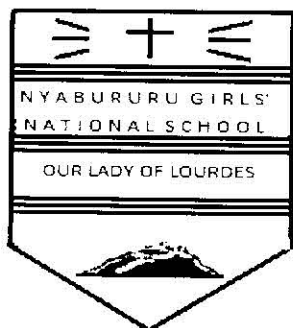


NAME.....CLS.....C.NO.....ADM.....



DATE DONE..... TIME

INVIGILATOR.....

DATE RETURNED.....

DATE REVISED.....

CHEMISTRY

FORM TWO

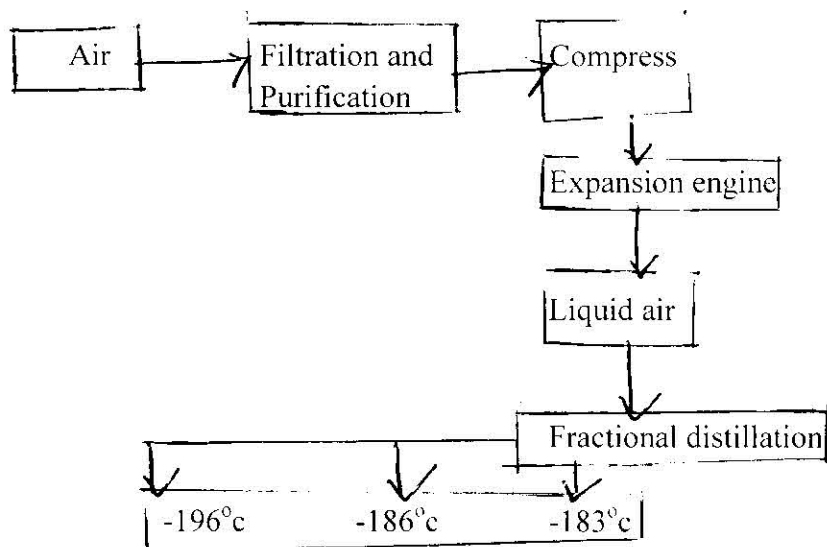
MAKE UP EXAM

TIME: 2 HOURS

INSTRUCTIONS.

- Write your name, class number and admission number in spaces provided.
- Answer ALL questions in the spaces provided.

1. Oxygen is obtained on large size by the fractional distillation of air as shown on the flow chart.



(a) Identify the substance that is removed at the filtration stage. (1 Mk)

.....

(b) Explain why carbon (IV) Oxide and water are removed before liquefaction of air. (1 Mk)

.....

(c) Identify the component that is collected at -186°C . (1 Mk)

.....

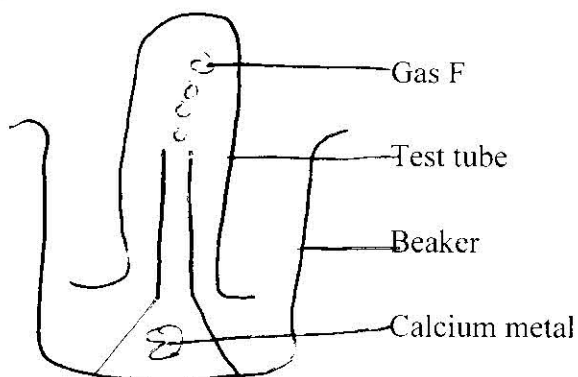
(d) State the principal behind the process described above. (1 Mk)

.....

(e) State the order at which the three gases are separated. (1 Mk)

.....

2. The set up below was used to collect gas F produced by the reaction between water and calcium metal.



(i) Name gas F (1 Mk)

.....

.....

(ii) At the end of the experiment, the solution in the beaker was found to be a weak base.
Explain why the solution is a weak base. (2 Mks)

.....

.....

.....

(iii) Give one laboratory use of the solution formed in a beaker. (1 Mk)

.....

.....

3. Name the method or process that can be used to separate each of the following substance. (4 Mks)

(a) Kerosene and water

.....

.....

(b) Food colouring ingredients in a sauce

.....

.....

(c) Iodine from its aqueous solution

.....

.....

(d) A mixture of diesel and petrol

.....

.....

4. The table below shows the PH values for solutions A, B, C and D.

Solution	PH
A	5.2
B	12.2
C	2.0
D	9.8

Which solution is most likely to be

(4 Mks)

(a) Aqueous ammonia

(b) Sodium hydroxide

(c) Hydrochloric acid

(d) Ethanoic acid

5. (a) When air is bubbled through pure water of PH 7.0. The PH drops to 6.0 explain. (2 Mks)

(b) Elements burn in oxygen to form basic or acidic oxides. Name two elements which form basic oxides and two which form acidic oxides. (2 Mks)

6. The grid below shows part of the periodic table. Use it to answer the questions that follow. The letters do not represent actual symbols.

				S	U	V
P	R			T		W
Q						

(a) Which of the elements has the highest atomic radius explain. (2 Mks)

.....

(b) Identify the most reactive non-metal. Explain. (2 Mks)

.....

(c) Give the electron configuration of; (2 Mks)

(i) Element S

.....

(ii) Element Q

.....

(d) Compare the atomic radius P and R. Explain. (2 Mks)

.....

(e) Given that the atomic of W is 40. Write down the composition of its nucleus. (1 Mk)

.....

(f) Write the formula of the compounds formed between

(i) Element P and S (1 Mk)

.....

(ii) Element R and T (1 Mk)

.....

7. (a) What is rust? (1 Mk)

.....

(b) Give two methods that can be used to prevent rusting. (2 Mks)

.....

(c) Name two substances which speed up the rusting process. (2 Mks)

(d)

.....

8. Describe how a sample of pure Sodium Chloride can be obtained from a mixture of iodine, Sodium chloride and sand. (3 Mks)

.....

.....

.....

9. (a) Classify the following processes as chemical changes or physical changes. (4 Mks)

PROCESS	PHYSICAL OR CHEMICAL
Boiling water	
Sublimation	
Fractional distillation	
Burning of a paper	

10. Define the following terms

- (a) Element (1 Mk)

.....

- (b) Compound (1 Mk)

.....

- (c) Mixture. (1 Mk)

.....

11. Write word equations for the reaction between

- (a) Sodium and Chlorine. (1 Mk)

.....

- (b) Carbon and Oxygen. (1 Mk)

.....

- (c) Copper and Oxygen (1 Mk)

.....

12. Name the elements present in the following compounds. (3 Mks)

- (a) Magnesium Sulphate

.....
.....
(b) Sodium hydrogen Carbonate
.....
.....

13. State two reasons why most apparatus in a chemistry laboratory are made of glass. (2 Mks)

.....
.....
.....
.....
14. (a) Describe how a flower extract indicator can be prepared. (3 Mks)

.....
.....
.....
.....
(b) State two disadvantages of a flower extract indicator. (2 Mks)

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.....
.....
.....
15. Write the formulae of the following compounds. (3 Mks)

(i) Sodium Sulphate

.....
.....
(ii) Potassium hydrogen Sulphate

.....
.....
(iii) Copper (II) Oxide

.....
.....
16. Chlorine exists naturally in the form of two Isotopes, chlorine 35 that forms 75% of the total mass of chlorine and chlorine 37.

(a) Calculate the relative atomic mass (R.A.M.) of chlorine. (2 Mks)

(b) Write balanced chemical equations of a reaction between

(i) Calcium and water.

(1 Mk)

(ii) Zinc granules and dilute sulphuric (VI) acid.

(1 Mk)

17. Hydrogen can be prepared by reacting zinc with dilute hydrochloric acid.

(a) Write a word equation for the reaction.

(1 Mk)

(b) Name an appropriate drying agent for hydrogen gas.

(1 Mk)

(c) Explain why Copper metal cannot be used to prepare hydrogen gas.

(2 Mks)

18. Various elements and radicals with their valencies are given in the table below.

Element	Valency	Radical	Valency
Na	1	SO ₄	2
Al	3	Cl	1
Cu	2	NO ₃	1
Pb	2	CO ₃	2
Fe	3		

Use the information in the table to answer the following questions.

(a) Write the formula of the following pair.

(i) Na and SO₄

(1 Mk)

(ii) Cu and Cl

(1 Mk)

(iii) Fe and NO_3 (1 Mk)

.....
.....

(iv) Al and SO_4 (1 Mk)

.....
.....

(v) Pb and CO_3 (1 Mk)

.....
.....

(b) Give the valency of the element and the radical in the following formulae of compounds.

(5 Mks)

(i) $\text{Ca}(\text{PO}_4)_2$

(ii) CuCl

(iii) Mg_3N_2

(iv) Na HCO_3

(v) $\text{Zn}(\text{NO}_3)_2$