



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

FINAL

**NATIONAL
SENIOR CERTIFICATE**

GRADE 10

**PHYSICAL SCIENCES P2
COMMON TEST
MARKING MEMORANDUM
JUNE 2026**

MARKS: 75

DURATION: 1,5 hours

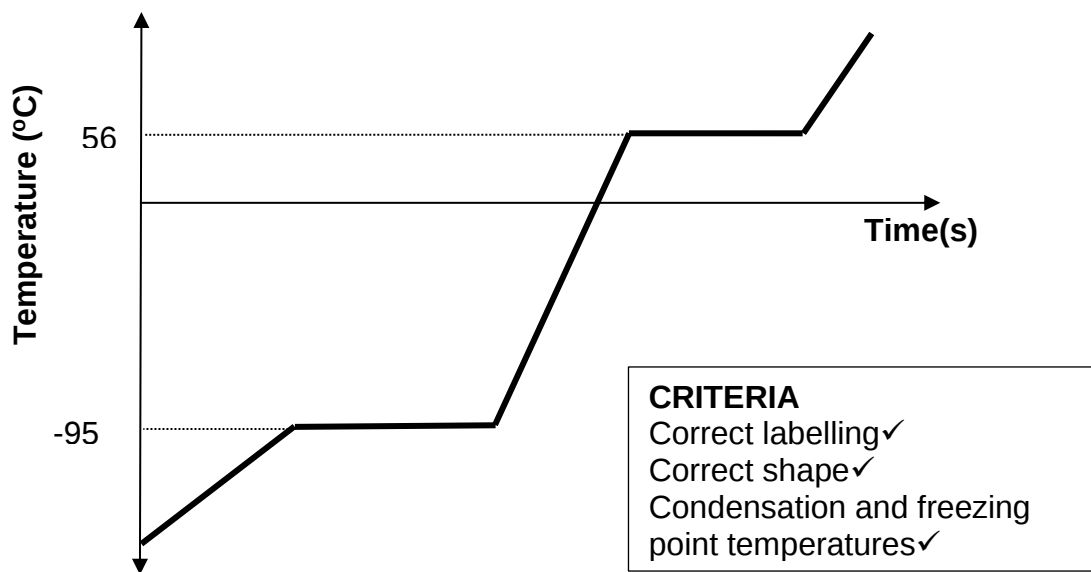
QUESTION 1:

- | | | |
|-----|------------------|-------------|
| 1.1 | D ✓✓ | (2) |
| 1.2 | A ✓✓ accept B ✓✓ | (2) |
| 1.3 | B ✓✓ | (2) |
| 1.4 | C ✓✓ | (2) |
| 1.5 | C ✓✓ | (2) |
| | | [10] |

QUESTION 2

- 2.1 Cooling curve ✓  The temperature of the particles decreases over time. ✓ (2)
- 2.2 The temperature at which ,a solid, when given sufficient heat becomes a liquid ✓✓ **2 or 0** (2)
- 2.3.1 gas ✓ (1)
- 2.3.2 Liquid ✓ (1)
- 2.4 The energy removed is used to change the state from gas into liquid and not to decrease the particles' kinetic energy **or** represents phase change ✓
The kinetic energy stays constant **or** The potential energy decreases **or** Temperature depends on kinetic energy ✓ (2)
- 2.5.1 condensation ✓ (1)
- 2.5.2 Freezing/solidification ✓ (1)

2.6



(3)

[13]

QUESTION 3

3.1 Atoms of the same element having the same atomic number/number of protons, ✓ but different mass number/number of neutrons. ✓ (2)

3.2.1 7 ✓ (1)

3.2.2 1 ✓ (1)

3.2.3 VII or 17 ✓ (1)

3.2.4 3 ✓ (1)

3.3 (Let % Cl - 35) = x (% Cl - 37) = 100 - x

$$35.5 = 35 \times \frac{x}{100} + 37 \times \left(\frac{100 - x}{100} \right) \quad \checkmark$$

$$x = 75$$

$$\% \text{ Cl - 35} = 75 \% \quad \checkmark$$

(4)

[10]

QUESTION 4

4.1.1 16 ✓ (1)

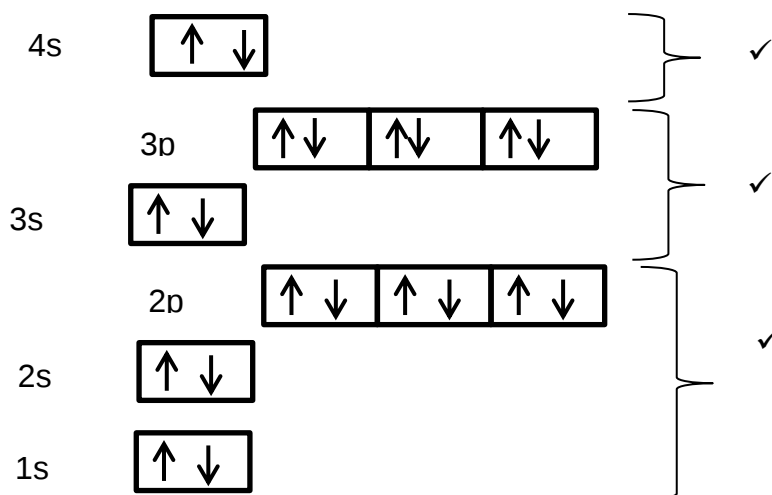
4.1.2 $1s^2 2s^2 2p^6 3s^2 3p^6$ ✓ (1)

4.1.3 ~~Mg²⁺~~ ✓ (Typing error on Question Paper- do not mark. Paper out of 74 Marks) (1)

4.1.4 7 ✓ (1)

4.2.1 2 ✓ (1)

4.2.2



(3)

4.2.3 Ionic ✓ (1)

4.3 The sharing of electrons between atoms to form molecules ✓✓ (2)

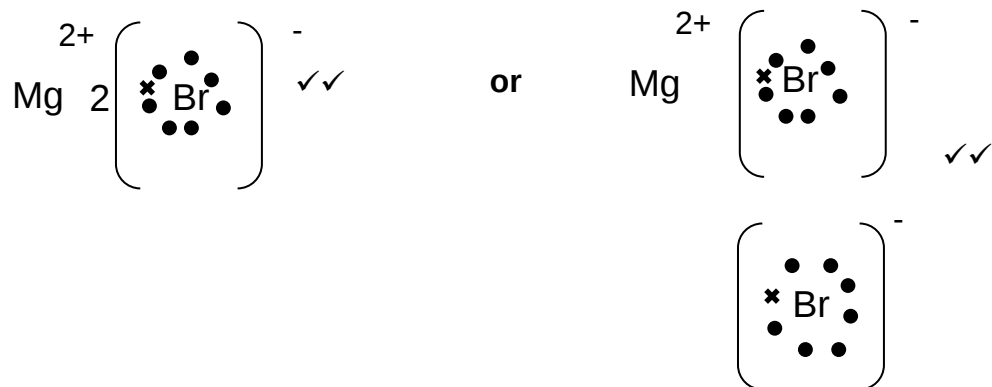
4.4.1



2 OR 0 FOR QUESTIONS 4.4 TO 4.5

(2)

4.4.2



(2)

4.5.1 N_2O_4 $\checkmark\checkmark$

(2)

4.5.2 FeI_3 $\checkmark\checkmark$

(2)

4.5.3 $(\text{NH}_4)_2\text{SO}_4$ $\checkmark\checkmark$

(2)

[20]

QUESTION 5

5.1 The energy needed per mole to remove an electron from an atom in the gaseous state. $\checkmark\checkmark$ **2 or 0**

(2)

5.2.1 Neon/Ne $\checkmark$

(1)

5.2.2 For element B, outer electron is removed from a higher energy level/new outer energy level $\checkmark$;
more shielding/screening effect (of the force of attraction of the nucleus on the valence electrons) **or** outer electrons are further from the nucleus $\checkmark$
less attraction to nucleus/easier to remove $\checkmark$

(3)

5.3 There is increasing nuclear charge/number of protons $\checkmark$;
electrons in same shell/constant shielding/screening effect **or** decreased atomic radius $\checkmark$;
greater attraction between nucleus and (valence)electrons $\checkmark$

(3)

[9]

QUESTION 6

6.1 The amount of substance having the same number of particles as there are atoms in 12g of carbon -12✓✓ (2)

6.2 Dissolved in water or Aqueous (solution) or a solution in which water is the solvent✓ (1)

6.3.1 $M(\text{CaCO}_3) = 40 + 12 + (3 \times 16)$ ✓
 $= 100 \text{ g} \cdot \text{mol}^{-1}$ ✓ (2)

6.3.2 $n_{\text{CaCO}_3} = \frac{m}{M}$ ✓ POSITIVE MARKING FROM 6.3.1
 $= \frac{10}{100}$ ✓
 $= 0.1 \text{ moles}$ ✓ (3)

6.3.3 POSITIVE MARKING FROM 6.3.2
 $n_{\text{CO}_2} = \frac{v}{V_m}$
 $\uparrow$
 $\checkmark = \frac{2,24}{22,4}$ ✓
 $\downarrow$
 $= 0.1 \text{ moles}$
 $N_{\text{CO}_2} = n \times N_A$
 $= 0.1 \times 6,02 \times 10^{23}$ ✓
 $= 6,02 \times 10^{22}$ ✓ (4)

[12]

TOTAL: 74