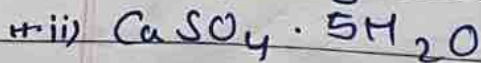
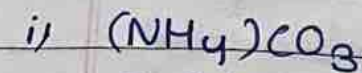


I Calculate the molecular mass of the following compounds -:



$$[\text{N} = 14, \text{H} = 1, \text{C} = 12, \text{O} = 16, \text{Ca} = 40, \text{S} = 32]$$

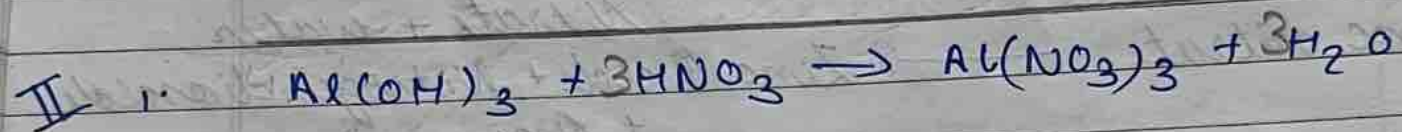
Q: Balance the following chemical equation -:

1. Aluminium Hydroxide + Nitric acid  $\rightarrow$  Aluminium Nitrate + water
2. Zinc nitrate  $\rightarrow$  Zinc Oxide + Nitrogen dioxide + Oxygen
3. Aluminium chloride + Ammonium Hydroxide  $\rightarrow$  Aluminium Hydroxide + Ammonium chloride
4. Sodium nitrate + sulphuric acid  $\rightarrow$  Sodium sulphate + Nitric acid.
5. ~~Aluminium + Sodium Hydroxide + water  $\rightarrow$  Sodium Meta Aluminate + Hydrogen~~

## Ans Answers

I i)  $(\text{NH}_4)_2\text{CO}_3$   
 $= 2 \times 14 + 8 \times 1 + 1 \times 12 + 3 \times 16$   
 $= 28 + 8 + 12 + 48$   
 $= 96 \text{ amu}$

ii)  $\text{CaSO}_4 \cdot 5\text{H}_2\text{O}$   
 $= 1 \times 40 + 1 \times 32 + 4 \times 16 + 5 \times 10 \times 1 + 5 \times 16$   
 $= 40 + 32 + 64 + 50 + 80$   
 $= 226 \text{ amu}$

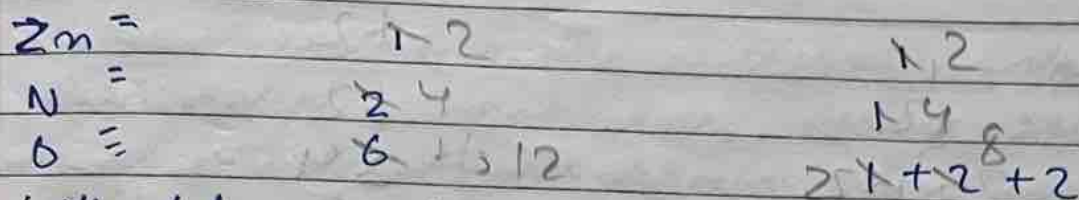


Al =	1	1
O =	3 + 3 \times 3	9 + 13
H =	3 + 13	26
N =	1 \times 3	3

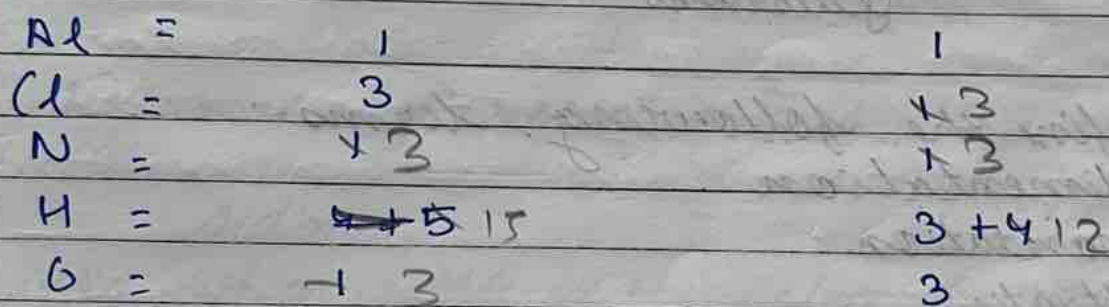
$\therefore$  The balanced chemical equation is  $\text{Al}(\text{OH})_3 + 3\text{HNO}_3 \rightarrow \text{Al}(\text{NO}_3)_3 + 3\text{H}_2\text{O}$



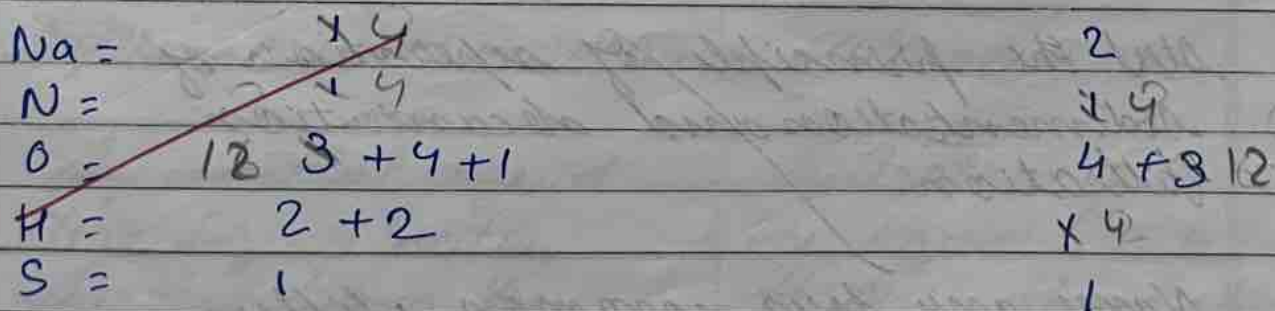
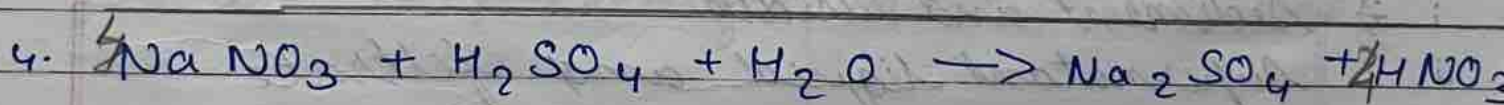
Zn	1	1
N	2	2
O	6	1 + 2 + 2

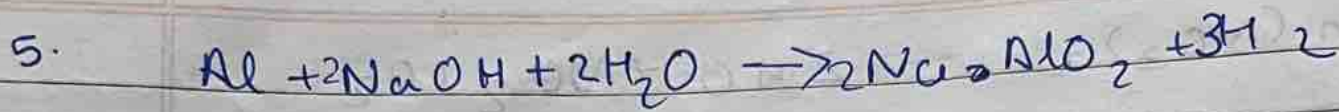


∴ The balanced chemical equation is  $22\text{m}(\text{NO}_3)_2 \rightarrow 22\text{mO} + 4\text{NO}_2 + \text{O}_2$



∴ The balanced chemical equation is  $\text{AlCl}_3 + 3\text{NH}_4\text{OH} \rightarrow \text{Al}(\text{OH})_3 + 3\text{NH}_4\text{Cl}$





Al = 1 +2

Na = 2 +2

O = 2 + 2 24

H = 2 + 2 26

∴ The balanced chemical equation is  $\text{Al} + 2\text{NaOH} + 2\text{H}_2\text{O} \rightarrow 2\text{NaAlO}_2 + 3\text{H}_2$

1/7/23

### Questions

Q1. Define the following terms:-

- i. sedimentation
- ii. decantation
- iii. Filtration

Q2. Differentiate the following:-

- i. Sediment and residue
- ii. Supernatant liquid and filtrate

Q3. State the principle of separation of

- i) sedimentation and decantation
- ii) Filtration

Q4. Name any four common filter.

## Answers

Q1: i) Sedimentation - The settling down of suspended, insoluble, heavy solid particles in a solid-liquid mixture when left undisturbed is called sedimentation.

ii) Decantation - The process of pouring out the clear liquid, without disturbing the sediment is called decantation.

Q2: i) Sediment and residue

<u>Sediment</u>	<u>Residue</u>
Solid which settle at the bottom is called the sediment in the process of sedimentation.	Solid particles; Insoluble solid particles left on the filter paper is called the residue.

ii) Supernatant liquid and filtrate

<u>Supernatant liquid</u>	<u>Filtrate</u>
Clear liquid that is separated from the sediment by the process of sedimentation is known	The liquid that passes through the filter is known as filtrate.

as supernatant liquid

Q3: i) This method is used for a heterogeneous mixture of a solid and a liquid, where the solid component is insoluble and heavier than the liquid component and has a tendency to settle down.

ii) This method is used for separating the component of solid-liquid mixture in which solids are insoluble in liquid. The insoluble solid components being lighter than the liquid component may not settle down.

Q4. ~~Wet wool, clay and water, Wool, charcoal filter paper, glass wool.~~