

CAMBRIDGE INTERNATIONAL EXAMINATIONS**Cambridge International General Certificate of Secondary Education****MARK SCHEME for the October/November 2015 series****0620 CHEMISTRY****0620/61**

Paper 6 (Alternative to Practical), maximum raw mark 60

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Abbreviations used in the Mark Scheme

- ; separates marking points
- / separates alternatives within a marking point
- () the word or phrase in brackets is not required but sets the context
- **A** accept (a less than ideal answer which should be marked correct)
- **I** ignore (mark as if this material were not present)
- **R** reject
- ecf credit a correct statement that follows a previous wrong response
- ora or reverse argument
- owtte or words to that effect (accept other ways of expressing the same idea)

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Question	Answer	Marks	Guidance
1(a)	(teat) pipette; <u>evaporating</u> dish / basin;	1 1	R: watch glass / clock glass / crucible / petri dish
1(b)(i)	wire; (metal) with high melting point;	1 1	
1(b)(ii)	open;	1	
1(c)(i)	pH > 7 / purple / blue / dark green;	1	
1(c)(ii)	milky / white / white precipitate / cloudy;	1	

Question	Answer	Marks	Guidance
2(a)	straight line, drawn with a ruler, missing the point at n = 3;	1	
2(b)	2 from: - measuring / recording error / anomalous result; - equal amounts not burnt; - heat losses; - incomplete combustion;	2	R: human error I: impurities
2(c)	reading from the graph / expected answer 4100 ± 50 ; indication of extrapolation from the graph;	1 1	
2(d)	for butane n = 4, ethane n = 2; value for ethane = 1550; butane = 2800 / about twice value or not exactly twice value;	1 1 1	

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Question	Answer	Marks	Guidance
3(a)	electrolysis;	1	
3(b)	bulb lights / bubbles;	1	
3(c)	platinum;	1	R: copper
3(d)	glowing splint; relights;	1 1	R: relights a lighted splint A: lighted splint glows brighter
3(e)	hydrogen (ions) positive / opposites attract	1	
3(f)	chlorine produced; poisonous / toxic;	1 1	

Question	Answer	Marks	Guidance
4(d)	all time readings correctly recorded: 48, 68, 96, 132 4 correct = 3 3 correct = 2 2 correct = 1 0 or 1 correct = 0 in seconds;	3 1	
4(e)	all points correctly plotted: 48, 68, 96, 132 4 correct = 2 3 correct = 1 2 or fewer correct = 0 smooth line graph;	2 1	
4(f)(i)	value from the graph, 0.7; shown clearly on the graph;	1 1	

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Question	Answer	Marks	Guidance
4(f)(ii)	value from the graph, e.g. 34 s; extrapolation shown clearly;	1 1	
4(g)	idea of fair test / comparability;	1	
4(h)	21 (°C); 49 (°C);	1 1	
4(i)(i)	exothermic / redox / displacement;	1	I: neutralisation
4(i)(ii)	hydrogen;	1	
4(i)(iii)	values halved;	2	'smaller temperature change' = 1 mark
4(j)	<i>apparatus</i> gas syringe / thermometer; <i>measurements</i> volume of gas / temperature of reaction; over time;	1 1 1	

Question	Answer	Marks	Guidance
5(a)	yellow / green;	1	R: reference to ppt.
5(b)	white precipitate;	1	
5(c)	green; precipitate;	1 1	
5(d)	green precipitate;	1	
5(e)	brown; precipitate;	1 1	
5(i)	silver / lead; nitrate;	1 1	

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Question	Answer	Marks	Guidance
6	7 from: - weighed amount / xg of toothpaste; - add water; - stir / heat; - filter (to obtain calcium carbonate); - wash; - dry; - weigh residue; - calculate percentage calcium carbonate;	7	