Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/61**

Paper 6 Alternative to Practical **October/November 2016**

MARK SCHEME

Maximum Mark: 40

Published

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.

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This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

Question	Answer	Mark
1(a)	electrodes	**1**
1(b)	bubbles / fizz / effervescence	**1**
1(c)(i)	more hydrogen twice as much hydrogen / half as much oxygen	**1** **1**
1(c)(ii)	water	**1**
1(d)	*lighted splint* no effect / brighter light for oxygen 'pops' for hydrogen **OR** *glowing splint* relights for oxygen no effect for hydrogen	 **1** **1** **1** **1**

Question	Answer	Mark
2(a)	table of results for Experiment 1 all temperature boxes completed correctly 22, 24, 26, 28, 30, 31, 30, 29, 28	**2**
2(b)	table of results for Experiment 2 initial and other temperature boxes completed correctly 20, 21, 22, 23, 24, 25, 24, 23, 22	**2**
2(c)	all points correctly plotted best-fit smooth line graphs labels	**2** **1** **1**
2(d)	value from graph (27 °C) shown clearly	**1** **1**
2(e)	phenolphthalein / litmus / suitable named indicator	**1**
2(f)	Experiment 1 / solution **N** solution **N** is a stronger acid / has a higher pH	**1** **1**
2(g)	measured results / temperature changes / results would be smaller **OR** larger / double volume needed to reach same temperature changes	**1**
2(h)	polystyrene is an insulator / copper is a (good) conductor	**1**
2(i)	source of error: heat losses / using a measuring cylinder improvement: lag or insulate / use burette	**1** **1**

Question	Answer	Mark
3(a)	water present / hydrated	**1**
3(b)	no change / colour	**1**
3(c)(i)	white precipitate dissolves	**1** **1** **1**
3(c)(ii)	white precipitate no change	**1** **1**
3(d)	not a halide	**1**
3(e)	(aluminium) sulfate	**1**
3(f)	white (crystals)	**1**

Question	Answer	Mark
4	**method adding Agri Lime to acid** add weighed amount / known mass of Agri Lime **Q** to a known volume of acid with a named indicator added to the acid until the indicator changes colour note the mass of Agri Lime **Q** added repeat with Agri Lime **R** conclusion, e.g. 'the experiment using the smaller amount of Agri Lime is better' **OR** **method adding acid to Agri Lime** use weighed amount / known mass of Agri Lime **Q** add acid to it gradually / from a burette with a named indicator added to the acid until the indicator changes colour note volume of acid added repeat with Agri Lime **R** conclusion, e.g. 'the experiment using the larger volume of acid is better'	**6**