



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**CHEMISTRY**

**0620/51**

Paper 5 Practical Test

**October/November 2016**

MARK SCHEME

Maximum Mark: 40

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**Published**

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>
1(a)	table of results for Experiment 1 initial and other temperature boxes completed correctly and results comparable to supervisor's and Experiment 1 maximum greater than Experiment 2 maximum	1 1
1(b)	table of results for Experiment 2 initial and other temperature boxes completed correctly and comparable to supervisor's and temperatures stop rising	1 1
1(c)	all points correctly plotted best-fit smooth line graphs labels	2 1 1
1(d)	value from graph shown clearly	1 1
1(e)	phenolphthalein/litmus/suitable named indicator	1
1(f)	Experiment 1 solution <b>N</b> is a stronger acid/has a higher pH	1 1
1(g)	measured results/temperature changes/results would be smaller <b>OR</b> larger/double volume needed to reach same temperature changes	1
1(h)	polystyrene is an insulator/copper is a (good) conductor	1
1(i)	source of error: heat losses/using a measuring cylinder improvement: lag/insulate/use burette;	1 1

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<b>Question</b>	<b>Answer</b>	<b>Mark</b>
2(a)	white crystals	<b>1</b>
2(b)(i)	melts/liquefies/dissolves/bubbles condensation/drops of liquid cobalt(II) chloride paper turns colourless/light pink	<b>1</b> <b>1</b> <b>1</b>
2(b)(ii)	no change / colour	<b>1</b>
2(c)(i)	white precipitate dissolves / clears	<b>1</b> <b>1</b> <b>1</b>
2(c)(ii)	white precipitate	<b>1</b>
2(c)(iii)	no reaction / no change	<b>1</b>
2(c)(iv)	white precipitate	<b>1</b> <b>1</b>
2(d)	not a transition element (cation)	<b>1</b>
2(e)	hydrated / contains water	<b>1</b>
2(f)	it is <b>not</b> any named metal that gives a positive flame test	<b>1</b>
2(g)	aluminium sulfate	<b>1</b> <b>1</b>

<b>Page 4</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
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<b>Question</b>	<b>Answer</b>	<b>Mark</b>
3	<p><b>method adding Agri Lime to acid</b>  add weighed amount/known mass of Agri Lime <b>Q</b>  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 <b>Q</b> added  repeat with Agri Lime <b>R</b>  conclusion, e.g. 'the experiment using the smaller amount of Agri Lime is better'</p> <p><b>OR</b></p> <p><b>method adding acid to Agri Lime</b>  use weighed amount/known mass of Agri Lime <b>Q</b>  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 <b>R</b>  conclusion, e.g. 'the experiment using the larger volume of acid is better'</p>	6