Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/62**

Paper 6 Alternative to Practical **March 2017**

MARK SCHEME

Maximum Mark: 40

Published

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

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Question	Answer	Marks
1(a)	electrode(s)	**1**
1(b)	diagram of test-tube over either electrode	**1**
	containing liquid	**1**
1(c)	test: glowing splint result: relights	**1**
1(d)(i)	carbon dioxide	**1**
1(d)(ii)	oxygen reacted with carbon	**1**
1(e)	solution became more acidic / more concentrated	**1**
	water was broken down / electrolysed	**1**

Question	Answer	Marks
2(a)	initial and final readings completed correctly: 29.6; 4.1	**1**
	difference completed correctly: 25.5	**1**
2(b)	initial and final readings and difference completed correctly: 29.1; 24.0; 5.1	**1**
	all readings to 1 d.p.	**1**
2(c)	neutralisation	**1**
2(d)(i)	solution **O**	**1**
	greater volume of acid was used in the titration	**1**

Question	Answer	Marks
2(d)(ii)	five times as concentrated	**1**
2(e)	2.5–2.6	**1**
	unit: cm^3	**1**
2(f)	effect on volume: no effect	**1**
	reason: temperature would only affect the rate	**1**
2(g)(i)	use a pipette / burette	**1**
2(g)(ii)	repeat experiments (and compare / average)	**1**
2(h)	**M1** ***fair test*** to equal volumes of each sodium hydroxide solution / solutions **O** and **P** add an equal volume / measured volumes of aqueous calcium chloride	**1**
	M2 ***dependent variable measured*** measure mass / height of precipitate formed / volume of calcium chloride used	**1**
	M3 ***conclusion*** the more concentrated sodium hydroxide solution would form the most precipitate (mass / height) / would require a smaller volume of calcium chloride	**1**

Question	Answer	Marks
3(a)(i)	white	**1**
	precipitate	**1**
3(a)(ii)	(white precipitate) dissolves	**1**
3(b)(i)	white precipitate	**1**
3(b)(ii)	(white precipitate) dissolves	**1**
3(c)	cream	**1**
	precipitate	**1**
3(d)	sodium	**1**
	iodide	**1**

Question	Answer	Marks
4(a)	any 4 from: **M1** measure initial temperature of (solid) ammonium chloride / barium hydroxide **M2** add barium hydroxide / ammonium chloride / other solid **AND** mix / stir **M3** use a thermometer **M4** measure the temperature of the mixture / final temperature **M5** temperature decreases / test-tube feels cold	**4**
4(b)	**M1** add (aqueous) sodium hydroxide (and warm)	**1**
	M2 gas produced turns (red) litmus blue	**1**