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LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

VHEMBE WEST DISTRICT

GRADE 09

NATURAL SCIENCES

MARKING GUIDELINE: JUNE EXAMINATION

MARKS: 100

This **marking guideline** consists of **FIVE (05)** pages only, including this front page.

QUESTION 1

- 1.1 A ✓✓
- 1.2 B ✓✓
- 1.3 B ✓✓
- 1.4 C ✓✓
- 1.5 A ✓✓
- 1.6 A ✓✓
- 1.7 C ✓✓
- 1.8 A ✓✓
- 1.9 C ✓✓
- 1.10 D ✓✓

[20]**QUESTION 2**

- 2.1 Combustion ✓✓
- 2.2 Element ✓✓
- 2.3 Table salt ✓✓
- 2.4 Atom ✓✓
- 2.5 Bases/Alkalis ✓✓

[10]**QUESTION 3**

- 3.1 D ✓✓
- 3.2 F ✓✓
- 3.3 E ✓✓
- 3.4 G ✓✓
- 3.5 A ✓✓

[10]**QUESTION 4**

- 4.1
- 4.1.1 Sodium ✓
- 4.1.2. 11 ✓
- 4.1.3. Metal ✓
- 4.1.4. 1 ✓
- 4.1.5. Sodium chloride ✓

(5)

MARKING GUIDELINE

4.2

4.2.1 calcium sulphate ✓✓ (2)

4.2.2 Iron (III) chloride ✓✓ (2)

4.2.3 Lithium oxide ✓✓ (2)

4.2.4 Sodium chloride ✓✓ (2)

4.2.5 Potassium iodide ✓✓ (2)

(10)

[15]

QUESTION 5

5.1

5.1.1 H_2 ✓ (1)

5.1.2 Carbon/C atom ✓ and hydrogen/H atom ✓ (2)

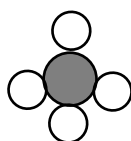
5.1.3 a) C / Carbon ✓ and H_2 / hydrogen ✓ (2)b) CH_4 / Methane ✓ (1)

5.1.4 There is 1 C-atoms on the left and on the right of the equation ✓ and there are 4 H-atoms on both sides of the equation. ✓

OR

The number of atoms of each element is the same ✓ on either side ✓ of the equation. (2)

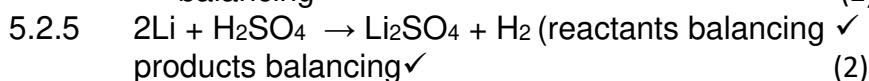
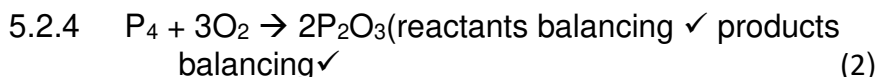
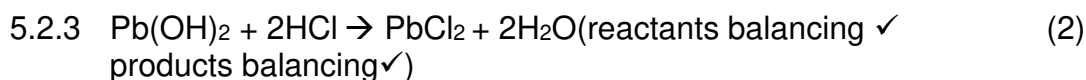
5.1.5

One ✓ methane (CH_4) molecules, ✓ consisting of 1 C and 4 H atoms. (2)

(10)

5.2 5.2.1 $2Na + Cl_2 \rightarrow 2NaCl$ (reactants balancing ✓ products balancing ✓) (2)5.2.2 $N_2 + 3H_2 \rightarrow 2NH_3$ (reactants balancing ✓ products balancing ✓) (2)

MARKING GUIDELINE



(10)

[20]**QUESTION 6**

- 6.1 Iron metal will burn with a bright yellow flame in pure oxygen/ Iron metal will not burn with a bright yellow flame in pure oxygen ✓✓ (2)
- 6.2 In pure oxygen, the combustion/chemical reaction takes place much faster, therefore the iron wool glows with a brighter colour and sparks are caused. ✓
OR
The reaction in pure oxygen is more vigorous. ✓
OR
The oxygen concentration in the air is lower and the rate of the reaction is lower. ✓ (1)
- 6.3 Iron oxide ✓ (1)
- 6.4 $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$ (reactants ✓ products ✓ balancing ✓) (3)
- 6.5 Combustion refers to the reaction of a substance ✓ (metal or non-metal) with oxygen. ✓ OR Rapid chemical reaction with oxygen that produces heat and light ✓ (2)
- 6.6 Oxygen/ O_2 ✓ and water / H_2O ✓ (2)
- 6.7 Galvanising ✓
Painting ✓
Electroplating ✓
Sacrificial protection ✓ (Any TWO) (2)

[13]

QUESTION 7

7.1	7.1.1	ACIDS	BASES	NEUTRAL	
		Vinegar✓	Bicarbonate of soda✓	Distilled water✓	
		Yoghurt✓	Bleach✓		
		Water/ acid rain✓			
					(6)
	7.1.2	5 ✓Yoghurt ✓			(2)
	7.1.3	Acid rain is formed when compounds such as SO ₂ and NO rise high into the atmosphere✓, where they mix and react with water, oxygen and other chemicals to form more acidic pollutants✓			(2)
	7.1.4	7 – 3 = 4 ✓✓			(2)
					[12]

TOTAL MARKS : 100