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Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY

0620/52

Paper 5 Practical Test

May/June 2016

MARK SCHEME

Maximum Mark: 40

Published

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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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
1(a)	M1 all 4 volumes of aqueous sodium thiosulfate completed to 1 decimal place; M2 all 7 times completed; M3 all times in seconds; M4 times increase from top to bottom;	4 1 1 1 1
1(b)	M1 y-axis scale is linear; M2 points cover at least half the available space on the y-axis; M3 and M4 : all points plotted correctly = [2] 6 points plotted correctly = [1] < 6 plotted correctly = [0] M5 best-fit straight line graph covering all plotted points;	5 1 1 2 1
1(c)(i)	M1 value from graph; M2 unit shown as s or seconds; M3 correct extrapolation of graph line shown;	3 1 1 1
1(c)(ii)	sketch line below the original line and diverging from the original line;	1
1(d)	as an indicator;	1
1(e)(i)	(more) accurate;	1
1(e)(ii)	solution is slow to run out of a pipette; difficult to know when to start timer / reaction does not start at once / inaccurate time measurement;	2 1 1
1(f)	difficulty in swirling / mixing;	1

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Question	Answer	Marks
2(a)(i)	no change;	1
2(a)(ii)	M1 white precipitate; M2 dissolves;	2 1 1
2(a)(iii)	M1 (turns) from purple / pink; M2 to colourless / white;	2 1 1
2(b)	yellow;	1
2(c)	M1 sodium; M2 sulfite;	2 1 1
2(d)	white;	1
2(e)(i)	any 3 from: • melts / becomes liquid; • correct description of sublimate; • litmus turns blue; • (solid) turns yellow; • pungent smell;	3
2(e)(ii)	pink / purple / mauve / lilac (solution);	1
2(f)	M1 red litmus / pH paper; M2 blue / dark green / pH > 7;	2 1 1
2(g)	ammonium / NH_4^+ ;	1

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3	making the salt any 4 from: • to a known volume sulfuric acid; • add named indicator; • add potassium hydroxide solution to the acid until the indicator changes colour/is neutralised; • note/measure volume of potassium hydroxide solution added; • repeat without indicator OR add (decolourising) charcoal; obtaining crystals any 2 from: • heat/evaporate solution to crystallising point OR <u>until half evaporated</u> OR <u>until crystals (start to) form</u> OR <u>until saturated</u>; • leave to cool; • filter to get crystals; • dry crystals (on filter paper)/leave to dry;	6
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