

END OF TERM ONE EXAMINATIONS 2018

S.2 CHEMISTRY

TIME: 1 HR 30 MINS

INSTRUCTIONS

Answer all questions in this paper

1a) Name the two particles found in the nucleus of an atom

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b) An atom X is denoted by  ${}^{35}_{17}\text{X}$ , state the

i) Atomic number of X

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ii) Mass number of X

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iii) The number of neutrons found in X

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C) Another atom Y is denoted as  ${}^{37}_{17}\text{Y}$

i) Write one word for the relationship between X and Y

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ii) Name any two other elements that exhibit similar relationship

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2. When Hydrogen peroxide was exposed to sunlight, a gas M was formed

a(i) name gas M.....

ii) State how the gas M could be identified

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iii) Write an equation for the reaction leading to formation of gas M

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b) Name one substance that can be used to speed up the rate of formation of gas M

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C) State what is observed and the equation when the following metals are burnt in oxygen

i) sodium

observation.....

.....

Reaction

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ii) calcium

observation

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Reaction

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iii) magnesium

observation

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.....

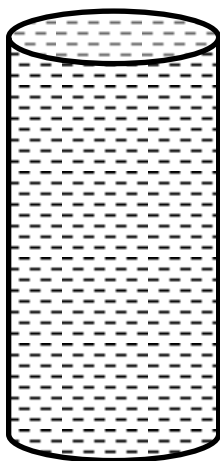
Reaction .....

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3a) state three conditions necessary for rusting to occur

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b) During an investigation to show the conditions under which iron nails can rust, an experiments was set up as below



State

i) The purpose of the layer of oil in the experiment

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[illegible]

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b) Dry hydrogen was passed over heated lead(II) oxide. State;

i) What was observed

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ii) Write equation for the reaction that took place

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5a) write the chemical formula of the following compounds

(i) sodium chloride

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ii) copper(II) sulphate

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iii) Iron(II) chloride

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iv) magnesium hydrogen chloride

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b) Write the chemical formulae of the following compounds.

i)  $\text{Pb}(\text{NO}_3)_2$

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ii)  $\text{ZnCO}_3$

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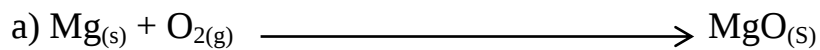
iii)  $\text{Na}_2\text{SO}_3$

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iv)  $\text{Ca}_3(\text{PO}_4)_2$

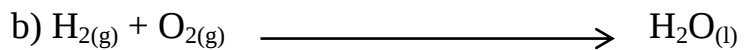
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6. Balance the following equations



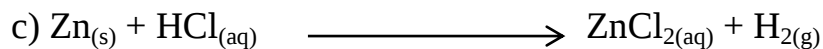
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7. The electronic configuration of Y is 2:8:6

a(i) write the formula of the most common ion of Y

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ii) To which group of the periodic table does Y belong?

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iv)     iii) Give a reason for your answer in a(ii)

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b) An element Y reacts with element X with atomic number 12.

(i) Write the electronic configuration of element X

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ii) Write a compound formed between Y and X

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8a) Differentiate between a basic and an acidic oxide.

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b) Give two examples in each case in 8(a) above

(i) Basic oxide

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(ii) Acidic oxide

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9. State what is observed in each of the following cases and write equation for the reaction in each case.

a) Hydrated copper (II) sulphate is exposed to sunlight

(i) Observation

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ii) Equation

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b) Copper is burnt in air

(i) Observation

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ii) Equation

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c) Carbon is burnt in excess air

i) Observation

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ii) Equation

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d) Copper is reacted with steam

i) Observation

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ii) Equation

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\*\*\*\*\*END\*\*\*\*\*SUCCESS\*\*\*\*\*