

ADM..... NAME.....CLASS.....
FORM TWO CHEM MID TERM TEST . TERM II 2015

1. The grid below is part of the periodic table. Use it to answer the questions that follow. (The letters are not the actual symbols of the elements)

					R	S	
N	Q					T	U
P							

- a) Indicate on the grid the position of an element represented by letter V whose atomic number is 14. (1mk)
- b) Select a letter which represents a monoatomic gas. (1mk)
- c) Write an equation for the reaction between Q and T. (1mk)

2. Use the information in the table below to answer questions that follows. That follows. The letters do not represent the actual symbols of the elements.

Elements	B	C	D	E	F
Atomic numbers	18	5	3	5	20
Mass Numbers	40	10	7	11	40

- a) Which two letters represent the same element? Give a reason (2mks)
- b) Give the number of neutrons in an atom of element D (2mks)

- a) Name liquid P (1mk)
- b) State the observation made on liquid P which will indicate the presence of carbon (IV) Oxide. (1mk)
- c) Write a word equation for the reaction between P and Carbon (IV) Oxide. (1mk)

5. The table below gives information about elements A₁, A₂, A₃ and A₄

Element	Atomic number	Atomic radius (nm)	Ionic radius (nm)
A ₁	3	0.134	0.074
A ₂	5	0.090	0.12
A ₃	13	0.143	0.050
A ₄	17	0.099	0.181

- i) In which period of the periodic table is element A₂
Give reason. (2mks)
- ii) Explain why the atomic radius of:
I. A₁ is greater than that of A₂ (2mks)
- II. A₄ is smaller than its ionic radius. (2mks)
- iii) Select the element which is in the same group as A₃ (1mk)

6. The table below gives the atomic numbers of elements W X Y and Z. The letters do not represent the actual symbols of the elements.

Element	W	X	Y	Z
Atomic numbers	9	10	11	12

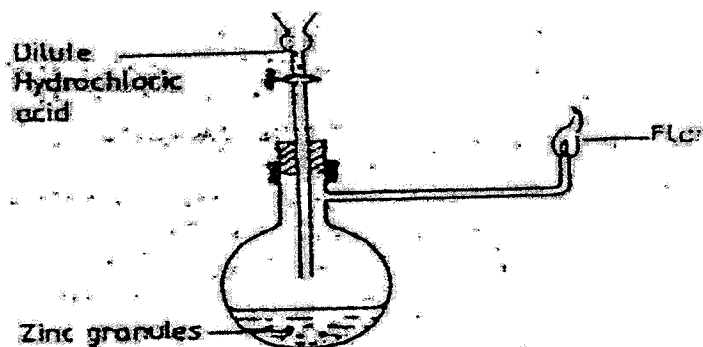
- a) Which one of the elements is less reactive? Explain. (2mks)
- b) i) Which two elements would react most vigorously with each other
- ii) Give the formula of the compound formed when elements in b (i) above react (1mk)

7. The table below gives information on four elements represented by letters K, L, M and N. Study it and answer the questions that follow. The letters do not represent the actual symbols of the elements.

Elements	Electron arrangement	Atomic radius (nm)	Ionic radius (nm)
K	2,8,2	0.136	0.065
L	2,8,7	0.099	0.181
M	2,8,8,1	0.099	0.181
N	2,8,8,2	0.174	0.099

- a) Which two elements have similar chemical properties? Explain (2mks)
- b) What is the most likely formula of the oxide of "L" (1mk)
- c) Which element is a non-metal? Explain (2mks)
- d) Which one of the elements is the most reactive metal? Explain (2mks)
- e) Explain why the ionic radius of "N" is less than that of "M" (2mks)
- f) Explain why the ionic radius of "L" is larger than its atomic radius. (2mks)

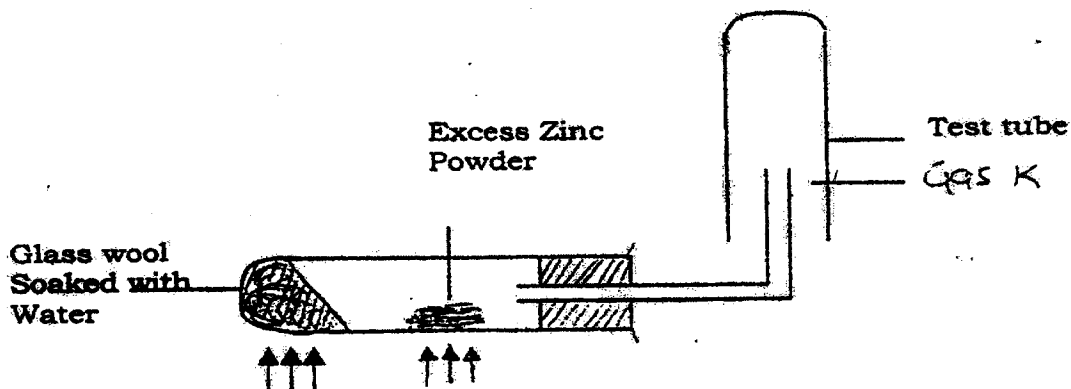
(8) Study the diagram below and answer questions that follow.



(a) Write balanced equation for each of the reactions that take place in
(i) the round bottomed flask (1mk)

(ii) the experiment represented by the diagram above (1mks)

8. A student set up the experiment below to collect gas K. The glass wool was heated before heating the zinc powder.

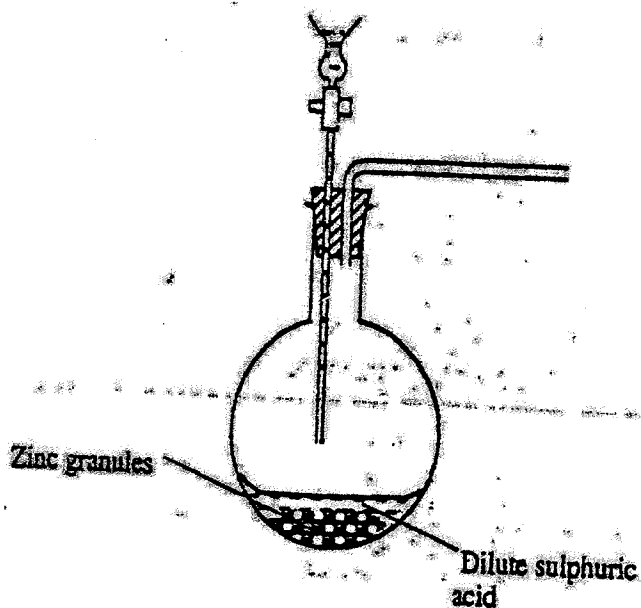


a) Why was it necessary to heat the moist glass wool before heating zinc powder? (1mk)

b) What would happen if the zinc powder was heated before heating the glass wool? (1mk)

- c) What property of gas K made it possible for it to be collected as shown in the diagram? (1mk)

9. The set up below was used to prepare hydrogen gas.



- a) Complete the diagram to show how a dry sample of hydrogen gas can be collected. (3mks)
- b) Write an equation which takes place when hydrogen gas burns in air. (1mk)
- (b) State two uses of hydrogen (2mks)

10. When magnesium metal burn metal burn in air. It reacts with both oxygen and Nitrogen gases giving a white ash- like substances. Write two equations for the two reactions that take place. (2mks)

11. The information in the table below relates to elements in the same group of the periodic table. Study it and answer the questions that follows:-

Elements	Atomic size (mm)
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G1	0.19
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G2	0.23
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G3	0.15
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12. Which element has highest ionization energy? Give a reason. (3mks)