CLASS XII

CHAPTER -The p- Block Elements

ONE MARK QUESTIONS

1. Why does NO_2 dimerise? (2010)
2. Fluorine does not exhibit any positive oxidation state. Why? (2010)
3. What happens when H_3PO_3 is heated?
4. Name a compound in which chlorine displays '+7' oxidation number.
5. On heating Cu turnings with conc. HNO_3, a brown coloured gas is evolved which on cooling dimerises. Identify the gas. (2016)

TWO MARKQUESTIONS

1. Explain why
   a) Noble gases form compounds with oxygen and fluorine only.
   b) Unlike phosphorous, nitrogen has no tendency for catenation.
2. Complete the following reactions:
   a) $Zn + HNO_3(conc.) \rightarrow$
   b) $Cl_2 + NaOH$ (hot, Con) $\rightarrow$
3. Give equations for the manufacture of
   a) Ammonia from nitrogen b) Nitric acid from ammonia

THREE MARKQUESTIONS

1. Arrange the following in order of the property mentioned.
   a) HF, HCl, HBr, HI (increasing acid strength)
   b) NH_3, PH_3, AsH_3, SbH_3 (increasing basic strength)
   c) HOCl, HOClO, $HOClO_3$ (increasing oxidizing power) (2010)
2. What are interhalogen compounds? How are they prepared? Why are they more reactive than molecular halogens?

3. Explain why

a) H_2S is gas while water is liquid at room temperature.

b) Helium is used in diving apparatus.

c) Iron dissolves in HCl to form $FeCl_2$ and not $FeCl_3$. (2009)

FIVE MARKQUESTIONS

1. a) Account for the following :

i) Bond angle in NH_4^+ is greater than that in NH_3.

ii) Reducing character decreases from SO_2 to TeO_2.

iii) $HClO_4$ is a stronger acid than HClO.

(b) Draw the structures of the following :

i) $H_2S_2O_8$

ii) $XeOF_4$ (2015)

2. a) Complete the following chemical equation:

i) $S_8 + HNO_3(conc.) \rightarrow$

ii) $P_4 + NaOH + H_2O \rightarrow$

b) Explain the following observations:

i) Sulphur in vapour state exhibits paramagnetic behavior.

ii) The stability of +3 state increases down the group in group 15 of the periodic table.

iii) XeF_2 has a linear shape and not a bent structure. (2010)

VALUE BASED QUESTION

1. Mark attended a seminar on the conservation of ozone layer. He came to know that freons are the compounds which are upsetting the ozone balance. So he decided to minimize the use of air conditioner.

a) What the function of ozone layer?

b) What is the value shown in the above paragraph?

c) Why does O_3 act as a powerful oxidizing reagent?

d) Besides freons, which other compounds are responsible for depletion of ozone layer?

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