

SECTION A/AFDELING A**Question 1/Vraag 1**

1.1	A	1.2	C	1.3	D	1.4	D	1.5	A
1.6	B	1.7	C	1.8	A	1.9	A	1.10	C
1.11	D	1.12	D	1.13	A	1.14	B	1.15	B

[15 x 3 = 45]

SECTION B/AFDELING B**Question 2/Vraag 2**

2.1.1 A solution of which the concentration is known exactly. ✓✓ (2)
'n Oplossing waarvan die konsentrasie presies bekend is

2.1.2 $n = c \times V = 0,5 \times 0,2 = 0,1 \text{ mol}$ ✓ (3)

2.1.3 $m = n \times M = 0,1 \times 106 = 10,6 \text{ g}$ ✓ (3)

2.2.1 Boyle's Law ✓✓ (No marks for relationship) (2)
Boyle se wet (Geen punte vir verwantskap nie)

2.2.2 Temperature /Temperatuur ✓ (1)

2.2.3 High Pressure ✓ and low temperature ✓ (2)
Hoë druk en Lae temperatuur

2.2.4 $P_1V_1 = P_2V_2$ ✓

$$P_2 = \frac{P_1V_1}{V_2} = \frac{100 \times 5,0}{6,0} = 83,33 \text{ kPa}$$
 ✓
 (4)
[17]

Question 3/Vraag 3

3.1.1 $2\text{HCl} + \text{Na}_2\text{SO}_3 \rightarrow \text{H}_2\text{O} + \text{SO}_2 + 2\text{NaCl}$ (✓balancing/ balansering) (3)

3.1.2 H_2S ✓ (1)

3.1.3 Sulphur ✓ and water ✓ (2)
Swawel en water

3.2.1 A substance that will extract ✓ water. ✓ (2)
'n Stof wat water sal onttrek

3.2.2 Blue crystals turn white ✓ (2)
 The crystalline structure disappears or it becomes an amorphous powder. ✓
Blou kristalle kleur wit.
Die kristalstruktuur sal verdwyn of dit word 'n amorfe poeier.

[10]

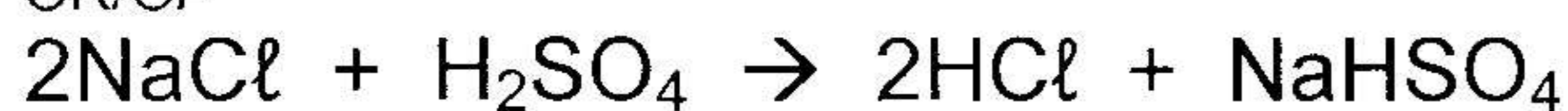
Question 4/Vraag 4

4.1.1 Nitrogen dioxide /Stikstofdoksied ✓✓ (2)

4.1.2 Copper nitrate /Kopernitrat ✓✓ (2)

4.1.3 $\text{NO}_3^- + 2\text{H}^+ + \text{e}^- \rightarrow \text{NO}_2 + \text{H}_2\text{O}$ ✓ (2)4.2.1 $2\text{NaCl} + \text{H}_2\text{SO}_4 \rightarrow 2\text{HCl} + \text{Na}_2\text{SO}_4$ (✓balancing/balansering) (3)

OR/OF



4.2.2 Hydrochloric acid /Soutsuur ✓✓ (2)

4.2.3 Upward displacement of air / Opwaartse verplasing van lug ✓✓ (2)

[13]**Question 5**

5.1 Exothermic/ Eksotermies ✓ (1)

5.2 Catalyst/Katalisator ✓✓ (2)

5.3.1 Both/ Beide ✓✓ (2)

5.3.2 Both/ Beide ✓✓ (2)

5.3.3 Both/ Beide ✓✓ (2)

5.4.1 Increases/ Neem toe ✓✓ (2)

5.4.2 Increases/ Neem toe ✓✓ (2)

[13]**Question 6/ Vraag 6**6.1.1 $\text{HNO}_3 + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{NO}_3^-$ ✓ / $\text{HNO}_3 \xrightarrow{\text{H}_2\text{O}} \text{H}^+ + \text{HNO}_3^-$ (2)6.1.2 H^+ or/of H_3O^+ ✓✓ (2)6.1.3 HNO_3 ✓✓ (2)

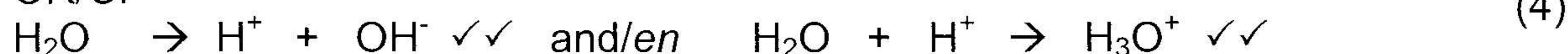
6.1.4 Oxalic acid/ Oksaalsuur ✓✓ (2)

6.2.1 A substance that can react as an acid or a base. ✓✓ (2)
'n Stof wat beide as 'n suur of 'n basis kan optree

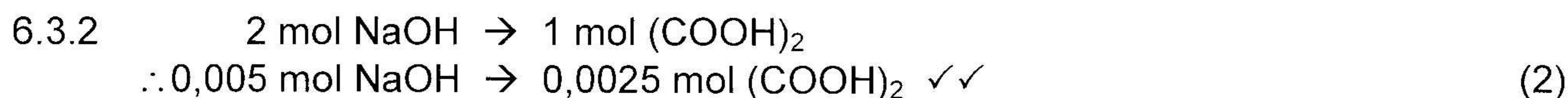
6.2.2 ✓✓ ✓ ✓ (2)



OR/OF



$$6.3.1 \quad n = c \times V \checkmark = 0,05 \times 0,1 \checkmark = 0,005 \text{ mol } \checkmark \quad (3)$$

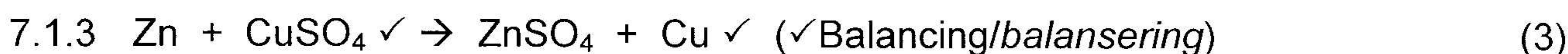


$$6.3.3 \quad c = \frac{n}{V} = \frac{0,0025}{0,04} = 0,0625 \text{ mol.dm}^{-3} \checkmark \quad (3)$$

[22]**Question 7 Vraag 7**

7.1.1 A \checkmark (1)

7.1.2 Cu is not a strong enough reducing agent to reduce Zn^{2+} to Zn. $\checkmark \checkmark$ (4)
Cu is nie 'n sterk genoeg reduseermiddel om Zn^{2+} na Zn te reduseer nie
 OR/OF
 Zn^{2+} is not a strong enough oxidising agent to oxidise Cu to Cu^{2+} .
 Zn^{2+} is nie 'n sterk genoeg oksideermiddel om Cu na Cu^{2+} te oksideer nie



7.1.4 Black and/or reddish brown and/or copper precipitate forms on the solid Zn \checkmark (2)
 Blue colour disappears. \checkmark
Swart en/of rooibruin en/of koper neerslag vorm op die soliede Zn
Blou kleur verdwyn

7.2.1 Q \checkmark (2)

7.2.2 Reducing agent/ Reduseermiddel \checkmark (1)

**[15]****Question 8**

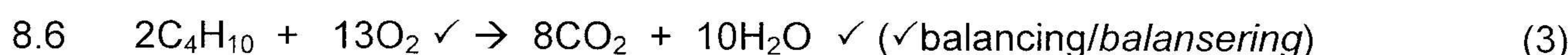
8.1 $\text{C}_n\text{H}_{2n+2} \checkmark \checkmark$ (2)

8.2 Gas $\checkmark \checkmark$ (2)



8.4 Gas is under pressure / Gas verkeer onder druk $\checkmark \checkmark$ (2)

8.5 A \checkmark (1)



8.7 Carbon or carbon monoxide $\checkmark \checkmark$ (2)
Koolstof of koolstofmonoksied

[14]**TOTAL: 150**