**CHEMISTRY**

**FORM 2**

**TIME: 1 HOUR**

**NAME: …………………………………………………………………………………..**

**ADM NUMBER: ……………………………**

***Answer ALL questions in spaces provided (30 marks)***

**1.** The electronic arrangement of elements are represented by letters A to D are as follows

A:2.8.6 B:2.8.2 C:2,8,1 D2:8.8

a) Select the element which forms

i) Double charged cation (2mks)

………………………………………………………………………………………………

ii) A soluble carbonate. (2mks)

……………………………………………………………………………………………..

b) Which element has the shortest atomic radius? (1mk)

………………………………………………………………………………………………….

**2.** Element K has a symbol below



Fill in the blanks below about the element. (2 marks)

a).Group

…………………………………………………………………………………………………..

b).Period.

……………………………………………………………………………………………………

**3.** An oxide of element P has the formular as P2 O3

a) State the valency of element ‘P’ (1 mark)

……………………………………………………………………………………………………..

b) In which group of the periodic table is the element. (1 mark)

……………………………………………………………………………………………………..

**4.** Chlorine has two isotopes with mass number 35 and 37. If the relative atomic mass of chlorine is 35.5. Determine the percentage abundance of each isotope of chlorine. (4 marks)

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**5.** The table below shows some elements and their atomic numbers. The letters do not represent the actual symbols of the elements.



a).From the letters given select two elements with the same chemical properties. (1 mark)

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b) Write the formula of a compound formed when element H reacts with element L. (1 mark)

…………………………………………………………………………………………………

c) Identify the most stable element. (1 mark)

…………………………………………………………………………………………………….

**6.** Classify the following processes as either permanent or temporary. (3 marks)



**7.** The diagram shows the apparatus used to separate different dyes in food coloring.



Name the parts labeled A & B (2marks)

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**8.** A student set up an experiment to demonstrate rusting as shown below. He made observations at the start of the experiment and after two weeks.



State and explain the observations made in the measuring cylinder after two weeks. (2marks)

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**9.** The peaks below show the mass spectrum of element X.



Calculate the relative atomic mass of X. (3mks)

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**10.** The diagram below represents a set-up used to prepare oxygen gas.



a).Name substance Q. (1 mark)

………………………………………………………………………………………………………

b) Complete the set-up to show how oxygen gas is collected. (2 marks)

c) Write the equation for the reaction that occurs. (1 mark)

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