

MAINS+ADVANCED

TOPIC

s-BLOCK, p-BLOCK
ELEMENTS

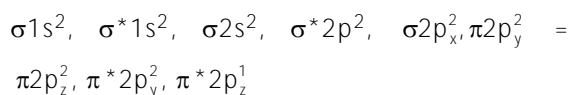
SOLUTIONS

s-BLOCK, p-BLOCK ELEMENTS

s-BLOCK

Exercise-1

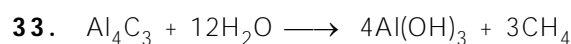
7. Solubility $\propto \frac{1}{L.E}$



n = 1, Paramagnetic

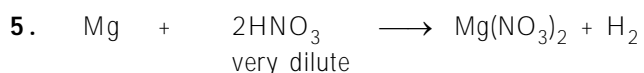
22. Hydration energy $\propto \frac{1}{\text{size of ions}}$

25. Reducing agent \propto negative S & P value.

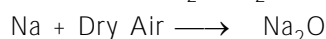
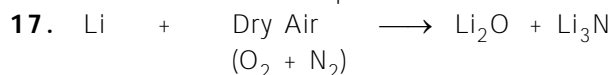
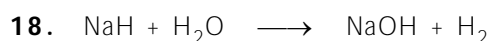


s-BLOCK

Exercise-2

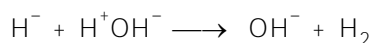
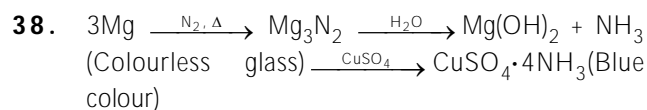
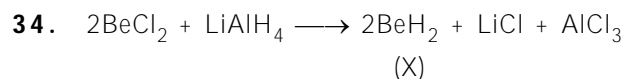
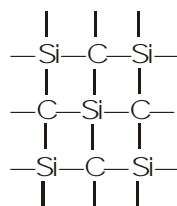


Alkali metals Liquid Metal amide

(O₂)

(Aq)

OR

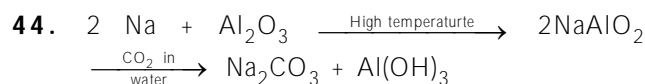
29. CaC_2 , Al_4Cl_3 and Be_2C are ionic carbides but SiC are covalent.

(X)

(Y)

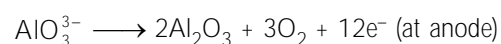
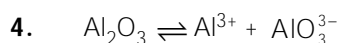
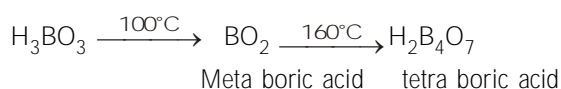
(Z)

(T)

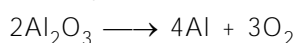
47. $CsBr_3$ is an ionic compound so exist as $Cs^+ Br_3^-$

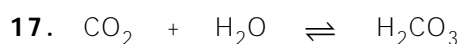
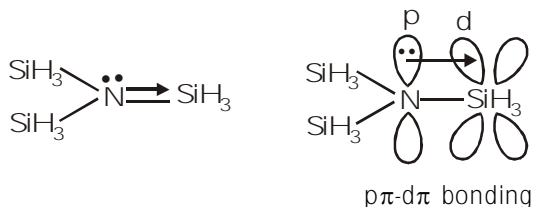
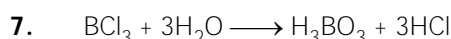
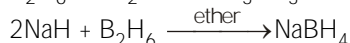
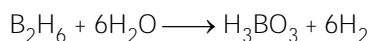
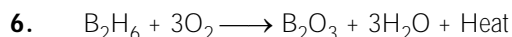
p-BLOCK

Exercise-1

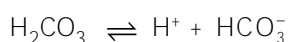


The overall chemical reaction taking place during electrolysis

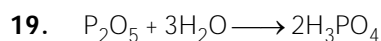
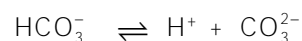




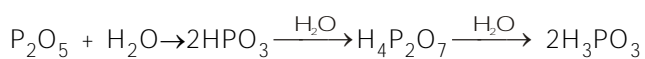
Acidic oxide



weak acid



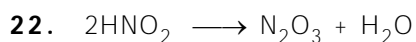
ortho phosphoric



Meta phosphoric

Pyrophosphoric

acid acid



Anhydride

Removal of H_2O from HNO_2 is called anhydride.



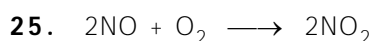
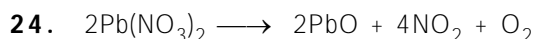
Highest O.N., only reduces, acid only oxidising agent.

HNO_2 oxidation number = +3

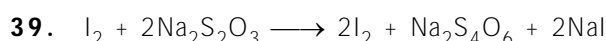
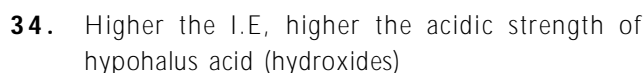
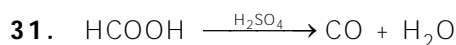
It reduces as well as oxidise, act both oxidising and reducing agent.

H_2SO_4 oxidation number = +6

Highest O.N., only reduces, act only oxidising agent.

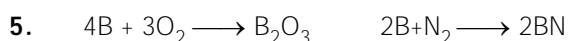
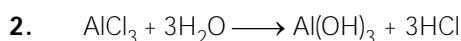
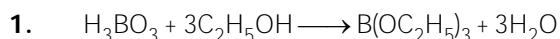


Brown fumes



p-BLOCK

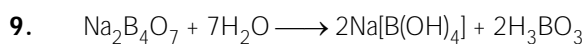
Exercise-2



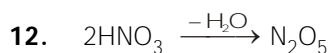
Mixture of oxide and nitride

6. Due to higher EN of B it attract lone pair of electron with faster rate.

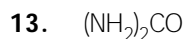
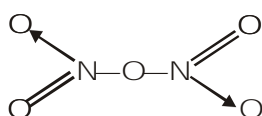
7. Due to back bonding BF_3 , BCl_3 and BBr_3 are exist in free form. But BH_3 is not.



Aqueous solution of borax acts as a buffer because it contains weak acid and its salt with strong base.



Anhydride

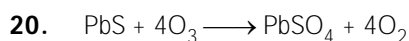
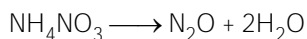


Urea

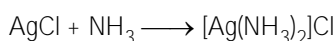
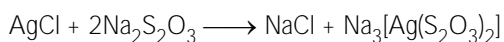
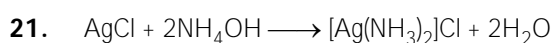
Molecular mass = 60

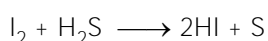
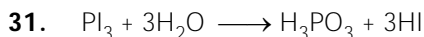
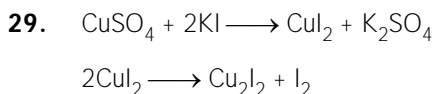
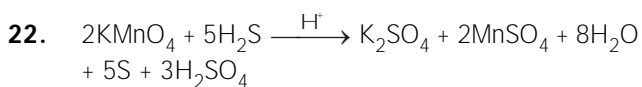
mass of nitrogen = 28

$$\% \text{ of N} = \frac{28}{60} \times 100 = 47\%$$



(Black)

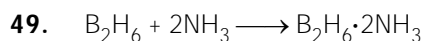
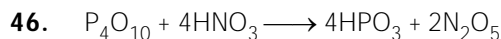
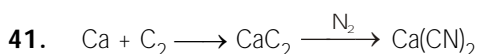
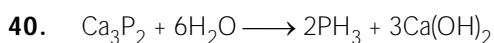




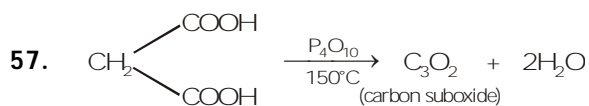
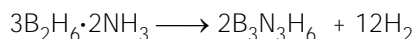
32. I_2 can not displace Br_2 , Cl_2 , F_2 from KBr , KCl , KF , because it is the weakest oxidising agent.



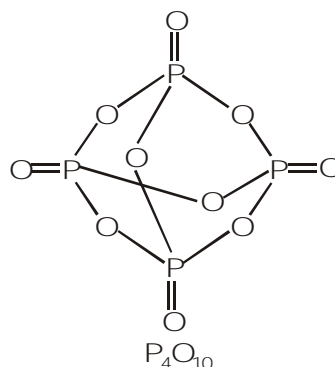
(A) (B)



When the addition product is heated at 200°C a volatile compound borazole or inorganic benzene is formed.



59.



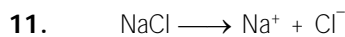
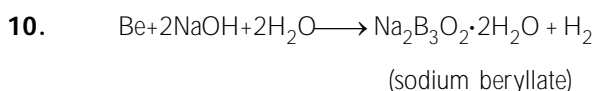
HYDROGEN COMPOUND

Exercise-1

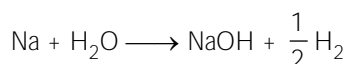
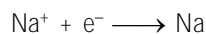
4. $r_n = 0.529 \frac{n^2}{2} \text{ \AA}$

for protium, deuterium and tritium the n and z are 1, 1 and 1 respectively.

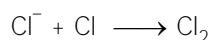
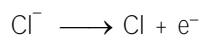
8. Laboratory method of formation of H_2 gas granular zinc + dil $\text{H}_2\text{SO}_4 \longrightarrow \text{H}_2$



At cathode



At anode



HYDROGEN COMPOUND

Exercise-2

