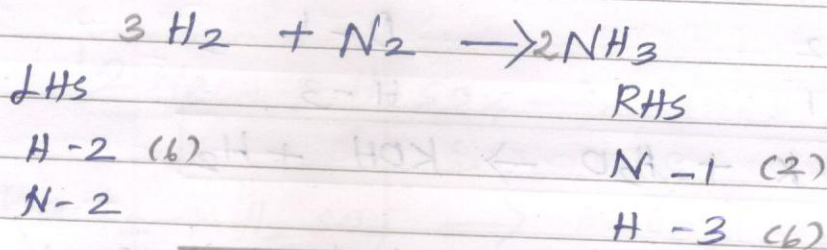


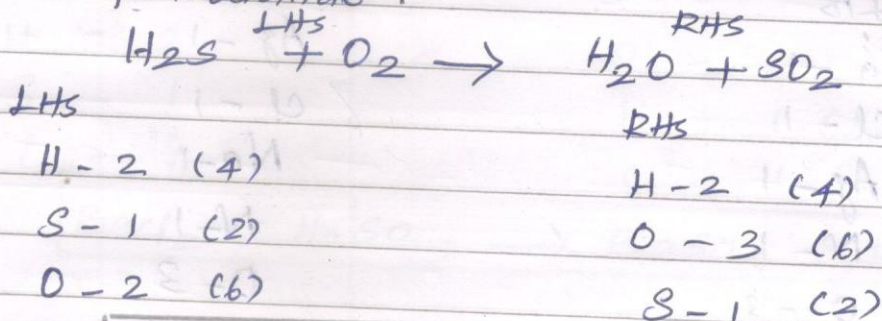
1. Chemical Reactions and Equations

I Translate the following statements into chemical equations and then balance them.

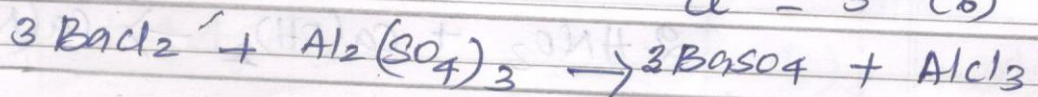
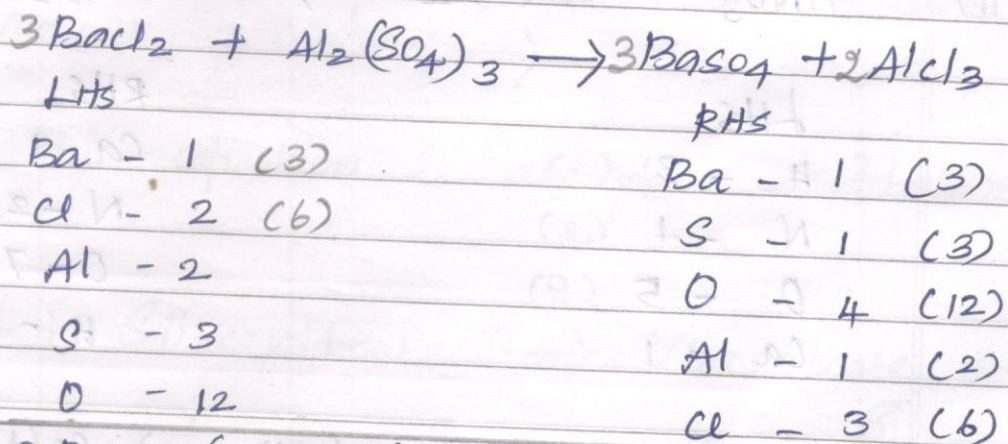
a) Hydrogen gas combines with nitrogen to form ammonia.



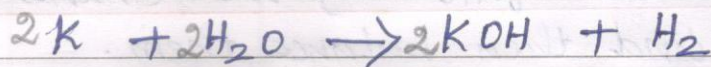
b) Hydrogen Sulphide gas burns in air to give Water and Sulphur dioxide.



c) Barium chloride reacts with aluminium sulphate to give aluminium chloride and a precipitate of Barium sulphate.



d) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.



LHS

K - 1

H - 2

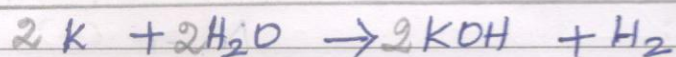
O - 1

RHS

K - 1

O - 1

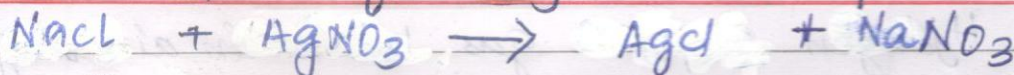
H - 3



II

Balance the following chemical equations:

(i)



LHS

Na - 1

Cl - 1

Ag - 1

N - 1

O - 3

RHS

Ag - 1

Cl - 1

Na - 1

N - 1

O - 3

This equation is already a self balanced equation.

ii)



LHS

H - 3 (4)

N - 1 (2)

O - 5 (8)

Ca - 1

RHS

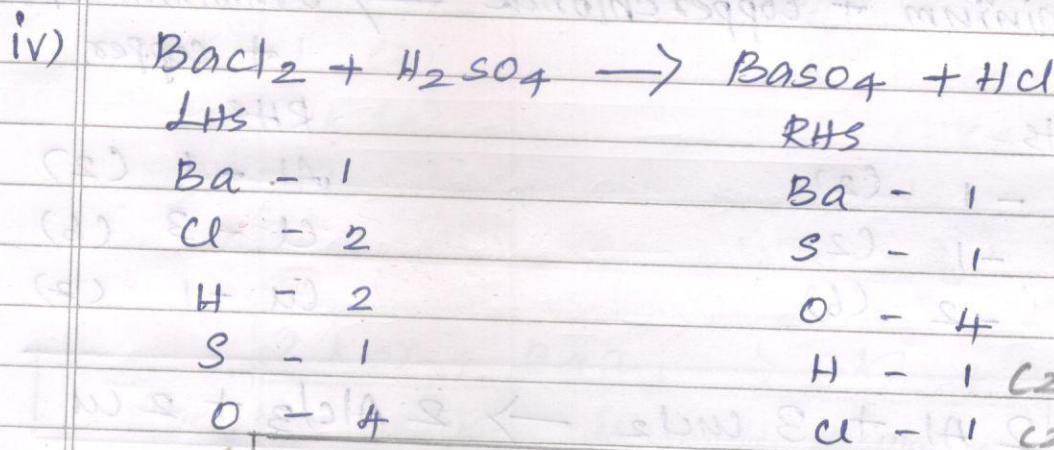
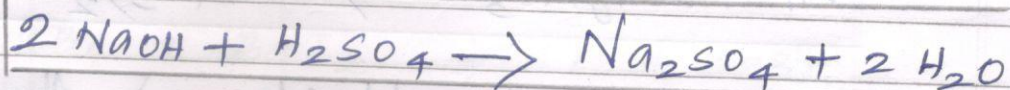
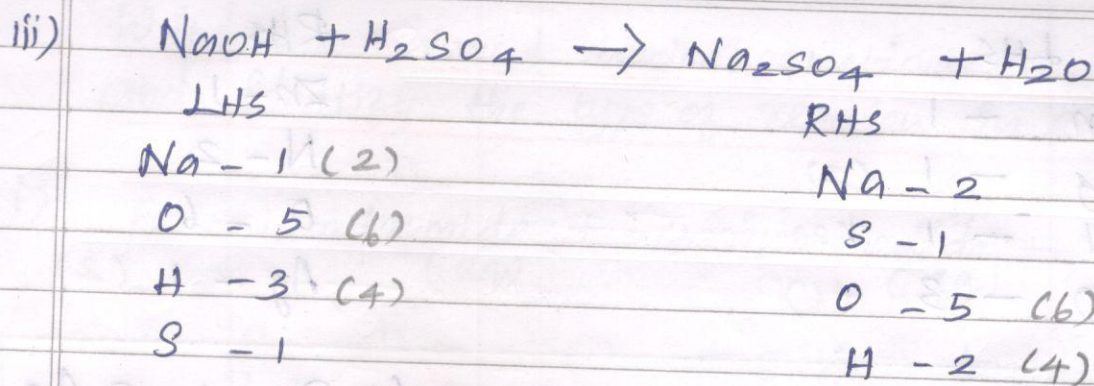
Ca - 1

N - 2

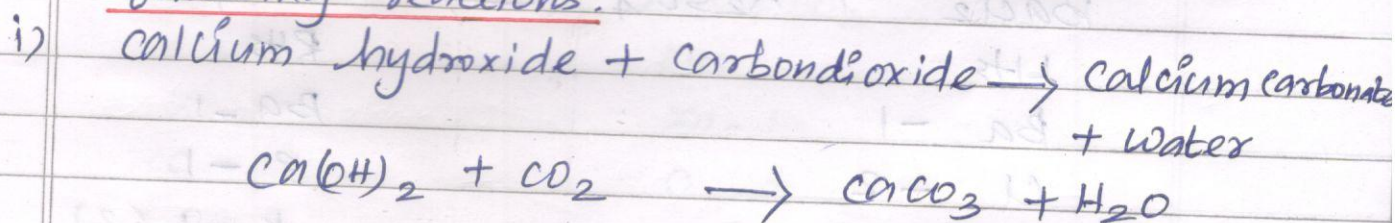
O - 7 (8)

H - 2 (4)

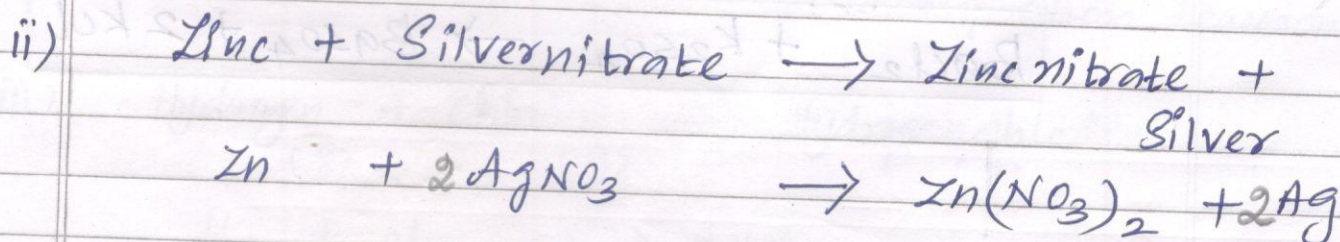


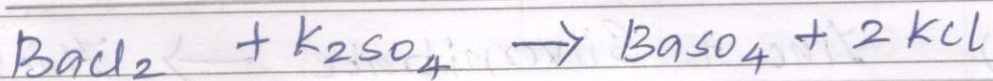
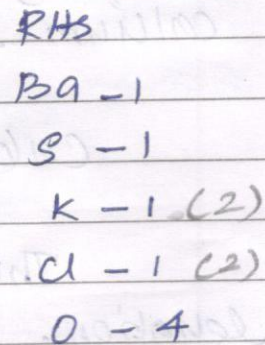
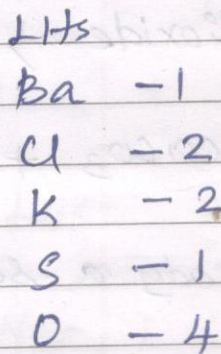
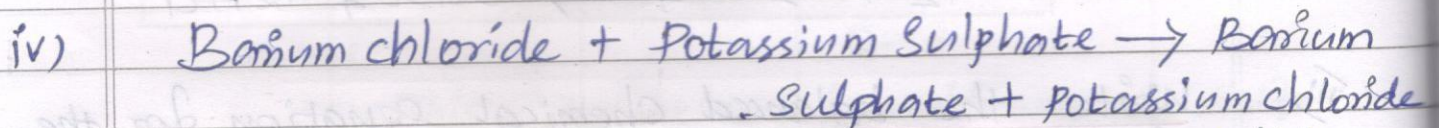
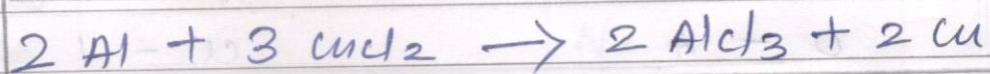
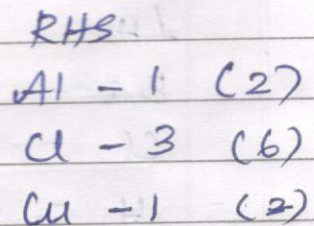
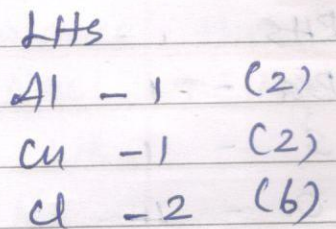
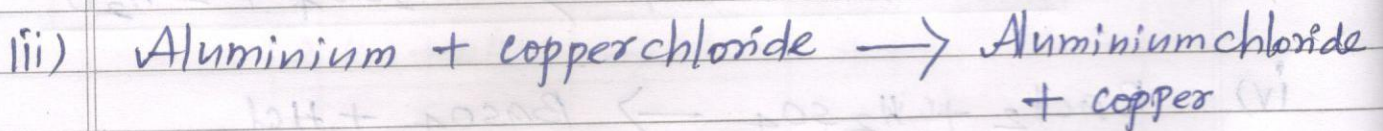
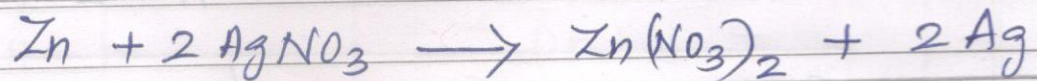
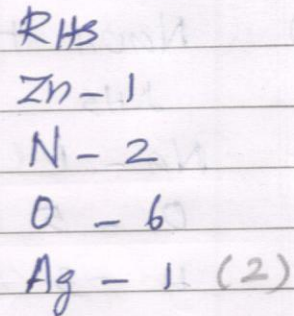
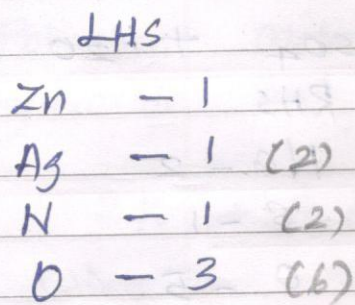


iii) Write the balanced chemical equation for the following reactions.



This equation is already a self balanced equation.





iv) Write the balanced chemical equation for the following and identify the type of reaction in each case.

i) Potassium bromide + Barium Iodide $\rightarrow$ Potassium Iodide + Barium bromide
(aq) (aq) (aq) (s)



LHS

K - 1 (2)

Br - 1 (2)

Ba - 1

I - 2

RHS

K - 1 (2)

I - 1 (2)

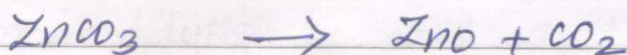
Ba - 1

Br - 2



The type reaction is Double displacement reaction.

ii) Zinc carbonate $\rightarrow$ Zinc oxide + Carbon dioxide
(s) (s) (g)



LHS

Zn - 1

C - 1

O - 3

RHS

Zn - 1

O - 3

C - 1

This equation is already a self balanced equation.

The type of Reaction is Decomposition Reaction.

iii) Hydrogen + Chlorine $\rightarrow$ Hydrogen chloride
(g) (g) (g)

