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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the May/June 2015 series

0620 CHEMISTRY

0620/52 Paper 5 (Practical), maximum raw mark 40

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Abbreviations used in the Mark Scheme

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

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Question	Answer	Marks	Guidance
1(f)	volumes completed for all five experiments; times completed for all five runs and time increases down table; **all** times in seconds; result for experiment 3 comparable to supervisors (within 10 seconds);	**4**	Total volume in each run = 50 cm^3
1(g)	y scale – longest time above half way up axis **and** scale linear; all five points plotted correctly (two marks); smooth line;	**4**	
1(h)	yellow / cream / white;	**1**	**I** references to pale / cloudy / precipitate / solid / milky / solution
1(i)(i)	correct value from graph; units; indication shown on graph;	**3**	**A** s / seconds / sec
1(i)(ii)	line above experimental line;	**1**	the lines must **not** meet at any point
1(j)(i)	experiment 1 / first;	**1**	**A** ecf from results
1(j)(ii)	more particles of thiosulfate / particles closer together / more concentrated / no water / more (frequent) collisions ;	**1**	
1(k)	volume over 50 cm^3 / changing total volume; so not a fair test / so depth greater / cannot compare with other results;	**2**	**A** (result) not valid
1(l)(i)	*Any two from:* • more accurate (for volume measurement); • comparison to measuring cylinder; • less accurate measurement of time; • as it takes longer to add the acid;	**2**	**A** more precise
1(l)(ii)	time shorter / cross disappears faster; depth greater;	**2**	**R** reacts faster

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Question	Answer	Marks	Guidance
2(a)	white (solid);	1	**R** if described as a liquid or solution
2(b)	strong / pungent / sharp / choking smell; (pH indicator turns) green / blue / purple; Any value or range >7 and ⩽14;	3	**A** any suitable description of the smell
2(c)	yellow; precipitate / ppt / ppte;	2	**I** cream **I** solid **R** the second mark if there is an indication of the precipitate dissolving
2(d)	yellow / orange / brown; fizzing / bubbles / effervescence; turns black / blue-black; glowing splint; relights;	5	**I** the state / red **I** "gas made" **I** all other gas tests **A** glows brighter
2(e)	fizzing / bubbles / effervescence; limewater; milky / cloudy; (on addition of sulfuric acid) white precipitate / ppt / ppte;	3 1	 **I** all other gas tests **A** other description such as "becomes turbid"
2(f)	ammonium / NH_4^+; iodide / I^-;	2	**A** correct formula of ammonium iodide for both marks
2(g)	barium / lead / calcium / silver; carbonate;	2	**A** correct formula of appropriate carbonate for both marks

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