

C.T.C.O

SUNSHINE SECONDARY SCHOOL

D

FORM 1
CHEMISTRY
END TERM EXAM – JULY
2019
TIME: 2 HOURS

AKECH·E·O (Mr)

C·E

NAME..... CHIEF EXAMINER CLASS..... CHEMISTRY PP/
ADMIN NO:.....

INSTRUCTIONS TO CANDIDATES:

- (i) Write your name and admission number in the spaces provided above.
- (ii) Answer ALL the questions in the spaces provided.
- (iii) Mathematical tables and silent electronic calculators may be used.
- (iv) All working must be clearly shown where necessary.
- (v) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing

For Examiner's Use Only

Questions	Maximum Score	Candidate's Score
1 - 15	80	80

PAGE	EXAMINER	MARKS	REMARKS
2	AKECH·CE	11	N/B
3	KOGA	10.09	marking
4	OUMA	11	10.50 AM
5	MERCY	08	Reserve time
6	RANGITA -T/L	10	8
7	REMBE	12	Dinner
8	TOM	9	
9	MWANGI	9	

i) Define Chemistry.

(1mks)

Branch of science that deals with structure of properties and composition of matter (changes matter undergoes)

ii) Give three important of studying chemistry.

(3mks)

Making soap
Determining soil acidity
Curing rubber / density tests

Any 3x1

03

2. State 4 difference between luminous and non-luminous flames.

(2mks)

Non luminous	luminous
Steady	Short and Steady
color	Pale Blue in color
Region	Three Region Zone
Sound	Burn with Roaring sound
	Long and Wavy
	Bright yellow in color
	Four Region Zone
	Burn Quietly

3. Name 3 apparatus used to measure fixed volume.

(3mks)

Pipette ✓ 01
Volumetric flask ✓ 01
Syringe ✓ 01

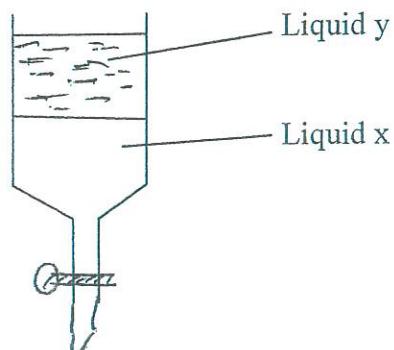
03

4. State and explain why luminous flame is bright.

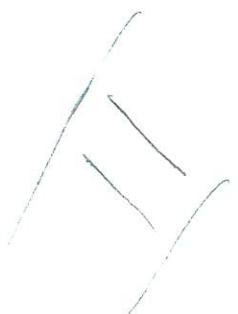
(2mks)

The carbon particle size + incomplete combustion glass

5. Study the diagram below



2



- i) Name the method of separating mixtures above.

..... Use of Separating funnel. ✓ (1mk) 01

- ii) State two properties that makes possible for the mixtures y and x to be separated using above method.

..... Difference in density ✓ 01 (2mks)

..... Immiscible liquids ✓ 01

02

6. Ethanol has a boiling point of 78°C and water has 100°C . Name the method of separating the two.

..... fractional distillation ✓ (1mk) 01

7. State observation made when white anhydrous copper II sulphate is added 1cm^3 of distilled water.

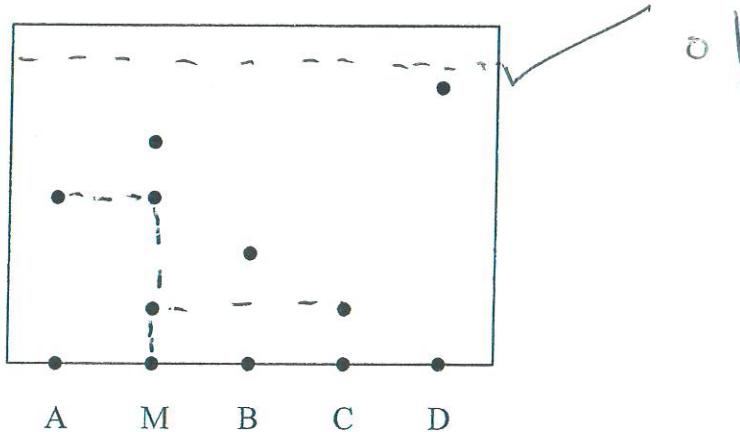
..... turns from white to blue. ✓ (1mk) 01

02

8. What is a mixture?

..... Two or more substances physical combined and can be separated by physical means. ✓ (2mks) 01

9. Below is a chromatogram for mixture M. Use it to answer the questions that follow.



- a) On the diagram indicate the solvent front.

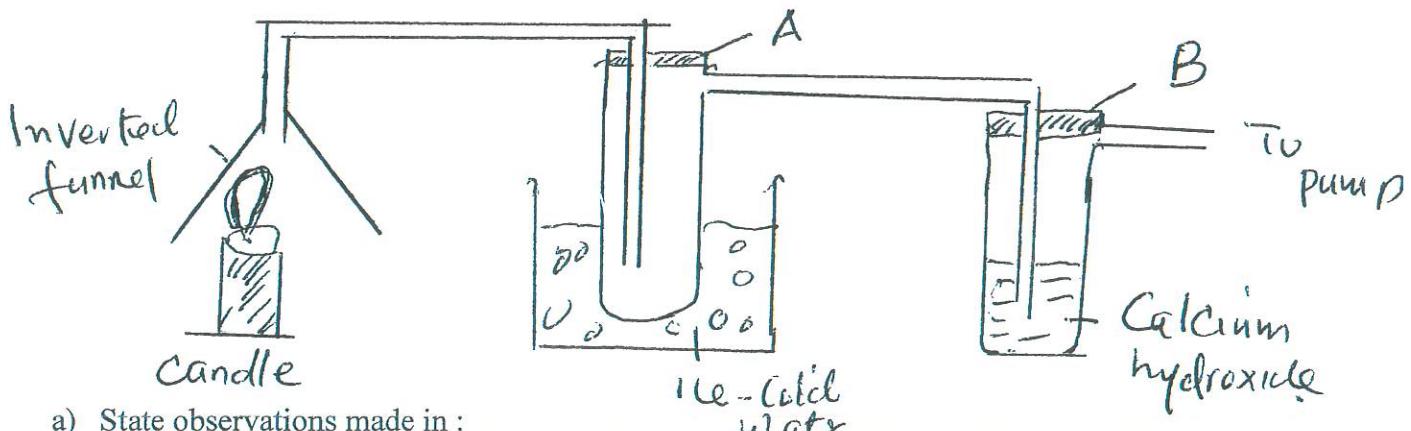
..... Dotted line above highest spot of D. ✓ (1mk) 01

- b) Identify the substances present in mixture M.

..... C, A, V, I ✓ (2mks) 02

02

14. A candle was burnt in air as shown below by a form one student



a) State observations made in :

i) Test tube A

..... colourless liquid



(1mk)

ii) Test tube B

..... white precipitate forms



(1mk)

b) Explain why test-tube A is dipped in cold water.

..... so as to condense the steam into liquid (water)



c) Identify the products formed when candle wax burns in air

..... water and carbon (VI) oxide

(2mks)

02

d) What is the effect of the double liquid in test-tube A on

i) Anhydrous copper (II) sulphate?

..... white anhydrous copper sulphate turns to blue hydrated copper (II) sulphate

01

ii) Anhydrous cobalt (II) chloride?

..... pink anhydrous cobaltous chloride turns to blue hydrated cobalt (II) chloride

01

e) Which elements are present in candle wax.

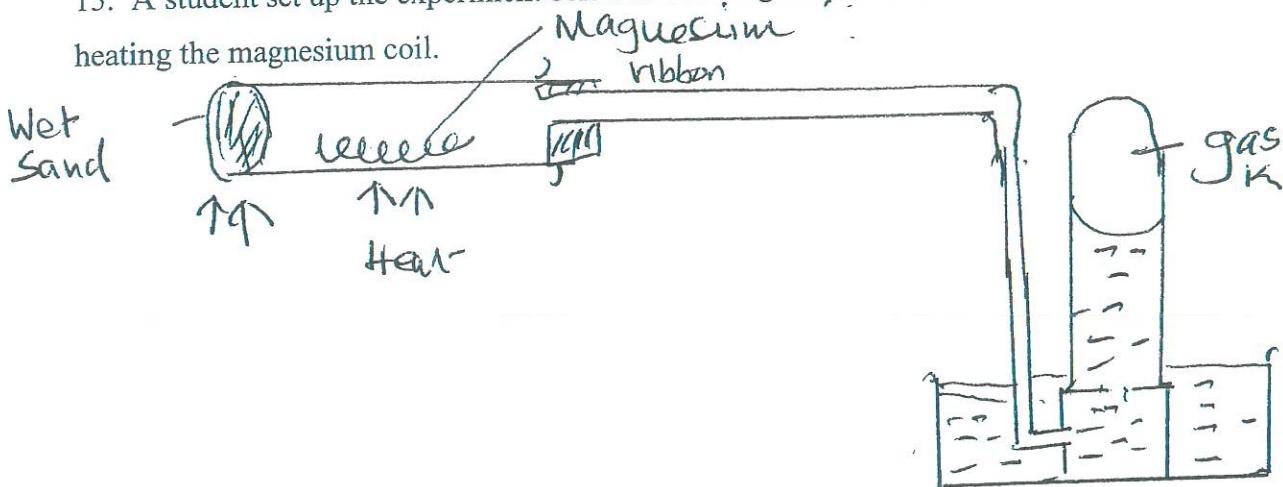
..... hydrogen and carbon

(1mk)

01

08

15. A student set up the experiment below to collect gas K. The wet sand was heated before heating the magnesium coil.



- a) Explain why it was necessary to heat the wet sand before heating the magnesium. (1mk)

To produce steam that expels air out of the tube to prevent oxidation of Magnesium. 0 |

- b) Identify gas K

Hydrogen gas. 0 |

- c) Write word equations for the reactions which occurred.



16. State what is observed when a small piece of potassium is placed in water and write a word of equation for the reaction.

large flame produced Any 2x1 0 |
boil like shape, floats on the surface & walls

17. State 3 uses of fractional distillation. (3mks)

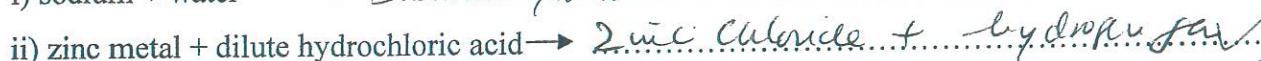
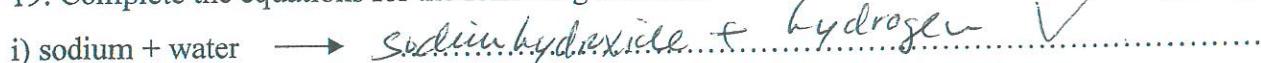
(i) Separating components of oil 0 |
(ii) Separating miscible liquids e.g. water & ethanol 0 |
(iii) In obtaining nitrogen from liquid Air 0 |

18. State two differences between temporal and permanent changes. (2mks)

Temporary	Permanent
Any 2x1 * no change in mass no change in colour easily reversible not irreversible no new substance	* change in colour change in mass irreversible new substance

19. Complete the equations for the following reactions

(3mks) 0/1



20. Give the symbols of the following elements

Element	Symbol	
Potassium	K ✓	0/1
Silver	Ag ✓	0/1
Gold	Au ✓	0/1

21. a) What is rust.

(1mk)

hydrated iron oxide ✓

0/1

b) State the conditions necessary for rust to take place.

(1mk)

water and oxygen (air) ✓

0/1

c) Name two substances that speeds up the rusting process.

A (2mks)

salty solution ✓

salt

acidic solution, high temperature heat ✓

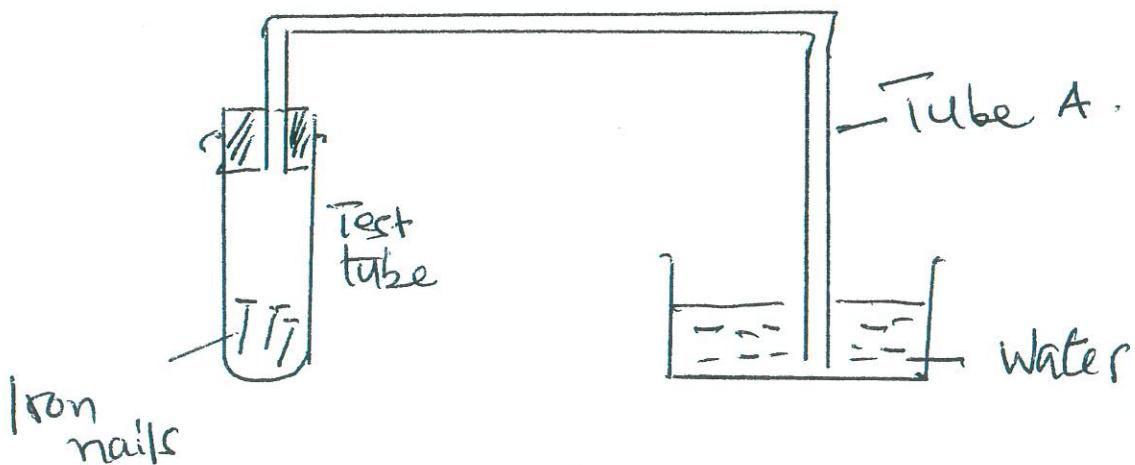
d) Name two methods that can be used to prevent rusting.

(2mks)

electroplating ✓, sacrificial protection: Any 2

alloying, oiling/greasing, galvanisation

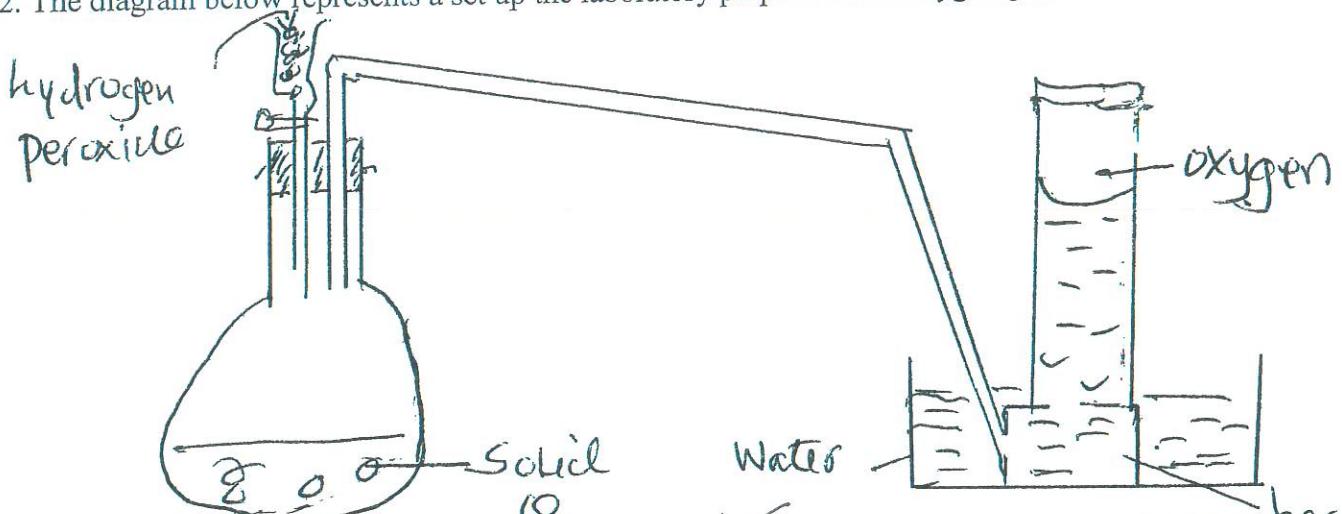
e) Study the set up below and answer questions that follow.



12

- i) State the observation that can be made after one week. (1mk)
 water rise in the tube A of the nail for ~

22. The diagram below represents a set up the laboratory preparation of oxygen gas.



- a) Name solid Q (1mk)
 manganese (IV) oxide ✓

- b) Write a word equation for the reaction in the flask. (1mk)
 hydrogen peroxide $\xrightarrow{\text{Manganese oxide}}$ water + oxygen ✓

- c) Give two commercial uses of oxygen gas (2mks)
 i) In hospitals for patients with breathing difficulties
 ii) In industry for cutting metal

23. In an experiment to investigate the percentage of oxygen in air, 200cm^3 of air was passed over heated copper turnings repeatedly until a constant volume of air remained 160cm^3 of air remained at the end of the experiment.

- a) Determine the percentage of air used up during the experiment. (2mks)

$$\frac{200 - 160}{200} \times 100 = \frac{40}{200} \times 100 = 20\% \quad \text{O}_2$$

24. Complete the following word equations (2mks)



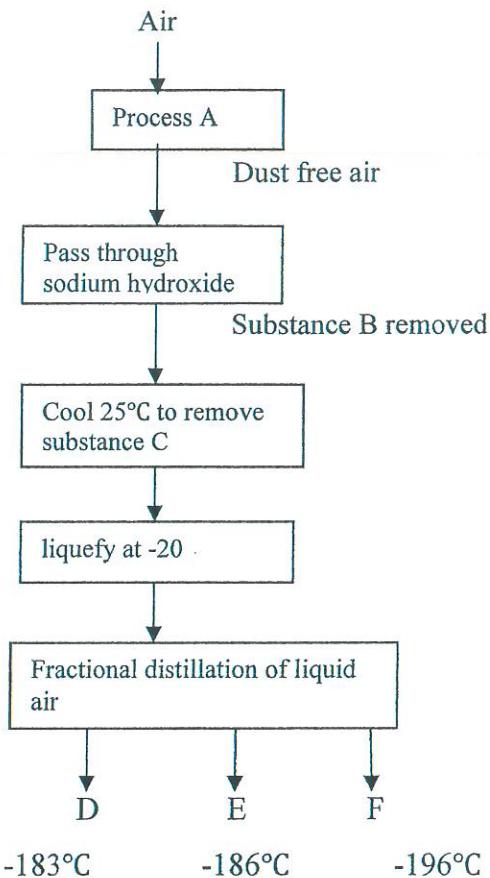
25. What are the components of air?

Nitrogen 78.1%
Oxygen 20.9%
Carbon dioxide 0.003%
Methane

Water vapour - Varies
dust - Varies
Rare gases - 0.0%

(3mks) 03

26. Study the flow chart below and use it to answer the questions that follow.



Name :

i) Process A

electrostatic precipitator

(6mks) 01

ii) Substance B

carbon dioxide

Purifier ✓ 01

iii) Substance C

water vapour

06

iv) Substance D

oxygen

v) Substance E

Argon

vi) Substance F

Nitrogen

