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

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.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

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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)

Question	Answer	Marks	Guidance
1(a)	(teat) pipette; evaporating 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	

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	

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)	*apparatus* gas syringe / thermometer; *measurements* 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**	

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