



THE KENYA NATIONAL EXAMINATIONS COUNCIL

SCHOOL BASED ASSESSMENT

GRADE 10 2026

CHEMISTRY

ST105

SCORING GUIDE

This Scoring guide consists of 6 printed pages

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Turn over

SECTION A: (10 Marks)

Keys

1. D
2. B
3. A
4. C
5. B
6. C
7. A
8. A
9. B
10. D

SECTION B: (40 Marks)

11. (a) Organic ($\frac{1}{2}$) (Accept Biochemistry).

Reason: Deals with manufacture of medicines which are composed of carbon and its compounds (1)

- (b) Physical ($\frac{1}{2}$) (Accept nuclear chemistry or industrial chemistry).

Reason: Deals with energetics e.g. thermodynamics/ electrochemistry/ production of energy (1).

(3 marks)

12. (a)

Isotope	Percentage abundance
$^{64}\text{Zn} (\frac{1}{2})$	49 ($\frac{1}{2}$)
^{66}Zn	28
$^{67}\text{Zn} (\frac{1}{2})$	4 ($\frac{1}{2}$)
^{68}Zn	18
^{70}Zn	1

$$\begin{aligned} \text{(b) RAM} &= \frac{(64 \times 49) + (66 \times 28) + (67 \times 4) + (68 \times 18) + (70 \times 1)}{100} \quad (1) \\ &= \frac{3136 + 1848 + 268 + 1224 + 70}{100} \\ &= \frac{6546}{100} \approx 65.46 \approx 65.5 \quad (1) \end{aligned}$$

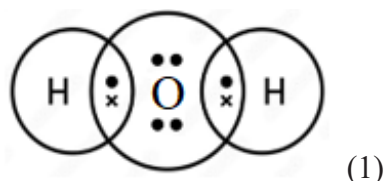
(Accept the correct answer for 2 marks if working is not shown)

(4 marks)

13. (a) When cigarette burns in limited supply of air/oxygen. (1)
(b) carbon/soot/tar (1)
(c) Carbon(II) oxide (carbon monoxide), CO displaces oxygen in haemoglobin, heart muscles get less oxygen which causes cell damage and weakens heart's electrical system, leading to heart attack (1). (Accept oxyhaemoglobin converted to carboxyhaemoglobin depriving the blood any oxygen).
(d) The nicotine in tobacco is a stimulant hence it causes addiction and excessive use of cigarettes (1).

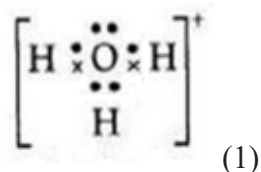
(4 marks)

14. (a)



(Award a full mark with or without the circles)

(b)



- (c) 2 covalent bonds & 1 dative/co-ordinate/ dative covalent bond (1).

(Accept without counting the bonds)

(3 marks)

15. (a) (i) Acidic (1)
(ii) Basic (1)
(iii) Neutral (1)

- (b) - place small samples (about 1cm³) of each the solutions in a test tube. Add two to three drops of the universal indicator and shake. (1) Match the colour of the contents of each test tube with the colour and pH chart and note the pH value that matches with the solution. (1) **WTTE**

(5 marks)

16. (a) $\text{Ca(OH)}_2(\text{aq}) + 2\text{H}_2\text{CO}_3(\text{aq}) \rightarrow \text{Ca(HCO}_3)_2(\text{aq}) + 2\text{H}_2\text{O(l)}$ (1)

(Do not penalise state symbols)

- (b) Deliquescent - a substance absorbs water/moisture from

air to form a solution (1).

(c) Efflorescent - a substance loses water to the atmosphere and becomes powdery (1).

(d) (i) Sodium chloride (NaCl) / sodium benzoate/sodium nitrite/ sodium nitrate (1).

(ii) Sodium carbonate (Na₂CO₃) (1).

(5 marks)

17. (a) Hydrogen bonding (1)

(b) High electronegativity of the elements (1)

(c) the boiling points (accept melting points) (1 mark)

(3 marks)

18. (a) Fe₂(SO₄)₃ (1)

(b)

Compound	$\begin{array}{c} \text{Cl} \\ \\ \text{Cl} - \text{C} - \text{Cl} \\ \\ \text{Cl} \end{array}$	$\begin{array}{c} \text{H} \\ \\ \text{H} - \text{C} - \text{H} \\ \\ \text{H} \end{array}$	O = C = O	$\begin{array}{c} \text{Cl} \\ \\ \text{H} - \text{C} - \text{H} \\ \\ \text{Cl} \end{array}$
Valency	4 ($\frac{1}{2}$)	4 ($\frac{1}{2}$)	4 ($\frac{1}{2}$)	4 ($\frac{1}{2}$)
Oxidation number	+4 ($\frac{1}{2}$)	- 4 ($\frac{1}{2}$)	+4 ($\frac{1}{2}$)	0 ($\frac{1}{2}$)

(The sign must be shown for oxidation numbers. Do not award for valency with sign)

(5 marks)

19. (a) C (1)

(b) Ar (1)

(c) S (1)

(3 marks)

20. (a) Manganese(IV) oxide /lead(IV) oxide. (1)

(b) Pass the gas through concentrated sulphuric(VI) acid then collect it by downward delivery/ upward displacement of air/ pass the gas through anhydrous calcium chloride in a tube then collect by downward delivery. (2)

(c) (i) The red litmus paper is bleached/turns white/ decolourised (1)

(ii) the colourless solution turns brown/ black/grey solid formed (1)

(5 marks)

Assessment Rubric

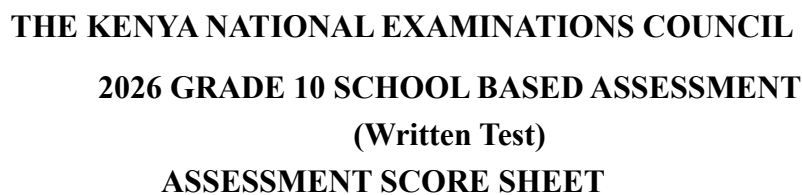
S/No.	Tasks	Maximum score	Score Range	Performance level	Descriptors
1	Grade 10 Written Test	50	40 - 50	4	Exceeding Expectation
			27 - 39	3	Meeting Expectation
			14 - 26	2	Approaching Expectation
			1 - 13	1	Below Expectation

Teacher's general comments on the student's performance:

Name of the Teacher:_____

Signature:_____

Date of Assessment:_____



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