THE p-BLOCK ELEMENTS

ONE MARK QUESTIONS

1 Give the method of preparation of $LiBH_4$

2 What is inert pair effect?

3 Give reasons for the following. (one mark each)

a) There is gradual increase in electro negativity from Al to Tl.
b) Boron does not form $[BF_6]^{3-}$ ion..
c) $PbCl_4$ decomposes easily on heating.
d) Al is used in making alloys for aircraft industry.
e) Si does not form graphite like structure.
f) Fullerenes are the purest forms of carbon.
g) CCl_4 cannot be hydrolysed.
h) CO is highly poisonous.

TWO MARKS QUESTIONS

1 Compare the structure of SiO_2 and CO_2.

2 How are silicones prepared? Give its twouses.

3 Explain why

a) BCl_3 is more stable than $TlCl_3$.
b) PbI_4 does not exist

4 Is boric acid a protic acid ? Explain.

5 Explain why CO_2 is a gas whereas SiO_2 is a solid?

THREE MARKS QUESTIONS

1 Describe with suitable examples:

a) Zeolites
b) Metal carbonyl
c) allotropes

2 What happens when?

a) Diborane is heated with ammonia

b) Borax is dehydrated

c) Boric acid is heated

3 A salt A, gives the following results :

a. It aqueous solution is alkaline to litmus
b. It swells up to a glassy material B on strong heating.

When conc. H_2SO_4 is added to a hot solution of A, white crystals an acid C separates out. Write equations for all the above reactions and identify A, B and C.

4 Complete the following chemical equations:

a) $+ 3\ LiAlH_4 \rightarrow\ +\ 3LiF\ +3\ AlF_3$

b) $B_2H_6 + H_2O \rightarrow$

c) $Al + NaOH + H_2O \rightarrow$

5 Give two uses of:

a) Boron fibre
b) Carbon-14
c) Quartz

6 Explain the structures of:

a) Boric acid
b) Fullerene
c) Diborane

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