## CAMBRIDGE INTERNATIONAL EXAMINATIONS GCE Ordinary Level

## MARK SCHEME for the May/June 2014 series

## **5070 CHEMISTRY**

5070/42

Paper 4 (Alternative to Practical), maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



	Page 2			Mark Scheme	Syllabus	Paper
				GCE O LEVEL – May/June 2014	5070	42
1	(a)	(i)	(gas	) syringe (1)		[1]
		(ii)	16 (1	I)cm <sup>3</sup>		[1]
	(b)	(i) carbon dioxide / $CO_2$ (1) limewater turns milky (1) $CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2$ (1)				[3]
		(ii)	Hydı Zn +		[3]	
						[Total: 8]
2	(a)	(i)	off w	hite or cream or pale yellow (1)		[1]
		(ii)	filtra	tion / filter (1)		[1]
	(b)	(i)	0.05	(1) moles		[1]
		(ii)	0.06	(1) moles		[1]
	(c)	0.0	5 (1)	× 188 = 9.4 g (1)		[2]
	(d)	0.0	3 (1)	× 188 = 5.64 g (1)		[2]
						[Total: 8]
3	(a)	C <sub>6</sub> H	H <sub>14</sub> AN	<b>ID</b> C <sub>7</sub> H <sub>16</sub> (1)		[1]
	(b)	reaction flask with some form of heat indicated (1) thermometer + cork / bung / closed (1) condenser with water circulating in the correct direction (1)				
			idens eiver	[4]		
						[Total: 5]

		<u> </u>	G	CE O LEVEL	– May/June 2014		5070	42
4	(c)							[Total: 1]
5	(d)							[Total: 1]
6	(d)							[Total: 1]
7	(b)							[Total: 1]
8	(c)							[Total: 1]
9	(a)	3.85g (1	)					[1]
	(b)	ZnO + I	$H_2SO_4 \rightarrow$	ZnSO <sub>4</sub> + H <sub>2</sub> O	(1)			[1]
	(c)	red / pinl	k to yellow	(1)				[1]
	(d)	25.2 0.0	31.1 6.8	48.3 (1) 23.8 (1)				
			24.3 re = 24.4 co or each co		lumn to the benefit	of the candida	te.	[4]
	(e)	0.00244	(1) moles					[1]
	(f)	0.00122	(1) moles					[1]
	(g)	0.0122 (	1) moles					[1]
	(h)	0.05 (1)	moles					[1]
	(i)	0.0378 (	1) moles					[1]
	(j)	0.0378 (	1) moles					[1]
	(k)	3.06 g (1	)					[1]
	(I)	79.5% (1	1)					[1]
								[Total: 15]

**Mark Scheme** 

Syllabus

Paper

Page 3

	Page 4			Mark Scheme	Syllabus	Paper
				GCE O LEVEL – May/June 2014	5070	42
10	(a)	colo	urles	ss (1) to brown / black (1)		
	(b)	orar	nge (	1) to green (1)		
	(c)	purp	ole / p	pink (1) to colourless (1)		
						[Total: 6]
11				m temperature: 24.5, 29, 27, 23.5 (1) ture rise: 4.5, 9.0, 7.0, 3.5 (1)		[2]
		Drav Line				
				ust involve points 3 and 4 ersect without use of a curve (1)		[3]
	(c)	(i)	mixt mixt	ure 1: $\mathbf{H} = 74 \text{ cm}^3 \text{ AND J} = 26 \text{ cm}^3 \text{ (1)}$ ure 2: $\mathbf{H} = 34 \text{ cm}^3 \text{ AND J} = 66 \text{ cm}^3 \text{ (1)}$		[2]
		(ii)	9.8°	C (1)		[1]
	(i	iii)	H =	$56 \mathrm{cm}^3 \mathrm{AND} \mathrm{J} = 44 \mathrm{cm}^3 (1)$		[1]
				ons <b>(c)</b> read candidate's graph to +/– half a small soers <b>(c)(i)</b> and <b>(iii)</b> totals must add up to 100 cm <sup>3</sup> .	quare.	
	. ,			oles of <b>J</b> (1) $\approx 1.00 / 56 \times 2 = 0.393 (0.39) \text{ mol/dm}^3 (1)$		[2]
	(e)	(i)	4.9°	C (1)		[1]
		(ii)	56 cı	m <sup>3</sup> <b>H AND</b> 44 cm <sup>3</sup> <b>J</b> (1)		[1]

[Total: 13]