END OF TERM ONE EXAMINATION-FORM TWO- CHEMISTRY

FORM 2

Name_____**Class**_____**AdmNo:**_____

Date_____**Sign**_____

CHEMISTRY

2 HOURS

Instructions to candidates:

1. Answer **all** questions in both section A and B.
2. All working must be clearly shown and, in the spaces, provided.

FOR EXAMINER'S USE ONLY

Section	Maximum Score	Candidate's Score
A	40	
B	40	
Grand Score	**80**	

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FORM 2

1[a] what is an atom? [1mk]

……..

……

[b]Distinguish between atomic number and mass number [1mk]

……

……

2. Name two sub-atomic particles [2mks]

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3. Element P has two isotopes P^{60}_{30} and P^{61}_{30} which occur in the ratio X:2. Given that its R.A.M is 60.4.
Calculate the value of X [3mks]

4. A patient went to the hospital and was diagnosed to have cold flu. The patient was prescribed to take drugs 1 x 3

[i]How and what hours in interval will the drugs be taken [2mks]

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[ii]Supposing the patient took the drugs at 7.00a.m in the morning. What other hours of the day will the patient take the drugs [2mks]

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5. Identify a suitable method that would be used to separate mixture of the following substances

[a]Iodine and potassium chloride [1mk]

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[b]Water and ethanol [1mk]

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[c]Table salt dissolved in water [1mk]

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…… …..

6. Fill the table below

compound	Chemical formulae
[i]sodium chloride	
[ii]Iron{III}oxide	
[iii]	$Al\{OH\}_3$

7.Chemistry is a science subject that involves practicals that are done in the laboratory. Safety rules are given in order for the student to take precaution while in the laboratory

{i} State three such rules to be observed [3mks]

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{ii} Most of the laboratory apparatus are made of glass. Give two reasons [2mks]

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8.Njoki a form 2 student, was given a colourless liquid suspected to be water.

[a]Describe one chemical test she could use to identify the liquid. [2mks]

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{b}Describe an experiment she could perform to ascertain its purity [2mks]

……

……

……

9.Two ions X^{2+} and Y^{2-} forms ions with ionic configurations 2.8.8 each

[a]Which of the ions is of an element in

[i]period 3

……

[ii]Group 2

……

[b]Given that element Y has a mass number of 32, draw the structure of its ions [2mks]

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10. The form two students were given solutions P, Q and R in three different beakers. They put in red and blue litmus papers and recorded the results as shown below

Solution	P	Q	R
Effect on blue litmus paper	Turns red	Remains blue	Remains blue
Effects on red litmus paper	Remains red	Turns red	Turns blue

Which of the solutions was most likely to be;

[i]Distilled water [1mk]

……

[ii]of an oxide of sodium. Explain your answer [2mks]

……

……

[iii]An oxide of sulphur. Explain your answer [2mks]

……

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……

11.[a]Differentiate between prescription drugs and over the counter drugs [2mks]

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[b]Name two commonly abused drugs in Kenya [1mk]

……

……

[c]State two physiological effects of drug abuse to the human body [2mks]

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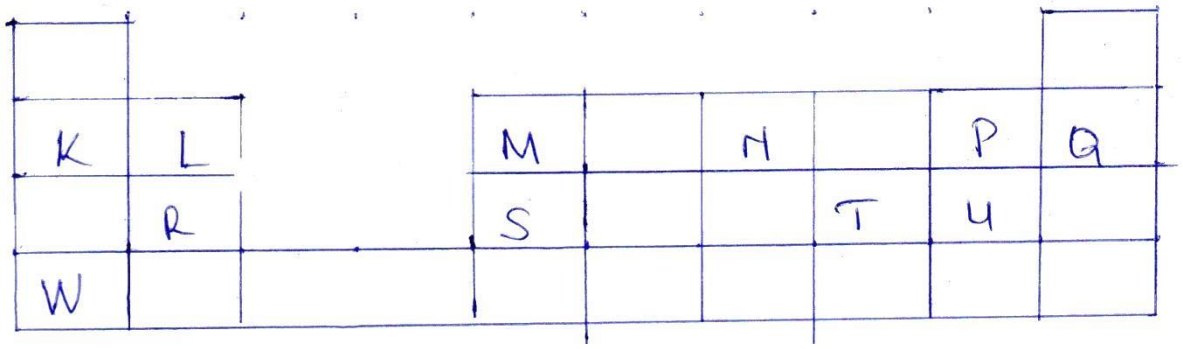
SECTION B

12.Study the grid below showing a section of the periodic table. The letters are not the actual chemical symbols of the elements



[a]State the letter that represents an element that

[i]Belongs to period 3 [2mks]

……

[ii]Belongs to group 2 [1mk]

……

[iii]Forms ions with a charge of +3 [1mk]

……

[iv]forms ions with a charge of +1 [1mk]

……

[v]Forms ions with a charge of -1 [1mk]

……

[b]What name is given the family to which elements K and W belong [2mks]

……

……

[c]How does the following compare? Explain your answer

[i]Atomic radius P and U [2mks]

……

……

……

……

[ii]Ionic and atomic radius of L [2mks]

……

……

……

……

[iii]ionic and atomic radius of U [2mks]

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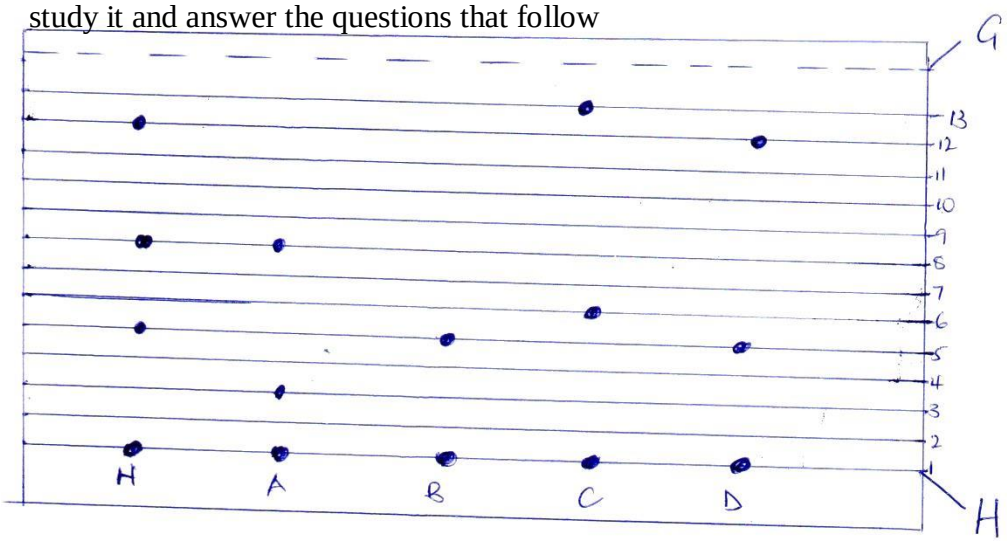
13.Form two students carried out paper chromatogram for mixture of K and substances A,B,C and D. study it and answer the questions that follow



[a]Label [2mks]

[i]G……

[ii]H……

[b]What is the suitable solvent to use in this paper chromatogram [1mk]

……

[c]Identify the substances present in mixture N [3mks]

……

……

[d]Which of the pure substance was a compound of N [1mk]

……

[e]State two factors that determine the speed by which a substance in a solution moves up the absorption paper [2mks]

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……

……

[f]State two application of paper chromatogram [2mks]

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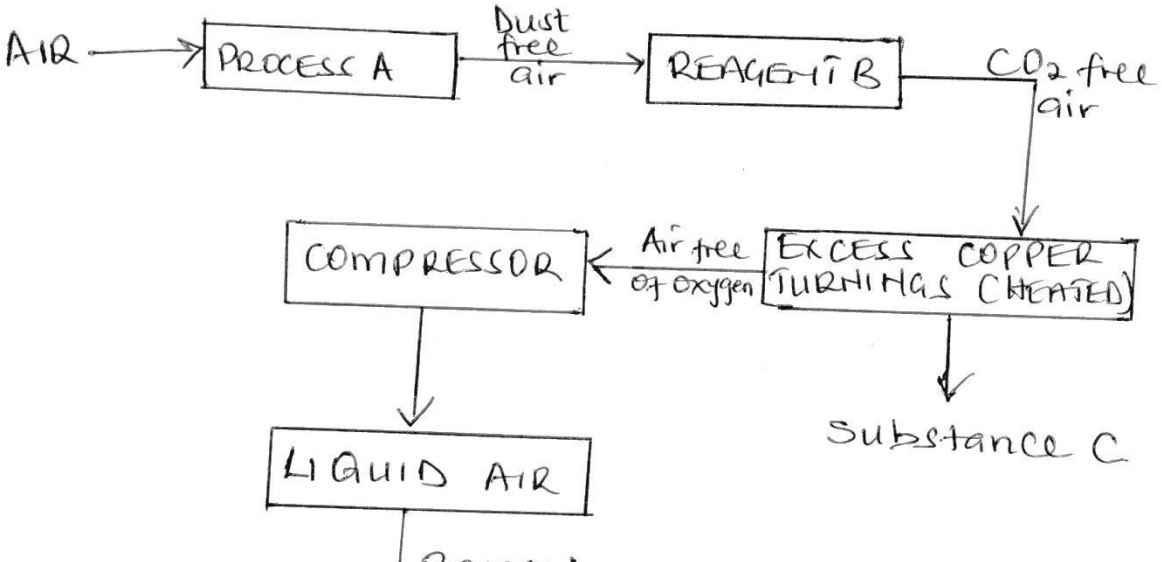
14.The chart below shows how the main components of air are separated. Study it and answer the questions that follow



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[a]Identify

[i]Gas x …… [1mk]

[ii]Gas y …… [1mk]

[iii]The temperature at which Nitrogen is distilled out

…… [1mk]

[b]Name

i. Process A …….. [1mk]
ii. Reagent B …… [1mk]
iii. Substance C …… [1mk]
iv. Process D …… [1mk]

[c]What is the purpose of passing the air through compressor [1mk]

……

……

[d]Write the chemical equation of the reaction taking place when copper turnings are heated [1mk]

……

15.Study the table below and answer the questions that follow

ELEMENT	A	B	C	D	E	F	G
Atomic radius [nm]	0.156	0.136	0.125	0.110	0.110	0.104	0.099

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Ionic radius[nm]	0.095	0.065	0.050			0.184	0.181
1^{st} ionization energy KJ/mol	492	743	790	791	1060	1063	1254
Melting point ^0C	97.8	650	660	1410	442	119	-101
Atomic number	11	12	13	14	15	16	17

[i]Explain why;

[a]A has a larger atomic radius than ionic radius [1mk]

……

……

……

[b]G has a smaller atomic radius than its ionic radius [1mk]

……

……

……

[c]Explain on the trend of melting point from A to C [2mks]

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……

……

[d]Explain why D has the highest melting point [1mk]

……

……

……

[e]Why is G having smallest atomic size [1mk]

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……

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