

# FORM 2 CHEMISTRY QUIZ 1 TERM 1 2015

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(20mks)

1. The number of protons, neutrons and electrons in particles A to F are given in the table below the letters do not represent the actual symbol of the elements:-

Particle	Protons	Neutrons	Electrons
A	3	4	2
B	9	10	10
C	12	12	12
D	17	18	17
E	17	20	17
F	18	22	18

- (a) Choose from the table the letters that represent:

(i) An atom of a metal.

(1mk)

(ii) A neutral atom of a non-metal.

(1mk)

(iii) An atom of a noble gas.

(1mk)

(iv) A pair of isotopes.

(1mk)

(v) A cation

(1mk)

- (b) Using dots (.) and crosses to represent electrons draw the structure of B showing the distribution of electrons, protons and neutrons.

(2mk)

2. The grid below shows a part of the periodic table. The letters do not represent the actual symbols.

Use it to answer the questions that follow:-

C								T
	K					U		
X	Y		M			Q	W	
J								Z

- (a) Why are elements T and Z placed in the same group? (1mks)
- (b) What name is given to the group in which elements C, X and J. (1mk)
- (c) Using crosses (X) to represent electrons, draw the atomic structure of element Q. (1mk)
- (d) State the period and the group to which element Q belong. (1mk)
- (e) (i) The ionic configuration of element G is  $2.8 G$  forms an ion of the type  $G^{-1}$ . Indicate on the grid, the position of element G. (1mk)
- (ii) Write electron arrangement of the atom of element G (1mk)
- (iii) State **one** uses of element U. (1mk)
3. a) An element W has an atomic number 13. Write the electronic configuration of the most stable ion of W. (1mk)

b) Study the information in the table below and answer the questions that follow:

Ion	No. of protons	No. of electrons
$P^{3-}$	7	10
$Q^+$	19	18
$R^{2+}$	12	10

a) Write the electron arrangement of element P. (1mk)

b) Give the group and period to which elements Q and R respectively.

Q                      Group.....                      Period.....                      (2mks)

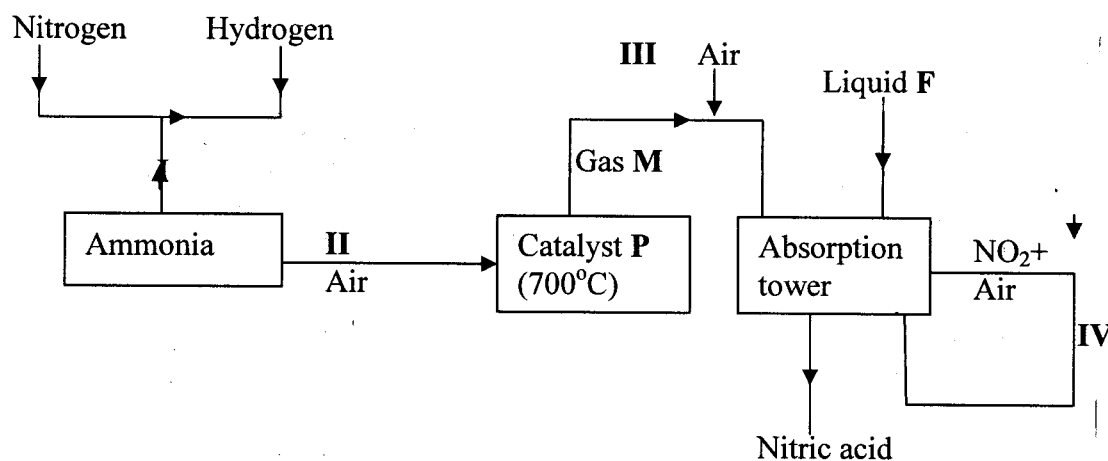
R                      Group.....                      Period.....                      (2mks)

(f) Identify **process X** (1mk)

(f) State three uses of nitrogen. (2mk)

(g) Burning magnesium continue to burn in a gas of nitrogen. Write an equation for the reaction that takes place. (1mk)

2. Study the flow chart below and answer the questions which follow:



a) Give **one** source of the following raw materials

i) Nitrogen gas (1mk)

ii) Hydrogen gas (1mk)

b) State **three** conditions required in process I. (3mk)

- c) Name
- i) Catalyst **P**. (1mk)
- ii) Gas **M**. (1mk)
- c) Write chemical equations for;
- (i) Formation of gas **M**. (1mk)
- (ii) The reaction in the absorption tower. (1mk)
- d) Give **two** reasons why step IV is necessary. (1mk)
- f) Give **three** uses of nitric acid. (2mk)