MOONTLIKE ANTWOORDE VIR:

FUNKSIONELE NATUUR -EN SKEIKUNDE VRAESTEL 2 (CHEMIE)/ FUNCTIONAL PHYSICAL SCIENCE PAPER 2 (CHEMISTRY)

VRAAG 1:/ QUESTION 1:

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

15 x (3) = [45]

VRAAG 2:/ QUESTION 2:

2.1 Die elektrone is nie in die orbitale wat die laagste ✓ energievaardes ✓ verteenwoordig nie.
Daar is orbitale met laer energiewaardes wat ongevul is.
The electrons has not filled the orbitals with the lowest energie, but are in orbitals within a higher energystate. (2)

2.2 onstabiel ✓✓
unstable (2)

Die elektron het ekstra energie wat hy sal wil vrystel ✓✓ om na die grondtoestand terug te keer.
The electron will release the extra energy to return to the groundstate. (2)

2.3

2.3.1 $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$ ✓✓ (2)

2.3.2 $1s^2 2s^2 2p^6 3s^2 3p^6$ ✓✓ (2)

2.4 $^{41}_{20}Ca$ x = 41 ✓ y = 20 ✓ (2)

2.5 Vereis ✓✓
Required (2)
[14]

VRAAG 3:/ QUESTION 3:

3.1

Li

2p			
2s	↑		
1s	↑ ↓		

✓✓

O

2p	↑ ↓	↑	↑
2s	↑ ↓		
1s	↑ ↓		

✓✓

(4)

3.2 Li^{+} ✓✓ O^{2-} ✓✓ (4)

3.3 Li_2O ✓✓ (2)

3.4 3,5 - 1,0 = 1,5 ✓✓ (2)

3.5 Ionies ✓✓
Ionic (2)

[14]

VRAAG 4: / QUESTION 4:

4.1 B ✓✓ (2)

4.2

4.2.1 A ✓✓ (2)

4.2.2 D ✓✓ (2)

4.3

4.3.1 C ✓✓ (2)

4.3.2 D ✓✓ (2)

(2)

[10]

VRAAG 5: / QUESTION 5:

5.1 eksotermies ✓
exothermic (1)

5.2 Energie van reagense ✓✓ > energie van produkte
Energy of reactans > energy of products (2)

5.3

5.3.1 D ✓✓ (2)

5.3.2 C ✓✓ (2)

5.4 Energie nodig ✓ om 'n reaksie ✓ te begin
Energy needed to start a reaction. (2)

[9]

VRAAG 6: / QUESTION 6:

6.1

6.1.1 verhoog / increase ✓✓ (2)

6.1.2 verlaag / decrease ✓✓ (2)

6.1.3 verlaag / decrease ✓✓ (2)

6.2 Reagense se energie > produkte se energie en word dus vrygestel tydens vorming van produkte ✓✓ ✓✓
Energy of reactants > energy of products therefore energy is released when products form. (4)

6.3 Verhoog druk, verwyder water, verlaag temperatuur. ✓✓
Increase pressure, remove water, lower temperature. (2)
[12]

VRAAG 7: / QUESTION 7:

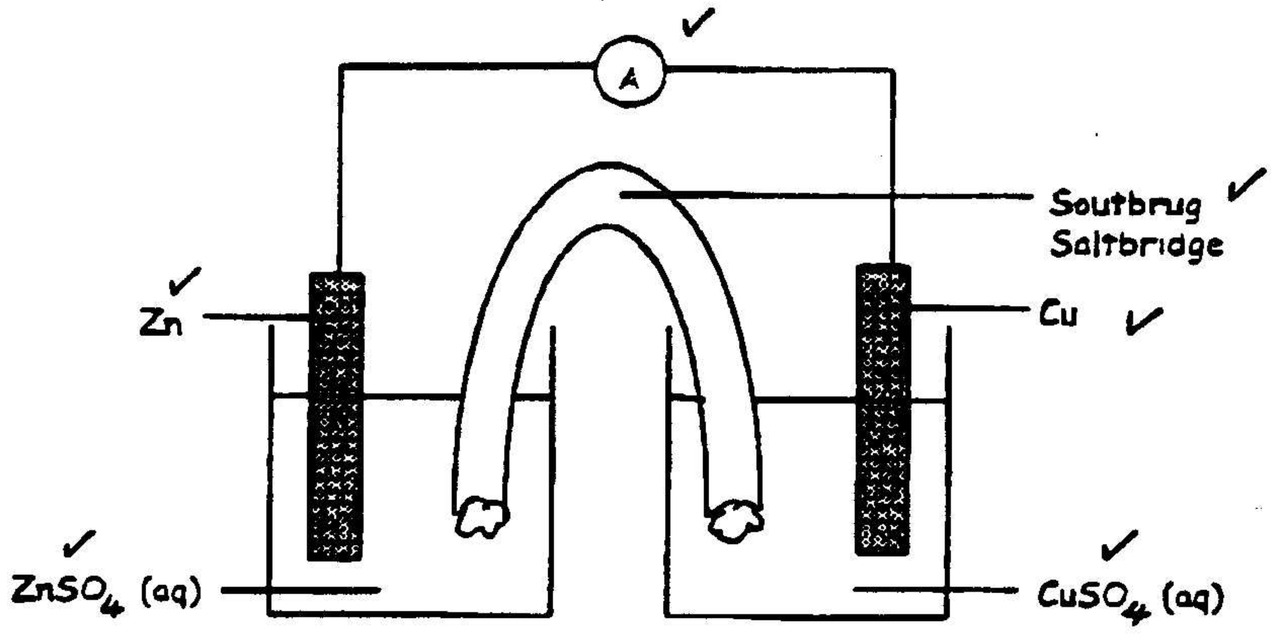
7.1 Afgee van elektrone ✓✓
Donating of electrons (2)

7.2 Toename in oksidasiegetal ✓✓
Increase of oxidation numbers (2)

7.3
7.3.2 Cl_2 ✓ ✓✓
7.3.3 Cu ✓ ✓✓ (6)
[10]

VRAAG 8: / QUESTION 8:

8.1



(6)

8.2.1 $Zn \rightarrow Zn^{2+} + 2e^-$ ✓✓

8.2.2 $Cu^{2+} + 2e^- \rightarrow Cu$ ✓✓ (4)

8.3
8.3.1 Zn ✓
8.3.2 Zn ✓ (2)
[12]

VRAAG 9: / QUESTION 9: ✓✓

9.1 Kleurlose oplossing word bruin
Colourless solution becomes brown (2)

9.2 Br_2 ✓✓ (2)

9.3

9.3.1 $2Br^- \rightarrow Br_2 + 2e^-$ ✓✓ (2)

9.3.2 $C\ell_2 + 2e^- \rightarrow 2C\ell^-$ ✓✓ (2)

9.3.3 $2Br^- + C\ell_2 \rightarrow Br_2 + 2C\ell^-$ ✓ ✓ (2)

9.4 Geen reaksie. Broom kan nie chloor van 'n oplossing verplaas nie. ✓ ✓✓
No reaction. Bromine cannot displace chlorine from a solution. (3)
[13]

VRAAG 10: / QUESION 10:

10.1 C + H ✓ ✓ (2)

10.2 CO_2 ✓✓ + H_2O ✓✓ (4)

10.3

10.3.1 Asitileen / eteen ✓✓
Acetylene / ethyne (2)

10.3.2 Die reaksie met suurstof het 'n groot ✓ reaksiehitte. ✓✓
The reaction with oxygen has a large heat of reaction. (3)
[11]

TOTAAL: / TOTAL: [150]