



Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

PHYSICAL SCIENCES P2 (CHEMISTRY)

COMMON TEST

MARCH 2018

MARKING GUIDELINE

NATIONAL
SENIOR CERTIFICATE

GRADE 10

MARKS: 50

N.B: This marking guideline consists of 4 pages.

SECTION A

QUESTION 1

- 1.1 B ✓✓ (2)
1.2 C ✓✓ (2)
1.3 D ✓✓ (2)
1.4 C ✓✓ (2) [8]

QUESTION 2

- 2.1 2.1.1 Mixture ✓ (1)
2.1.2 Pure Substance ✓ (1)
2.2 2.2.1 Temperature at which vapour pressure of a liquid equals atmospheric pressure. ✓✓ (2)
2.2.2 -20°C ✓ (1)
2.2.3 Liquid ✓
Point A lies between Melting point / (-20°C) and boiling point / (30°C) ✓ (2)
2.2.4 - Closely packed ✓
- Regular shape ✓
2.2.5 At time 25 to 35 minutes
- Stage whereby a solid is converted to a gas by adding energy (heat). ✓
- Energy (heat) added is absorbed by particles to increase vibrations / internal energy of particles. ✓ (2)
2.2.6 Gas ✓ (1)

2.3

2.3.1 Homogeneous mixture. ✓ (1)

2.3.2 The two liquids are soluble ✓ (dissolve) in each other. Alcohol goes in the spaces between the water molecules. ✓ (2)

2.3.3 Boiling point ✓ (1)

2.3.4 (Fractional) distillation ✓ (1)

2.3.5 Process by which a gas or vapor changes to a liquid by cooling or increase in pressure. ✓ ✓ (2)
[20]

QUESTION 3

3.1 Atoms of the same element (with the same number of protons, but having) different number of neutrons. ✓ (1)

3.2 $N = A - Z$
 $= 37 - 17$
 $= 20$ ✓ (1)3.3 R.A.M $= \frac{M^{35}_{Cl} \times \% \text{ abundance}}{100\%} + \frac{M^{37}_{Cl} \times \% \text{ abundance}}{100\%}$
 $= \frac{M^{35}_{Cl} \times 75.77\%}{100\%} + \frac{34.969 \times 24.23\%}{100\%}$
 $M^{35}_{Cl} = 35.67 \text{ g mol}^{-1}$ ✓ (4)

3.4

3.4.1 Mg / Magnesium ✓ (1)

3.4.2 Alkali-earth metals. ✓ (1)

3.4.3 $1s^2 2s^2 2p^6 3s^2 3p^0$ ✓ ✓ (2)3.4.4 Neon ✓ ✓ (2)
[12]

QUESTION 4

4.1 Bond involving sharing of electrons between atoms to form molecules. ✓ (1)

4.2



4.3

4.3.1 Contains delocalised electrons ✓ which conduct the current when a potential difference is applied. ✓ (2)

4.3.2 Decreases ✓ (1)

4.4

4.4.1 Substance that has properties of metals and non-metals. ✓ (1)

4.4.2 Increases ✓ (1)

4.5

4.5.1 Ammonia ✓ (1)

4.5.2 Magnesium sulphate ✓ (1)

4.6 $Al(NO_3)_3$ ✓ (1)
[11]

TOTAL MARKS: [50]