

NAME: INDEX NO:ADM.....

CHEMISTRY FORM TWO

**MARANDA HIGH SCHOOL
FORM TWO CHEMISTRY**

CYCLE TWO

Instructions to Candidates

TIME: 2 HOURS

- ❖ Write your name, index number and admission number in the spaces provided.
- ❖ Answer all the questions in the spaces provided
- ❖ Mathematical tables and electronic calculations may be used
- ❖ All working must be clearly shown where necessary.

For examiner's use only

Question	Maximum score	Candidates score
1-30	80	

1. In extraction of oil from castor oil seeds, seeds are first crushed and the propanone added instead of water.

a) Why were the seeds first crushed?(1 mk)

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b) Explain why propanone was added and not water.(1 mk)

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c) How is the oil separated from propanone?(1 mk)

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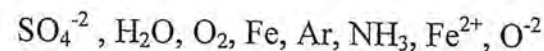
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2. The following are chemical species;



Which of the species are:

a) Atoms (2mks)

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b) Ions (2 mks)

c) Molecules (2 mks)

3. The table below shows the PH values for solution K, L, M and N.

Solution	PH
K	5.2
L	12.0
M	2.0
N	9.8

Which solution is most likely to be:

a) Aqueous ammonia? (1 mk)

b) Sodium hydroxide? (1 mk)

c) Hydrochloric acid? (1 mk)

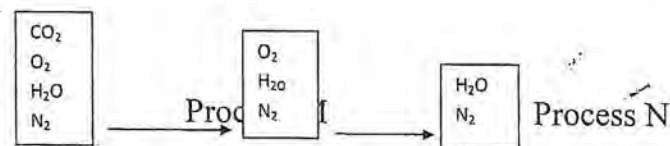
d) Ethanoic acid? (1 mk)

4. a) State two differences between luminous and non luminous flames. (2MKS)

b) Explain how a luminous and a non-luminous flame is produced.

(2 mks)

5. The chart below shows the process of obtaining nitrogen by fractional distillation



a) What is the purpose of process M and N? (2mks)

Process M

Process N

.....

.....

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b) Identify the reagents used in processes M and (2 mks)

M.....

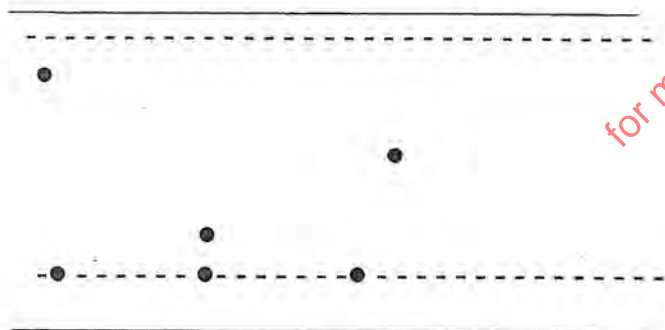
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N.....

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6. Natural boron contains a mixture of two isotopes, ^{10}B – 20% and ^{11}B – 80%. Determine the relative atomic mass of boron. (3 mks)
-
-
-
-

7. The paper chromatogram below is of pure substances X, Y and W.



Mixture K contains substances W and Y only.

i) Indicate on the diagram the chromatogram of K. (2mks)

ii) On the diagram show the solvent front and the baseline. (2 mks)

8. Hydrogen gas can be prepared by reacting a dilute acid with a metal.

a) Give one metal and an acid that can be used to prepare hydrogen gas. (2 mks)

Metal

Acid

b) Explain why potassium metal cannot be used in the preparation of hydrogen gas. (1 mk)

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c) Write an equations for the reaction between the metal and the dilute acid in (a) above.(2 mks)

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 d) State two properties of hydrogen that make it possible for it to be collected over water. (2 mks)

9. Study the figure below and answer the questions that follow:

a) Write the equation for the reaction taking place:

i) In the combustion tube (2mks)

ii) At the flame (2 mks)

b) Why should hydrogen be passed over copper (II) oxide for sometime before heating starts? (1 mk)

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 10. Chlorine is element number 17 in the periodic table of elements.

a) Write down the electron configuration of its:

i) Atom (1 mk)

ii) Ion (1 mk)

b) When Chlorine gas is dissolved in water it forms a solution.

i) What is the name given to the chlorine solution? (1 mk)

ii) Write an equation for the reaction which takes place when chlorine dissolves in water. (2 mks)

11. Sodium reacts with oxygen to give sodium oxide (Na_2O) and sodium peroxide (Na_2O_2). Write equations to show the formation of each of the two oxides of sodium.

Sodium oxide (2 mks)

.....

Sodium peroxide (2 mks)

.....

12. Name the method one would use to separate the following mixtures:

a) Calcium carbonate and ammonium Chloride. (1 mks)

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b) Oil and water (1 mk)

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c) Kerosine and Crude Oil. (1 mk)

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13. An element X, whose atomic number is 11, reacts with Chlorine gas to form a compound.

a) Write the electronic configuration of element X. (1mks)

b) Name the group and compound to which X belongs. (2 mks)

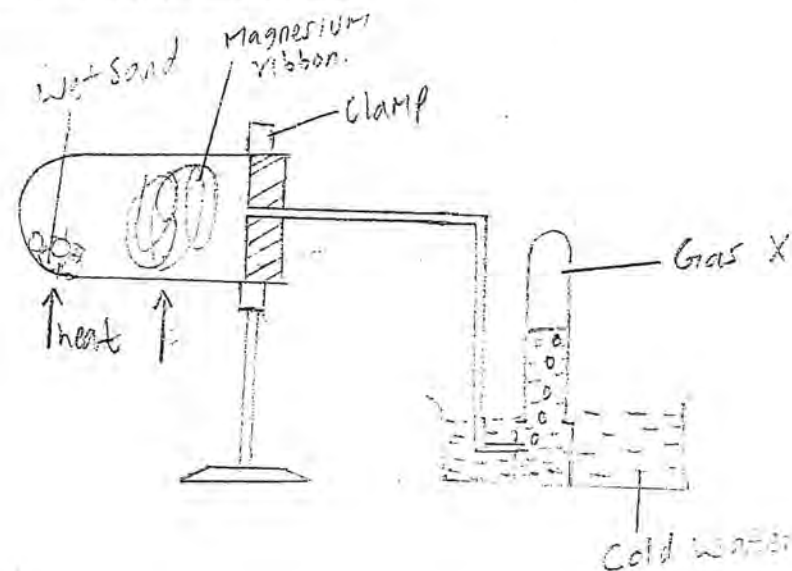
Group _____

Period _____

c) Write an equation for the reaction between X and Chlorine gas. (1 mk)

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14. The set-up in the diagram below shows a reaction between a Magnesium ribbon and Steam.



e) Write an equation for the reaction between C and oxygen gas. (1 mk)

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16) Using dots(.) and cross(x) draw then structure of the following compounds

(a)magnesium chloride (2mks)

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(b)Ammonium ion (2mks)

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17.explain the following observations

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