Name:…… Stream…….

Signature:……..

545/2
Chemistry
Paper
2 Hours 15Minutes

STANDARD HIGH SCHOOL - ZZANA

END OF TERM 1 EXAMINATIONS, 2020

S.2 CHEMISTRY

TIME: 2HOURS 15MINUTES

INSTRUCTIONS

- Answer **all** questions in section **A** plus any two in section **B**.
- Symbols must be written correctly.
- Forward scanned answer sheets to stahiza2020@gmail.com.

SECTION A

1. (a) What are immiscible liquids? (01marks)

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The results of a paper chromatography are shown in the figures below. **A** and **B** are different mixtures of some of the pure substances P, Q, R, S and T.

(b) Identify the substances in the

i. Mixture A (01mark)

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ii. Mixture B (01mark)

……

(c) Which substances are present in both mixtures? (01mark)

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(b) Which substances are present in mixture **R** only? (01mark)

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2. (a) A crystal of potassium permanganate was placed at the corner in a trough of water as shown in the figure below and the experiment was allowed to stand for about 30 minutes.

(i) State what was observed after 30minutes. (01mark)

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(ii) Name the process that occurred. (01mark)

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(b) Name any 2 factors that may attack the process named in a (ii) above. (02marks)

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3. (a) Define the term a flame. (01mark)

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(b) Name the apparatus used for measuring a fixed volume of liquids. (01mark)

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(c) State the differences between luminous flames and non-luminous flame. (03marks)

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4. Define each of the following

(i) physical change (0 ½ mark)

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(ii) chemical change (0 ½ mark)

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(b) List any 2 examples of chemical change. (01mark)

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(c) State the differences between physical and chemical changes. (03marks)

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5. (a) Write the chemical symbol of the following elements. (0 ½ mark each)

(i)Magnesium .....
(ii) Calcium .....
(iii) Aluminium .....
(iv) Sodium .....
(v) Lead .....
(vi) Barium.....

(b) Name the element present in the following compounds. (0 ½ mark each)

(i) Spdium oxide. .....
(ii) Amonia.....
(iii) Magnesium chloride. .....
(iv) Calcium chloride .....

6. (a) Name any 2 major components of air. (01mark)

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(b) Write the chemical name and chemical formula of rust.

(i) Chemical name of rust. (01mark)

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(ii) Chemical formula of rust. (01mark)

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(c) Give 2 methods of preventing rusting. (02marks)

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7. (a) An atom M contains 13 protons and 14 neutrons. State the; (01 ½ marks)

(i) Atomic number of M.

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(ii) number of electrons in M.

……

……

(iii) Determine the atomic mass of M.

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(b) Copy and complete the following table.

Atom	Protons	Neutrons	Electrons	Atomic mass
P	17	18	_____	_____
Q	11	12	_____	_____
R	_____	15	14	_____
S	_____	20	17	_____

(04marks)

(i) Which of the atoms in the table are isotopes? Give a reason for your answer. (01 ½ marks)

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8. (a) The oxides of some elements are given below:
Lead (II) oxide……
Sulphurdioxide ……..
Copper (II) oxide ……..
Aluminium oxide……

State the oxide (s) which will react with: (Give a reason for your answer)
(i) Acid only. (01mark)
……
……

(ii) Alkalis (bases) only. (01mark)
……
……

(iii) Both acids and alkalis. (01mark)
……
……

9. (a) Name any 2 substances used to prepare oxygen. (02marks)
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(b) State how oxygen is tested in the laboratory. (01mark)
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(c) Outline any 4 disadvantages of rusting. (02marks)
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10.(a) Define the term hard water. (01mark)
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(b) (i) Name two ions responsible for hardness in water. (01mark)
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(ii) State any four (4) ways how hardness can be removed from water. (02marks)

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(c) Outline any 2 advantages of hard water. (01mark)

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SECTION B

11.(a) (i) Draw a well labeled diagram for preparation of dry hydrogen in the laboratory. (06marks)

(ii) Write the equation for the reaction. (1½ marks)

(iii) Name the catalyst used in preparation of hydrogen in (i) above. (01mark)

(b) Hydrogen was reacted with copper (II) oxide in a combustion tube.

(i) State the conditions for the reaction. (01mark)

(ii) State what was observed. (01mark)

(iii) Write the equation for the reaction. (1½ marks)

(c) Describe how hydrogen is tested in the laboratory. (01mark)

(d) State any 2 uses of hydrogen. (01mark)

(e) State two ways you can use to show that water is a compound of hydrogen. (01mark)

12.(a) What is meant by the following terms? (02marks each)

(i) Amphoteric oxides

(ii) Acidic oxides

(iii) Neutral oxides

(iv) Basic oxide

(v) Electrochemical series.

(b) State what is observed when the following metals are burnt in oxygen.

(i) Sodium (02 marks)

(ii) Calcium (01½ marks)

(c) Write the equation for the reaction which occur when the products in b (i) above is dissolved in water. (01½ marks)

END