KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

PROVINCIAL STANDARDISED ASSESSMENT

GRADE 11

PHYSICAL SCIENCES P2 (CHEMISTRY)

MARKING GUIDELINE

JUNE 2026

MARKS: 50

DURATION: 2 hours

This marking guidelines consists of 4 pages.

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QUESTION 1:

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

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QUESTION 2

2.1 A mutual attraction between two atoms✓ resulting from the simultaneous attraction between their nuclei and outer electrons. ✓ (2)

2.2.1 A ✓ OR B OR D (1)
2.2.2 D ✓ (1)

2.3.1 Tetrahedral ✓ (1)

2.3.2



✓✓

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(2)

2.4 Compound F: ΔEn = 4 – 1✓
= 3 ✓
Ionic bond ✓ (3)

2.5



✓

N_2 has a (strong) triple bond between its atoms. ✓
Large amounts of energy are required to break these bonds. ✓ (3)

2.6.1 Ammonium ✓ (1)

2.6.2 An atom with a lone pair of electrons. ✓
An atom with an empty orbital. ✓ (2)

[16]

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QUESTION 3

3.1 Energy needed to break one mole of its molecules✓ into separate atoms. ✓ (2)

3.2 The bromine atom is larger than chlorine/ The chlorine atom is smaller than bromine. ✓
The bond length of the C ─ Cl is shorter than C ─ Br ✓
The C ─ Cl bond is stronger than the C ─ Br bond/ The shorter bond length results in a higher bond energy. ✓ (3)

3.3 $n(CH_3Cl) = \frac{m}{M}$
$= \frac{5,05}{50,5}$
= 0,1 mol

Energy required to break 1 mol of CH_3Cl = 157 x 10 ✓ = 1570 g·mol^{-1}
1570 = 3X + 340 ✓
X = 410 kJ·mol^{-1} ✓ (5)

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3.4 **POSITIVE MARKING FROM 3.3**
Energy = 3 x 410 + 280 ✓
= 1510 kJ·mol^{-1} ✓ (2)

[12]

QUESTION 4

4.1 The pressure exerted by a vapour at equilibrium with its liquid in a closed system. ✓✓ (2)

4.2 $C\ell_2$ has a larger molecular mass/surface area✓ than F_2.
$C\ell_2$ has stronger intermolecular forces/ london forces/ dispersion forces✓ than F_2.
More energy is required to overcome the intermolecular forces in $C\ell_2$, ✓
resulting in a lower vapour pressure. (3)

4.3 HF has hydrogen bonding between its molecules whereas HCℓ has dipole-dipole bonds between its molecules ✓.
HF has stronger intermolecular forces than HCℓ✓
More energy is required to overcome the intermolecular forces in HF, ✓
resulting in HF having a lower vapour pressure. (3)

4.4 HF/ hydrogen fluoride ✓ (1)

4.5.1 The property of a solid, liquid or gaseous chemical substance (solute) to dissolve in a solid, liquid or gaseous solvent to form a homogeneous solution. ✓✓ (2)

4.5.2 HCℓ✓
Strength of the intermolecular forces between HCℓ molecules is similar to those between water molecules. ✓✓ (3)

[14]

TOTAL: 50



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