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## **O LEVEL SCIENCE QUALITATIVE ANALYSIS**

*Subject Code 5076 / 5078*

Year 2014 – 2018      Paper 5

*Subject Code 5116 / 5118*

Years 2009 – 2013      Paper 5

### **Past Examinations Papers 1 and 2**

O-level Science (Chemistry) Practical Test <b>2018</b> .....	(2018)1 ~ 4
O-level Science (Chemistry) Practical Test <b>2017</b> .....	(2017)1 ~ 4
O-level Science (Chemistry) Practical Test <b>2016</b> .....	(2016)1 ~ 4
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O-level Science (Chemistry) Practical Test <b>2009</b> .....	(2009)1 ~ 4

*Also available*

### **ANSWER BOOK (Separate booklet)**

*Notes For Use In Qualitative Analysis*

*Analysis Tables*

*Subject Code 5076 / 5078*

Year 2014 – 2018

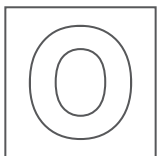
*Subject Code 5116 / 5118*

Years 2009 – 2013

*Paper 5 comprehensive answers*

*The answers\* serve as a useful reference for self-study purposes.*

\* The answers to the questions compiled in this publication are given by the publisher, Singapore Asia Publishers Pte Ltd. Singapore Examinations and Assessment Board bears no responsibility for these answers. Any queries or comments on the answers should be forwarded to the publisher directly.



MINISTRY OF EDUCATION, SINGAPORE  
in collaboration with  
UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE  
General Certificate of Education Ordinary Level

CANDIDATE  
NAME

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CENTRE  
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INDEX  
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## SCIENCE (CHEMISTRY, BIOLOGY)

5078/05

Paper 5 Practical Test

October/November 2018

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: As listed in the Confidential Instructions.

### READ THESE INSTRUCTIONS FIRST

Write your Centre number, index number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs, tables or rough working.

Do not use staples, paper clips, glue or correction fluid.

The use of an approved calculator is expected, where appropriate.

DO **NOT** WRITE IN ANY BARCODES.

Answer **both** questions.

You are advised to spend 45 minutes on each question.

Chemistry practical notes for this paper are printed on page 12.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
1	
2	
Total	

1 You are provided with separate solutions of salt **Q** and salt **R**.

Carry out the following tests. You should identify any gases evolved. Carefully record your observations.

The volumes given below are approximate and should be estimated rather than measured.

		test	observations
<b>(a)</b>		Add about 2 cm depth of solution <b>Q</b> into a clean test-tube.  To this test-tube, add about 1 cm depth of dilute nitric acid and shake the mixture.	
		To the same test-tube add about 1 cm depth of aqueous silver nitrate and shake the mixture.	
[2]			
<b>(b)</b>	<b>(i)</b>	Add about 2 cm depth of solution <b>Q</b> into a clean boiling tube.  To this boiling tube, add about 2 cm depth of solution <b>R</b> slowly with shaking.	
		To the same boiling tube, add dilute sulfuric acid slowly with shaking until no further changes are seen.  The solution remaining in the boiling tube is solution <b>X</b> .  Label this boiling tube <b>X</b> .	
[4]			
<b>You must retain solution X for use in part (c).</b>			

**(ii)** Using your observations in **(b)(i)**, deduce the identity of the anion present in solution **R**.

Explain your deduction using evidence from your observations in **(b)(i)**.

anion present in **R** is .....

explanation .....

.....

.....

[1]

- (iii) Consider **all** the observations you have made so far. Explain why the anion deduced in (b)(ii) **cannot** be present in solution **Q**.

.....  
 .....  
 ..... [1]

		test	observations
(c)	(i)	Add about 1 cm depth of solution <b>X</b> into a clean test-tube.  To this test-tube, add three pieces of granulated zinc.  Allow the mixture to stand for several minutes.	
		Carefully pour off the solution into a clean test-tube to leave the solid behind.	[2]
	(ii)	Add about 1 cm depth of solution <b>X</b> into a clean boiling tube.  To this boiling tube, add dilute sodium hydroxide slowly with shaking until no further change is seen.	
		Add 2 pieces of aluminium foil to the boiling tube and <b>gently</b> warm the mixture.	[2]

- (d) (i) Using your observations in part (c)(ii), deduce the identity of salt **Q**.

Support your deductions of the ions present using evidence from your observations.

Salt **Q** is .....

evidence .....

.....  
 .....  
 .....  
 .....  
 .....  
 .....

[2]

- (ii) Suggest an explanation for your observations in (c)(i), in terms of the chemistry involved.

.....  
.....  
.....  
..... [1]

[Total: 15]