Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/63**

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.

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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)	(clamp / retort) stand trough	**1** **1**
1(b)	to absorb / hold / keep / soak up / contain the paraffin oil	**1**
1(c)	**M1** bromine (aqueous / in cyclohexane) **M2** turns colourless / decolourised	**1** **1**
1(d)	to prevent suck back (of water)	**1**

Question	Answer	Mark
2(a)	table of results for Experiment 1 temperature boxes completed correctly 20, 20, 20, 25, 28, 31, 33, 34, 35, 36, 36	**2**
2(b)	table of results for Experiment 2 temperature boxes completed correctly 22, 22, 22, 71, 76, 75, 72, 70, 67, 65, 64	**2**
2(c)	all points correctly plotted ± half a small square smooth line graphs labelled	**2** **1** **1**
2(d)(i)	working shown clearly as construction lines or cross value from graph (29–30 °C ± 0.5 °C)	**1** **1**
2(d)(ii)	value from graph (72 s) –60 s	**1** **1**
2(e)	room temperature or initial temperature from table (20–22 °C) reaction has finished / stopped	**1** **1**
2(f)	more readings / points / data smoother curve / better or more accurate graph	**1** **1**
2(g)	polystyrene is an insulator / copper is a (good) conductor reduced heat losses	**1** **1**

Question	Answer	Mark
3(a)(i)	pH 1–3	**1**
3(a)(ii)	effervescence / fizzing / bubbling / solid disappears / dissolves lighted splint 'pops'	**1** **1** **1**
3(a)(iii)	effervescence / fizzing / bubbling / solid disappears / dissolves limewater milky	**1** **1** **1**
3(a)(iv)	white precipitate	**1**
3(b)	calcium / Ca^{2+} hydroxide / OH^-	**1** **1**

Question	Answer	Mark
4	**silica** filter (the cleaner) wash the residue dry the residue **water** heat (the filtrate / cleaner) condense the vapour **sodium carbonate** heat to dryness / no liquid left (then solid) sodium carbonate is left **OR** heat until saturated then cool to crystallise / leave to crystallise	**6**