Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/62**

Paper 6 Alternative to Practical **March 2018**

MARK SCHEME

Maximum Mark: 40

Published

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 International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the March 2018 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

® IGCSE is a registered trademark.

This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

© UCLES 2018

PUBLISHED

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

© UCLES 2018

GENERIC MARKING PRINCIPLE 5: Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).
GENERIC MARKING PRINCIPLE 6: Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

© UCLES 2018

Question	Answer	Marks
1(a)(i)	line drawn on diagram between base line and bottom of paper and below dot	**1**
1(a)(ii)	water	**1**
1(b)	dropper / teat pipette	**1**
1(c)	so mixture is above / not in contact/does not run/dissolve in solvent	**1**
1(d)	is two substances / contains **D**	**1**
1(e)	insoluble	**1**
1(f)	2.8 to 3.2 / 5	**1**
	0.56–0.64	**1**

Question	Answer		Marks
2(a)	*table of results final reading and difference completed correctly* 11.6		**1**
2(b)	*table of results with final reading and difference completed* correctly 23.6 **and** 11.6		**1**
2(c)	*final reading completed correctly*	24.1	**1**
	initial reading completed correctly	0.9	**1**
	difference correct	23.2	**1**
2(d)	yellow to orange		**1**
2(e)	to remove impurities / chemicals / residue / solution / owtte		**1**
2(f)	3		**1**

© UCLES 2018

Question	Answer	Marks
2(g)	pipette / burette	**1**
2(h)	*effect* no effect	**1**
	reason no change in reactant concentrations / owtte	**1**
2(i)(i)	1:2	**1**
2(i)(ii)	different indicators used / owtte	**1**
2(j)	more than one colour change / cannot find end point	**1**
2(k)	repeat (experiments)	**1**
	compare / average / check spread of results	**1**

Question	Answer	Marks
3	tests on solution **M**	
3(a)	yellow / brown	**1**
3(b)	white	**1**
	precipitate	**1**
3(c)	no reaction / change / precipitate	**1**
3(d)(i)	<u>brown</u>	**1**
	precipitate	**1**
3(d)(ii)	no change / precipitate remains / insoluble	**1**

© UCLES 2018

Question	Answer	Marks
3	tests on solid **N**	
3(e)	carbon dioxide	**1**
3(f)	copper / transition element	**1**
	carbonate	**1**

Question	Answer	Marks
4		**max 6**

	gas volume	*mass loss*
M1	Mg added to sulfuric acid	Mg added to sulfuric acid
M2	in a suitable container with ability to have a bung	in a suitable container
M3	methods of measuring gas volume (gas syringe, downward displacement of water using a measuring cylinder)	on a balance
M4	start timer / timing (when added together)	start timer / timing (when added together)
M5	measure volume of gas	measure mass loss
M6	at set time / at end of experiment / at (regular) known intervals	at set time / time to end of experiment / at (regular) known intervals
M7	rate = volume ÷ time	rate = mass loss ÷ time

© UCLES 2018