GATITU SECONDARY SCHOOL P.O BOX 327 GATUNDU

NAME..... ADMIN. NO.....CLASS.....

CHEMISTY FORM 3 END TERM EXAMINATION

FIRST TERM YEAR 2016

TIME 2HRS

INSTRUCTIONS

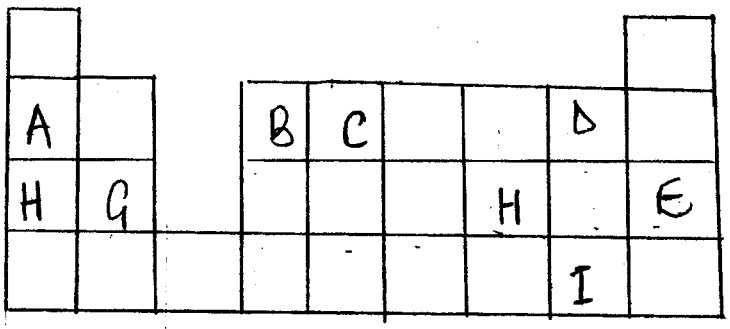
1 .Write your name ,admission number and class in the spaces provided above

2 .Answer ALL the questions in the spaces provided.

3 .All working must be shown where necessary.

4.Questions be answered in English

1.The grid below represents part of a periodic table .Study it and answer the questions that follow .The letters do not represent the actual symbol of the elements.



i)Identify the most reactive non-metal (1mk)

ii)Which of the metals is the most reactive ?Explain (1mk)

iii)What name is given to the family which elements D and T belong (1mk)

iv)Give the reasons for the following

a) Ionic radius of F is greater than that of H (1mk)

b) Atomic radius of F is greater than that of A (1mk)

v)Given an element which does not form compounds under ideal conditions .Explain (2mk)

vi)Give the formular of the compound formed between B and G (1mk)

b) Study the table below and answer questions that follow

Substance	G	H	I	J	K	L
Mpt °C	800	120 113	138	-6	-102	1358
Bpt °C	1411	446	458	56	-35	2860
Electrical Conductivity (solid)	Poor	Poor	Good	Poor	Poor	Poor
Electrical (conductivity (liquid)	Good	Poor	Good	Poor	Poor	Poor

i)Identify substance with

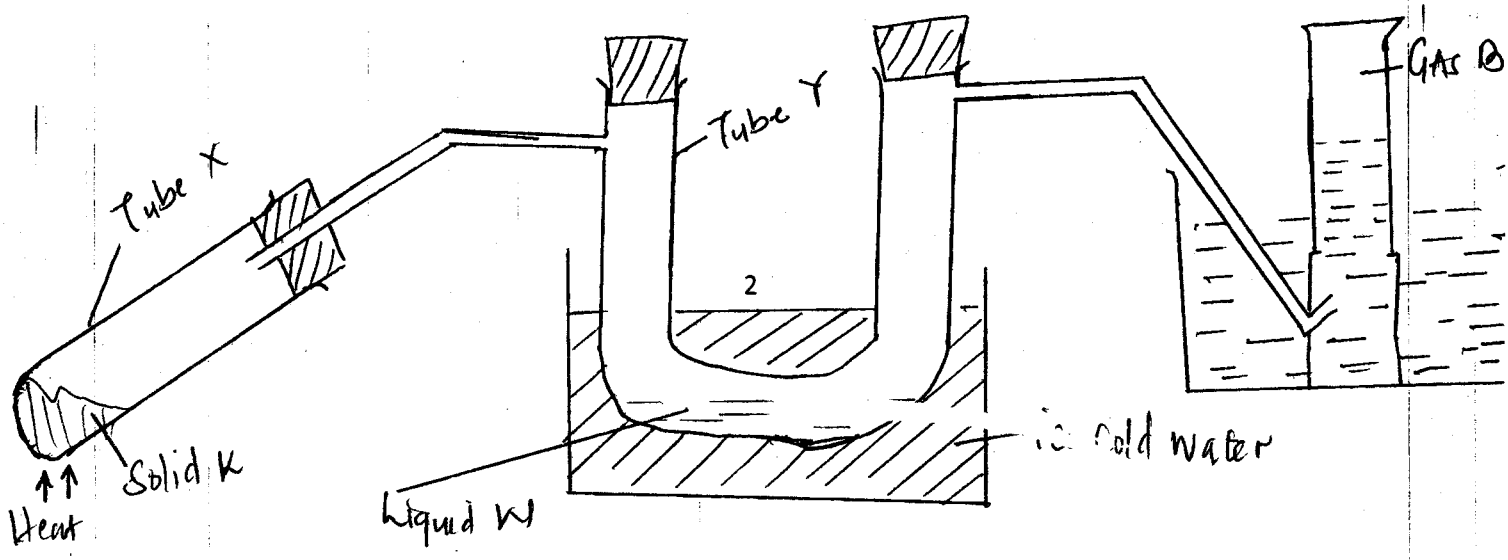
a)Giant metallic structure (1mk)

b) Giant molecular structure (1mk)

ii)Suggest the reason why substance B has two melting points (1mk)

iiii)Substance G and I conduct electric current in liquid state .State how the two substances differ as they conduct electric current (2mk)

2.The diagram below represents the setup apparatus that was used to prepare nitrogen iv oxide gas . Study it to answer the questions that follow.



a) Name

i) Solid K (1mk)

ii) Liquid W (1mk)

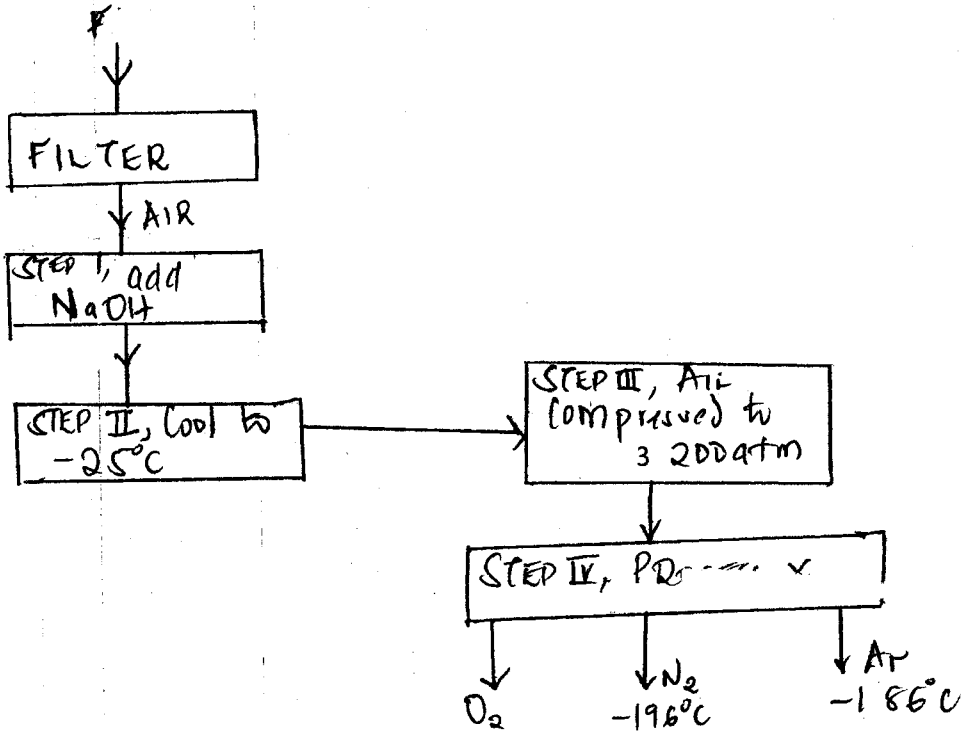
iii) Gas B (1mk)

b) State two observations that are made in test tube X (2mk)

c) Explain why burning magnesium continues to burn when lowered in gas jar full of nitrogen(iv)oxide while a burning splint goes off (2mk)

d) State the industrial use of nitrogen (iv) oxide (1mk)

Study the diagram below and answer the questions that follow



a)Name another substance that can be used instead of sodium hydroxide (1mk)

b) What is function of filters (1mk)

c) Identify the substance removed at step I? (1mk)

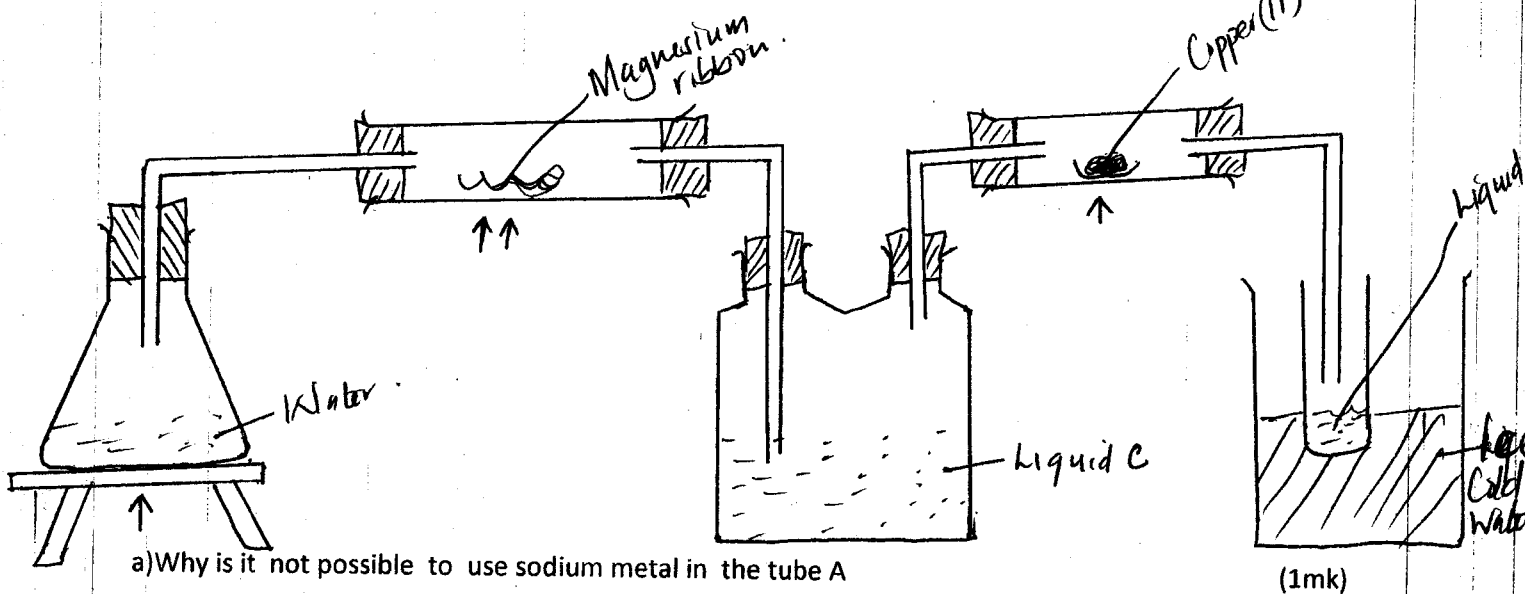
d)Name the process that take place in step III? (1mk)

e) At what temperature does liquid oxygen distill? (1mk)

f) Identify process X ? (1mk)

g) State two uses of nitrogen (1mk)

3 .The diagram below show the production of a gas and investigation of some of its chemical properties .Study it and answer the questions that follow .



a)Why is it not possible to use sodium metal in the tube A (1mk)

b) Write equation for the reaction taking pl ace in tube A (1mk)

c) State and explain observation made in tube B (1mk)

d)Identify substance P? (1mk)

e)State two chemical test for substance D (2mk)

f)State the role ice cold water in the experiment above (1mk)

g)Substance C acts as a drying agent in the experiment .Give suitable substance that can be used as C (1mk)

4.Give definition of the following

a)Hydrated salt (1mk)

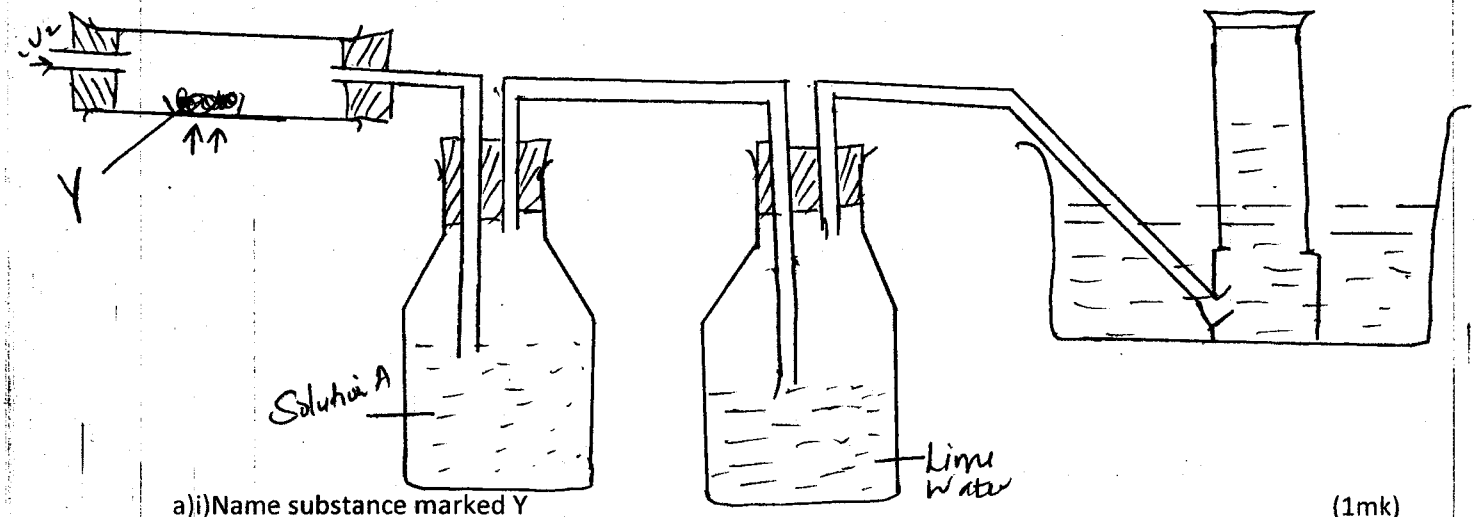
b)Deliquescence (1mk)

c)Hygrosopy (1mk)

d)Crystalization (1mk)

e)Neutralisation (1mk)

5.The diagram below shows apparatus used to prepare carbon(ii) oxide gas



a)i)Name substance marked Y (1mk)

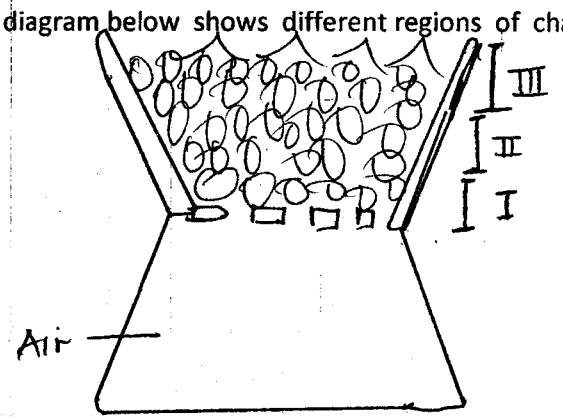
ii)Write equation for reaction that takes place in tube AB (1mk)

iii)Name solution Y and state its use (2mk)

iv)what is the purpose of the lime water (1mk)

v)What is the difference between burning carbon ii oxide and burning of hydrogen (2mk)

a)The diagram below shows different regions of charcoal fire



i)Write equation for the reactions taking place in regions I,II,III (3mk)

ii)Why is it not advisable to to use charcoal stove in a poorly ventilated room (1mk)

6.Give the valencies of the cation and anion in each of the following

a)Zinc sulphate (1mk)

b)Magnesium carbonate (1mk)

c) A_2B_3 **(1mk)**

d)X_3Y (1mk)

e)Allumium nitrate (1mk)

7.A solid X was heated and the residue was yellow when hot , a brown gas another colourless gas .

a)Name

i)Solid X (1mk)

ii)Yellow residue (1mk)

iii)Brown gas (1mk)

b)Write the equation for the decomposition of solid X (1mk)

c)Write the equations for the decomposition of the following

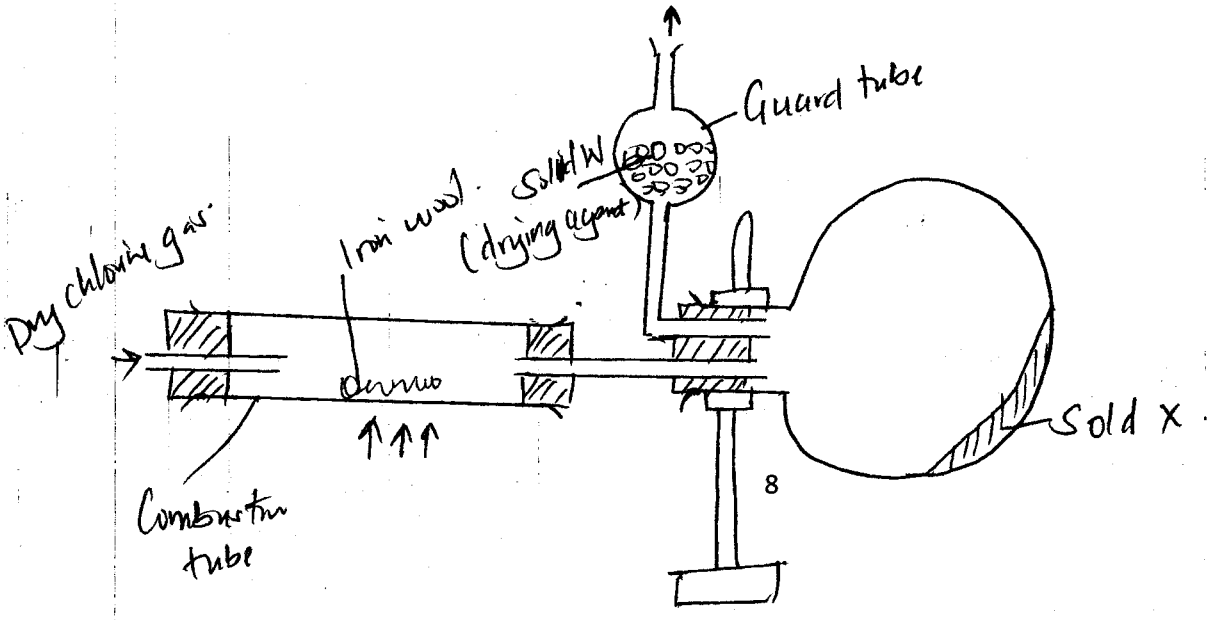
i)Allumium carbonate (1mk)

ii)silver nitrate (1mk)

iii)Sodium nitrate (1mk)

d)Chlorine consist of two isotopes 35Cl and 37 Cl .IF the relative atomic mass of chlorine is 35.5 ,determine the percentage abundance of each isotope. (3mk)

8.The following diagram shows a set-up apparatus of the preparation of anhydrous salt Y .Study it and answer the questions that follow



a)What is the name given to t6he method of salt preparation represented by set-up above(1mk)

b)Give name of the salt X (1mk)

c)What happens to salt when it is exposed to the atmosphere? (1mk)

d)Why is it not possible to collect salt X in the combustion tube? (1mk)

e)Explain why it is necesary to pass the dry chlorine through the apparatus before heating the the iron wool? (1mk)

f)Name the compound that can be used as a drying agent (1mk)

g)Why is it necessary to dispose excess chlorine through a fume chamber (1mk)

h)Write a balance equation for the reaction that leads to formation of salt X (1mk)

9.Study the table below and answer the question s that follow .The letters do not respresent the actual symbol of the elements.

ELEMENT	ATOMIC NO.	BPT^{0}C
K	3	1333

L	13	2470
M	16	445
N	18	-186
P	19	774

Which element

i)Is a gas at room temperature ? Explain ,taking room temperature to be 25^0C (2mk)

ii) Does not form an oxide ? Explain (2mk)

iii)Write down the equation for the reaction between K and M (1mk)

iv) What type of bond exist in the compound formed when element M and L react ?Give a reason for your answer (2mk)

v) Are in the same period (1mk)

vi) Same group (1mk)

10.Solutions may be classified as strong acid ,weakly acidic and strong base .The information below give solution and their pH .Study it and answer questions that follow

Solution	pH	
B	1.5.....	(1mk)
C	6.....	(1mk)

D 13..... (1mk)

11 .Give 3 differences between luminous and non-luminous flames (3mk)

12.Outline 3 differences between a compound and a mixture (3mk)