CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0620 CHEMISTRY

0620/53 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.

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)	initial and final volumes completed correctly; to 1 d.p.; comparable to Supervisor's result ($\pm 0.3\,cm^3$);	**1** **1** **1**	
1(b)	initial and final volumes completed correctly; to 1 d.p.; comparable to Supervisor's result ($\pm 0.3\,cm^3$);	**1** **1** **1**	
1(c)(i)	to remove **M** / residue / impurities / to clean it;	**1**	
1(c)(ii)	to remove water / so **N** is not diluted;	**1**	**R:** **N** reacts with water
1(d)(i)	colourless / pale green to pink;	**1**	**R:** clear to pink **I:** red
1(d)(ii)	there is already a colour change / self-indicating / it goes pink / owtte;	**1**	
1(e)(i)	Experiment 1 / solution **M**	**1**	
1(e)(ii)	volume for Experiment 1 is twice volume for Experiment 2 / volume for Experiment 2 is half volume for Experiment 1;	**1**	
1(e)(iii)	solution **N** is twice as concentrated / strong ora;	**2**	**A:** solution **N** is more concentrated / stronger ora = [1]
1(f)	half value from result in table for Experiment 2; half volume (of **L**) used;	**1** **1**	
1(g)	*advantage:* easy to use / quick / convenient; *disadvantage*: not accurate owtte;	**1** **1**	**I:** reference to large volumes

Question	Answer	Marks	Guidance
2(a)	white / colourless (solid / crystals);		refer also to **(g)**
2(b)	any two from: • melts / turns into a liquid; • condensation at top of tube; • solid turns brown; • gas (pH 4) formed;	**2**	**I**: pungent smell
2(c)	pH 1–6	**1**	**I:** colours
2(d)	initial temperature recorded; final temperature recorded, less than initial temperature; effervescence / fizz / bubbles;	**1** **1** **1**	 **R:** gas evolved **I**: endothermic
2(e)	blue solution;	**1**	
2(f)	effervescence / bubbles / heat produced; lighted splint; pops;	**1** **1** **1**	
2(g)	white / grey / light blue (solid);	**1**	**(a)** and **(g)** correct required for the mark
2(h)	initial temperature; final temperature higher than initial; turns blue;	**1** **1** **1**	
2(i)	blue; precipitate;	**1** **1**	
2(j)	blue precipitate; dissolves / soluble / solution; deep / dark / royal blue (solution);	**1** **1** **1**	
2(k)	any two from: • hydrated / water; • acid; • organic;	**2**	
2(l)	copper (ions present);	**1**	