

MEMORANDUM SG PAPER 2 MARCH 2005**MULTIPLE CHOICE/ MEERVOUDIGE KEUSE**

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

3 x 15 =[45]**QUESTION 2 /VRAAG 2**

2.1

2.1.1 B or/of S YY (2)

2.1.2 D or/of SO₂ YY (2)2.1.3 E or/of C₆H₁₄ YY (2)

2.1.4 A or/of NaCl YY (2)

2.2

2.2.1 101,3 kPa YY (2)

2.2.2 The plunger moves out/volume of gas in syringe increases. YY (2)
Die suier beweeg uitwaarts/volume gas in die gasspuit neem toe.

2.2.3 Increase in temperature causes the kinetic energy (E_k) of He atoms to increase;
particles move faster, gas in syringe expands/pressure increases. Y (3)
 (frequently with the walls of the container)
Toename collides more in temperatuur verhoog die kinetiese energie (E_k) van die He atome, deeltjies beweeg vinniger, en gas in gasspuit sit uit/ druk verhoog.
(bots meer gereeld met wand van houer)

2.2.4 $V_1 = 40 \text{ cm}^3$ $V_2 = ?$
 $T_1 = 273 \text{ K}$ $T_2 = (273 + 80) = 353 \text{ K}$

$$\frac{V_1}{T_1} = \frac{V_2}{T_2} \quad Y$$

$$\frac{40}{273} Y = \frac{V_2}{353} Y$$

$$\therefore V_2 = \frac{(40 \times 353)}{273}$$

$$\square V_2 = 51,52 \text{ cm}^3 \quad Y$$

**(4)
[19]**

QUESTION 3/ VRAAG 3

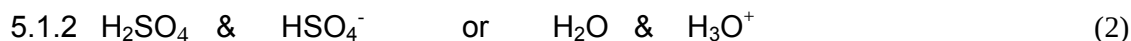
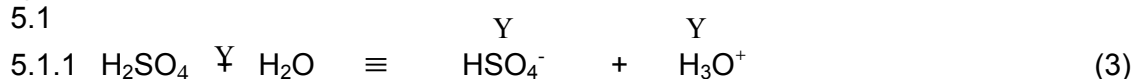
- 3.1 Y Y
 3.1.1 $\text{SO}_2 + 2\text{Mg} \rightarrow 2\text{MgO} + \text{S}$ (Y balancing/ *balansering*) (3)
- 3.1.2 Redox/ *Redoks* YY (2)
- 3.1.3 Oxidising Ability/Oxidising Agent YY (2)
Oksideer vermoë/ Oksideermiddel
- 3.2 Y Y
 3.2.1 $4\text{HNO}_3 \rightarrow 4\text{NO}_2 + \text{O}_2 + 2\text{H}_2\text{O}$ (Y balancing/ *balansering*) (3)
- 3.2.2 Nitrogen dioxide/ *Stikstofdioksied* (YY) (NO_2) (2)
- 3.3 Y Y
 3.3.1 $\text{Cl}_2 + 2\text{KBr} \rightarrow 2\text{KCl} + \text{Br}_2$ (Y balancing/ *balansering*) (3)
- 3.3.2 Potassium chloride/ *Kaliumchloried* (YY) (KCl) (2)
 3.3.3 Bromine/ *Broom* (YY) (Br_2) (2)
[19]

QUESTION 4/ VRAAG 4

- 4.1 Y Y
 4.1.1 Y Y (1)
- 4.1.2 Higher concentration of HCl YY (only conc) Y
Higher temperature of solution YY (only temp) Y (4)
Hoër konsentrasie van HCl
Hoër temperatuur van oplossing
- 4.2 YY
 4.2.1 Reversible reaction / *Omkeerbare reaksie* (2)
- 4.2.2 (-)1300 kJ YY (2)
- 4.2.3 Exothermic/ *Exotermies* Y (1)
 Heat is liberated/ ΔH is negative / *Warmte vrygestel/ ΔH is negatief.* YY (2)
- 4.2.4 INCREASES/ *NEEM TOE* YY (2)
- 4.2.5 DECREASES/ *NEEM AF* YY (2)
- 4.2.6 INCREASES/ *NEEM TOE* YY (2)
- 4.2.7 STAYS THE SAME/ *BLY DIESELFDE* YY (2)
[20]

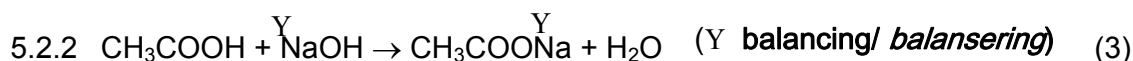
QUESTION 5/ VRAAG 5

5.1



5.2

5.2.1 undergoes partial dissociation / ondergaan gedeeltelike dissosiasie (2)



$$5.2.3 \quad n = cV = 0,1 \times 0,020 = 0,002 \text{ mol of NaOH} \quad (2)$$

5.2.4

or/of

$$\frac{c_a \times V_a}{c_b \times V_b} = \frac{n_a}{n_b} \quad \text{Y}$$

$$\frac{c_a \times 0,025}{0,1 \times 0,020} = \frac{1}{1} \quad \text{Y}$$

$$n_a = n_b \quad \text{Y}$$

$$\therefore c_a = n/V = 0,002 / 0,025 = 0,08 \text{ mol.dm}^{-3} \quad \text{Y}$$

$$c_a = \frac{0,1 \times 0,020 \times 1}{0,025 \times 1}$$

$$c_a = 0,08 \text{ mol.dm}^{-3} \quad \text{Y}$$

5.2.5 Phenolphthalein / Fenolftaleien (4)

(2)

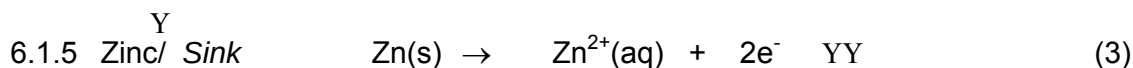
[18]**QUESTION 6/ VRAAG 6**

6.1



6.1.2 Oxidation/ Oksidasie YY (2)

6.1.3 ZnSO_4 YY (zinc sulphate Y)... or any other soluble zinc salt. (2)
(sinksulfaat) of enige ander oplosbare sink sout)



6.1.6 Chemical energy to electrical energy YY (2)
Chemiese energie na elektriese energie

6.2

**[18]**

QUESTION 7 /VRAAG 7

7.1

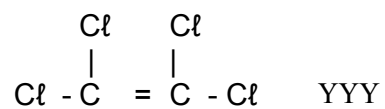
7.1.1 A & C YY (2)

7.1.2 B & D YY (2)

7.1.3 D YY (2)

7.2 but-2-ene YY (2)

7.3



(3)

[11]**150 marks/ punte**