Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/61**

Paper 6 Alternative to Practical **October/November 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 October/November 2018 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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

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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.

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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.

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 ide

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Question	Answer	Marks
1(a)	**M1** (A),C,F	**1**
	M2 B,D,E **OR** B,E,D **OR** D,B,E	**1**
1(b)	Evaporating / crystallising basin / dish	**1**
1(c)	To wash-out / dissolve / remove sodium chloride / salt	**1**
1(d)	Filtration	**1**
1(e)	Melting point	**1**

Question	Answer	Marks
2(a)	mass boxes correctly completed to 1 dp 86.0, 85.0, 84.4, 84.1,84.0, 83.9, 83.9, 83.9	**2**
	Loss in mass boxes correctly completed 0.0, 1.0, 1.6, 1.9, 2.0, 2.1, 2.1, 2.1	**1**
2(b)	points correctly plotted:	**2**
	smooth line graph;	**1**
2(c)	**M1** mass loss from graph at 30 seconds (0.5)	**1**
	M2 mass in M1 / 30 calculated (= 0.017)	**1**
	M3 g / s;	**1**
2(d)	Sketch steeper than original graph	**1**
	To same level	**1**

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Question	Answer	Marks
2(e)(i)	gas / carbon dioxide given off	1
2(e)(ii)	Allow gas to escape	1
	Prevent loss of acid;	1
2(e)(iii)	Reaction finished	1
	All nitric acid has reacted	1
2(f)	Advantage: more accurate;	1
	Disadvantage: slow	1

Question	Answer	Marks
3(a)	Sulfur dioxide;	1
3(b)	Potassium	1
	sulfite;	1
3(c)(i)	White	1
	precipitate;	1
3(c)(ii)	insoluble / remains / no change	1
3(d)	No / (very) slight white precipitate;	1
3(e)	No precipitate / reaction / change / remains colourless	1
3(f)	(red)litmus / pH paper / universal indicator paper	1
	turns blue / pH>7 / alkaline	1

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Question	Answer	Marks
4	**Method 1** • Coat/paint glass slide(or any suitable inert material) • With same amount / thickness of paint • (leave to) dry • Add controlled amount / drops of propanone • Until paint / coating removed • Count drops / measure volume • Repeat with ethyl ethanoate • Comparison / conclusion	**Max 6**
	Method 2 • Weigh slides • Add equal mass of paint to both • Leave to dry • Immerse each slide in 2 containers with each of solvents • Fixed volume of solvent / excess solvent • For set time interval / time • Dry and reweigh slides / to dissolve • Conclusion e.g. solvent causing greater mass loss is better or shortest time to dissolve is better	**Max 6**

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