DAYSTAR SECONDARY SCHOOL, WAKISO.

S.3 CHEMISTRY ASSESMENT

545/1

1HR: 40MIN

SECTION A

ATTEMPT ALL QUSTIONS IN THIS SECTION

1. (a) Giving two examples in each case, explain the following terms:
   (i) A physical change (1 mark)
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   ……
   (ii) A chemical change (1 mark)
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   ……..

   (b) State four differences between a physical change and a chemical change. (4 marks)

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   ……
   ……
   ……

   (c) State whether the following changes are physical or chemical. (4 marks)

   (i) Heating sand

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   (iii) Heating zinc oxide
   ……
   (iv) Rusting of iron
   ……..
   (v) Precipitation of solids from a solution.
   ……

2. (a) State the Kinetic theory of matter. (1 mark)
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   ……

(b) In which state of matter; (4 marks)

(i) Are particles moving in all directions?

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(ii) Do particles vibrate in fixed position?

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(iii)Do particles fill any container in which they are placed?

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(vi) Do particles have no definite shape and volume?

……..

3. Name one method by which the following mixtures can be separated: (5 marks)

(i) Ethanol and water

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(ii) Oil and water

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(iii) Sand and water

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(iv) Iron filings and sulphur

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(v) Green pigments in a leaf

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4. (a) Define the following terms: (5marks)

(i) Valency

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(ii) Atom

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(iii) Radical

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(iv) Molecule

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(v) Element

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(b) Using symbols, valency of radical and elements, write the chemical formulae for the following compounds: (5marks)

(i) Iron (II) sulphate

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(ii) iron (III) sulphate

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(iii) Calcium nitrate

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(iv) Aluminium sulphate

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(v) Ammonium phosphate

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*SECTION **B***

ATTEMPT ANY TWO QUESTIONS

5. You are a chemistry teacher conducting a lab experiment to demonstrate the reactivity of metals. You have samples zinc, copper and silver, and you want to observe their reactions with dilute hydrochloric acid. How would you set up the experiment, and what observations would you expect to make? How would you explain your results to your students keeping in mind the reactivity of metals? (15 marks)

6. You are a chemistry student demonstrating the cleaning properties of soap and soap less detergents to your teacher. How would you set up a simple experiment comparing the effectiveness of the two types of cleansers? What materials or surfaces would you use and how would you evaluate and present the results to high light the differences between soap and soap less detergents? (15 marks)

7. (a) Using your knowledge of carbon and its compounds, describe the structure of graphite and explain it is used in the manufacture of pencil lids.
   (b) State two ways in which a diamond ring differs from the pencil lid

(c) The diamond ring was heated at very high temperatures in excess air and the gas given off passed through aqueous calcium hydroxide for a long time.

(i) State what was observed.

(ii) Write equation(s) for the reaction(s).

(d) Explain the effects of increased levels of carbon dioxide in the atmosphere

(15 marks)