

HOLY TRINITY SSS NKOZI
ONLINE EXAMINATIONS
CHEMISTRY S.3
TIME: 1 HOUR

Instructions

- Attempt all questions in this paper

1. The atomic numbers of elements Q, R and W are 15, 17, 19 respectively. (3 marks)

a) Write the electronic configuration of :

i) Q

.....

ii) R

.....

iii) W

.....

b) R can combine with Q and W to form compounds Y and Z respectively . state the type of bond in

i) Y (1 mark)

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ii) Z (1 mark)

.....

c) Show using diagrams how each of the compounds Y and Z are formed

i) formation of compound Y (2 ½ marks)

ii) formation of compound Z (2 ½ marks)

- d) State two differences between compounds Y and Z (2 marks)

	Compound Y	Compound Z
i)		
ii)		

2. (a) What is an isotope ? (1 mark)

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- (b) The number of particles in the atoms of elements P, Q and R is given below

Atom	Protons	Neutrons	Electrons
P	7	7	7
Q	1	2	1
R	11	12	11

- i) Write the formula of the product formed when the compound formed between P and Q is reacted with the ion of Q (1 mark)

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- ii) R was dissolved in water. Write an equation for the reaction (1½ marks)

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- iv) Identify an element that forms similar compounds with element M, atomic number 15 (1 marks)

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3. (a) Define the following terms (1 mark each)

- i) a salt

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.....
ii) a base
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.....

iii) an acid
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.....

(b) State three characteristics of an acid (3 marks)

i)

ii)

iii)

4. (a) When manganese (IV) oxide is added to a liquid x, a colourless gas that is evolved

i) name the gas (1 mark)

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ii) write an equation for the reaction (1½ marks)

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b) The colourless gas was passed over heated zinc

i) state what was observed (1½ marks)

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

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5.a) What is rusting? (1mk)

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b) Describe an experiment to show that iron doesn't rust in the absence of Air (oxygen)
(8marks)

c) i) State any two methods of preventing rusting (2marks)

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ii) Write the chemical formula for rust (1mark)

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END