

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

## **MARK SCHEME for the May/June 2015 series**

### **0620 CHEMISTRY**

**0620/51**

Paper 5 (Practical), maximum raw mark 40

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.

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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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<b>Question</b>	<b>Answer</b>	<b>Marks</b>	<b>Additional Guidance</b>
1(a)	initial temperature box completed; other temperature boxes completed; trend in temperatures is comparable to Supervisor's results;	<b>3</b>	Temperatures should increase to a maximum then decrease
1(b)	initial temperature box completed; other temperature boxes completed; trend in temperatures is comparable to Supervisor's results;	<b>3</b>	Temperatures should increase to a maximum then decrease
1(c)	all 18 points plotted within half a small square = 3 marks 17 points plotted within half a small square = 2 marks 16 points plotted within half a small square = 1 mark; best fit smooth line/ intersecting straight lines; labels;	<b>5</b>	
1(d)	value read from graph; indication clearly shown;	<b>2</b>	
1(e)	exothermic;	<b>1</b>	
1(f)	to remove traces of acid A/clean; to remove water;	<b>2</b>	
1(g)(i)	experiment 2/ acid B;	<b>1</b>	
1(g)(ii)	acid B is stronger/ dibasic/ has a lower pH/ more acidic;	<b>1</b>	I more reactive/ more concentrated
1(h)	heat losses/ using a measuring cylinder/ thermometer/ cup not washed; insulate/ use burette/ digital thermometer/ new cup;	<b>2</b>	I repeat and average

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>	<b>Additional Guidance</b>
2(a)	white (crystals);	<b>1</b>	<b>A</b> colourless <b>R</b> precipitate
2(b)	melts / liquefies / bubbles / dissolves; steam / condensation / drops of liquid; pH 7–14;	<b>3</b>	<b>A</b> reference to smell <b>I</b> sublimation <b>A</b> colour: green / blue / purple <b>I</b> ammonia
2(c)	white; precipitate; dissolves / clears; pungent gas; pH paper green / blue / purple, pH > 7;	<b>5</b>	
2(d)	white; precipitate;	<b>2</b>	
2(e)	no reaction / no change / no precipitate / nothing;	<b>1</b>	
2(f)	white; precipitate;	<b>2</b>	
2(g)	alkaline gas / ammonia; hydrated / water;	<b>2</b>	
2(h)	not a halide / not a named halide;	<b>1</b>	
2(i)	ammonium / $\text{NH}_4^+$ ; aluminium / $\text{Al}^{3+}$ ; sulfate / $\text{SO}_4^{2-}$ ;	<b>3</b>	