}(\text{H}_2\text{PO}_4)_2$ and $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ is known as super phosphate of lime
 4) Hydrolysis of NCl_3 gives NH_3 and HOCl

Ans: 2

Sol: Nitrolium is a mixture of calcium cyanamide and graphite ($\text{CaCN}_2 + \text{C}$)

10. Which of the following is not correct [EAMCET 2005]

- 1) Hydrolysis of NCl_3 gives NH_3 and HOCl
 2) NH_3 is less stable than PH_3
 3) NH_3 is weak reducing agent compared to PH_3
 4) Nitric Oxide in solid state exhibits paramagnetic property.

Ans: 2

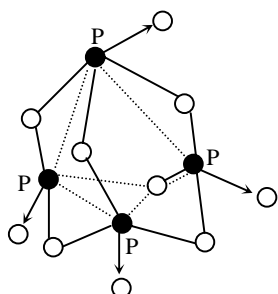
Sol: Order of stability is $\text{NH}_3 > \text{PH}_3 > \text{AsH}_3$

11. The number of oxygen atoms bounded to each phosphorous atom in P_4O_{10} is [EAMCET 2004]

- 1) 3 2) 4 3) 5 4) 6

Ans: 2

Sol:



In P_4O_{10} four oxygen atoms are attached to each phosphorous atom.

12. The number of oxygen atoms bounded to one phosphorous atom in P_4O_6 is [EAMCET 2004 E]

- 1) 4 2) 3 3) 6 4) 5

Ans: 2

