I/ Balance the following chemical equation.

1. Hydrogen peroxide ⟶ Water + Oxygen

2. Ammonia + Oxygen ⟶ Nitric oxide + Water

3. Sodium bisulphite + sulphuric acid ⟶ sodium sulphate + water + sulphur dioxide

4. Copper (II) nitrate $\xrightarrow{\Delta}$ Nitrogen dioxide + Copper (II) oxide + Ai oxygen

5. Ammonium dichromate $\xrightarrow{\Delta}$ Chromium oxide + nitrogen + water.

II/ Calculate the relative molecular mass of:

1. $CHCl_3$
2. Mg_3N_2
3. CH_3COONa

ATOMIC MASS	
C = 12	Na = 23
H = 1	N = 14
Cl = 35.5	O = 16
Mg = 24	

I. $2H_2O_2 \longrightarrow 2H_2O + O_2$

H	2 4	2 4
O	2 4	2 2 + 2

∴ The balanced chemical equation is
$2H_2O_2 \longrightarrow 2H_2O + O_2$

2. $4NH_3 + 5O_2 \longrightarrow 4NO + 6H_2O$

N	4 4	4 4
H	3 12	2 12
O	2 10	4 + 2 6

∴ The balanced chemical equation is
$4NH_3 + 5O_2 \longrightarrow 4NO + 6H_2O$

3. $2NaHSO_3 + H_2SO_4 \longrightarrow Na_2SO_4 + 2H_2O + 2SO_2$

Na	2	2
H	2 + 2	2 4
S	2 + 1	1 + 1 2
O	6 3 + 4	4 + 2 + 2 4

∴ The balanced chemical equation is
$2NaHSO_3 + H_2SO_4 \longrightarrow Na_2SO_4 + 2H_2O + 2SO_2$

4. $2Cu(NO_3)_2 \longrightarrow 2CuO + 4NO_2 + O_2$

Cu	x 2	x 2
N	2 4	x 4 8
O	6 12	2 x+2+2

∴ The balanced chemical equation is
$2Cu(NO_3)_2 \longrightarrow 2CuO + 4NO_2 + O_2$

5. $(NH_4)_2Cr_2O_7 \xrightarrow{\Delta} Cr_2O_3 + N_2 + 4H_2O$

N	2	2
H	8	2 8
Cr	2	2
O	7	3 + x 4

∴ The balanced chemical equation is

$(NH_4)_2Cr_2O_7 \xrightarrow{\Delta} Cr_2O_3 + N_2 + 4H_2O$

1 | 1 | 2 | 2 3

II 1. $CHCl_3$

$C \times 1 + H \times 1 + Cl \times 3$

$= 12 \times 1 + 1 \times 1 + 35.5 \times 3$

$= 12 + 1 + 106.5$

$= 119.5$ amu

2. Mg_3N_2

$Mg \times 3 + N \times 2$

$24 \times 3 + 14 \times 2$

$72 + 38$

110 amu

3. CH_3COONa

$C \times 1 + H \times 3 + C \times 1 + O \times 1 + O \times 1 + Na \times 1$

$12 \times 1 + 1 \times 3 + 12 \times 1 + 16 \times 1 + 16 \times 1 + 23$

$12 + 3 + 12 + 16 + 16 + 23$

82 amu