NAME…………………………………………………………..CLASS……..ADM. NO………..

ST .CLAIRE GIRLS HIGH SCHOOL-GATITU.

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CHEMISTRY FORM THREE

MID TERM ONE EXAMINATION 2018.

INSTRUCTIONS.

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

ii)Answer all the questions in the spaces provided .

QUESTIONS .

1. Classify the following processes as either chemical or physical . (4MKS)

|  |  |
| --- | --- |
| PROCESS | TYPE OF REACTION |
| a)Burning of newspaper |  |
| b)Obtaining petrol from oil |  |
| c)Souring of milk |  |
| d)Heating of iodine crystals |  |

2.a)Define the term salt. (2mks)

b)State and explain any three types of salts . (6mks)

c)Complete the table below by stating whether the following salts are soluble or insoluble.

(4mks)

|  |  |
| --- | --- |
| SALT | SOLUBLE/INSOLUBLE |
| Calcium carbonate |  |
| Sodium sulphate |  |
| Magnesium nitrate |  |
| Lead (ii) chloride. |  |

3.The table below shows some information about atoms .The symbols are not the actual symbols of the elements.

|  |  |  |  |
| --- | --- | --- | --- |
| Element | Atom electron arrangement | Atomic  radius | Ionic radius |
| A | 2.1 | 0.152 | 0.060 |
| B | 2.8.1 | 0.186 | 0.095 |
| C | 2.8.2 | 0.160 | 0.065 |

i)Identify the elements in the same group of the periodic table .Explain (2mks)

ii)Identify the same elements in the same group of the periodic table .Explain (2mks)

iii)Draw a diagram to illustrate the atomic structure of the element B using dots(**.**) or (**x**) for elements . (2mks)

b)Write the chemical formulae of :

i)Chloride of C (1mk)

ii)Chloride of B (1mk)

iii)Phosphate of C (1mk)

c)Explain the trend in the values of atomic radii of elements B and C . (2mks)

4a).Define the term allotrope . (1mk)

b)Outline three allotropes of carbon . (3mks)

c)Draw dot and cross diagram to show bonding of the following .

i)NH 3 (1mk)

ii) Water (H 2 O) ( 1mk)

iii)Oxygen (O 2 ) (1mk)

d)State the particles responsible for electrical conductivity in the following.(4mks)

i)Graphite .

ii)Molten lead (ii) bromide .

iii) Aqueous sodium chloride .

iv)Allumuin metal

5.a)The following diagram represents a non- luminous flame of a Bunsen burner .

i)Name the parts A, B and C (3mks)

ii)Which of parts in (i) above is the hottest . (1mk)

iii)A nonluminous flame is preferred for heating .Explain . (1mk)

iv)Name the condition under which the other flame can be produced apart from luminous flame .(1mk)

v)Outline four differences between luminous and non luminous flame . (4mks)

6.The set up below represents the apparatus that may be used to separate a mixture of two miscible liquids C and D whose boiling points are 80 o C and 110 o C respectively .

i)Name A and B . (2mks)

ii)What is the purpose of the thermometer? (1mk)

iii)Which liquid was collected out first ?Explain (2mks)

iv)How would pure sample of the distillate be obtained . (1mk)

7.Solutions may be classified as strong base ,neutral ,weak base ,weak acid or strong acid .The information below gives solutions and their pH values .Study it and answer the questions that follow .

|  |  |
| --- | --- |
| Solution | pH |
| A | 0.5 |
| B | 7 |
| C | 14 |
| D | 9 |

Classify the solutions in the table using the stated classifications

A………………………………………………

B………………………………………………..

C………………………………………………..

D……………………………………………… (2mks)

b)What is the difference between sublimation and deposition . (2mks)

c)Give two examples of substances which sublime . (2mks)

d)State three differences between a compound and a mixture . (3mks)

e)Define isotope . (1mk)

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