

a)

Date: ____/____/____

$$i) \text{ mole} = \frac{m_{\text{diss}}}{M_r} = \frac{0.227}{84} = 2.7 \times 10^{-3}$$

$$2.7 \times 10^{-3} \times 24$$

$$\text{mole} = \frac{m_{\text{diss}}}{M_r} = \frac{V_{\text{ol}}}{29000} = \frac{58.9}{29000} = 2.43 \times 10^{-3}$$

$$ii) 2.43 \times 10^{-3} \times 84 = 0.2044 \text{ g}$$

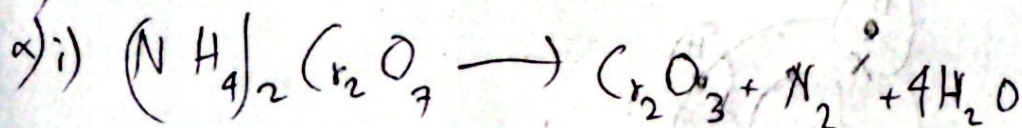
$$ii) \frac{0.2044}{0.227} \times 100 = 90.04\% \approx 90\%$$

$$b) i) \frac{58.4 - 58}{58} \times 100 = 0.69\%$$

$$\therefore \frac{58.8 - 58.4}{58.4} \times 100 = 0.68\%$$

ii) It may dissolve in water, its density is higher than water.

2)



ii) Thermal decomposition



Date :/...../.....

b) $PV = nRT$

$$\frac{25.2}{(100)^3} = 2.52 \times 10^{-5} \text{ m}^3$$

$$PV = nRT$$

$$\Rightarrow T = \frac{PV}{nR} = \frac{101325 \times 2.52 \times 10^{-5}}{0.00100 \times 8.31} = 307.27$$

c)

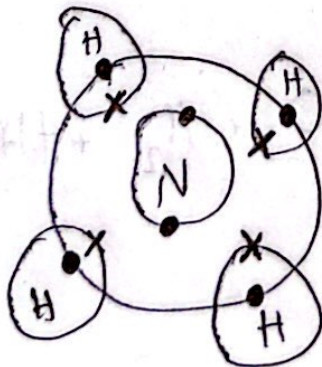
$$\frac{25.2}{1000} = 0.0252 \text{ L}$$

$$PV = nRT$$

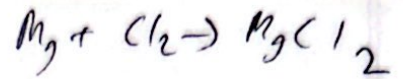
$$\Rightarrow T = \frac{PV}{nR} = \frac{101325 \times 0.0252}{0.00100 \times 8.31} = 307267.148 \text{ K}$$

$$\therefore 307267.148 - 273 = 306994.148 ^\circ\text{C}$$

c)



2, 8, 7
2, 7



27.6 : 72.4

Date:/...../.....

04 : 3

30 : 70

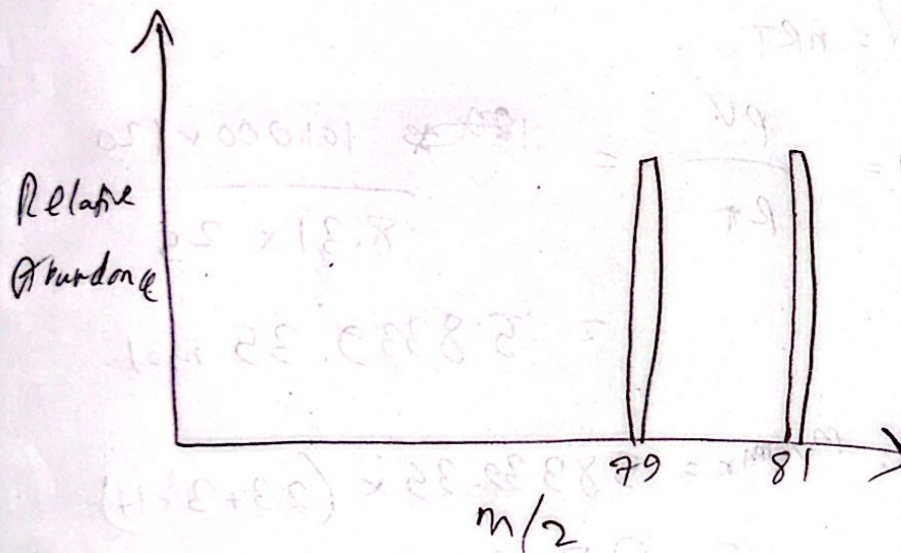
2x : x

i)

ii)

iii)

3)



4)

5)

$$6) \quad PV = nRT$$

$$\Rightarrow n = \frac{PV}{RT} = \frac{101000 \times 120}{8.31 \times 25}$$

$$= 58339.35 \text{ mol}$$

$$\therefore M = n \times m_r = 58339.35 \times (23 + 3 \times 14)$$

$$= 3792057.762 \text{ g}$$

$$= 3792.058 \text{ g}$$