

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2008 question paper**

<p><b>0620 CHEMISTRY</b></p> <p><b>0620/06</b>      Paper 6 (Alternative to Practical), maximum raw mark 60</p>
---

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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

<b>Page 2</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>er</b>
	<b>IGCSE – October/November 2008</b>	<b>0620</b>	

- 1 (a)** mortar (1)  
 stirrer/(glass) rod (1) not metal rod or thermometer  
 funnel (1) not filter or filter paper
- (b) (i)** water [1]
- (ii)** origin correctly labelled on diagram i.e. at dot [1]
- (c)** two spots/dots at different levels in vertical line [1]  
 allow three spots if one is origin
- [Total: 6]**
- 2 (a)** carbon/graphite/any unreactive metal e.g. platinum/nickel [1]
- (b)** lighted splint (1) pops (1) [2]
- (c)** gas dissolves (in the solution) o.w.t.t.e [1]
- (d)** alkali/(sodium) hydroxide (1)  
 chlorine/bleach (1) not chloride or chlorine ions [2]
- [Total: 6]**
- 3 (a)** heat indicated in wrong position (1)  
 no water in the trough (and collection tube) (1) [2]
- (b)** bromine/iodine (water) (1) turns colourless (1) not clear [2]
- [Total: 4]**
- 4 (a)** Table of results
- |                                       |     |                   |  |  |     |
|---------------------------------------|-----|-------------------|--|--|-----|
| Initial boxes correctly completed (1) | 24  |                   |  |  |     |
|                                       | 26  |                   |  |  |     |
|                                       | 21  |                   |  |  |     |
|                                       | 29  |                   |  |  |     |
| Final boxes correctly completed (1)   | 27  |                   |  |  |     |
|                                       | 22  |                   |  |  |     |
|                                       | 11  |                   |  |  |     |
|                                       | 23  |                   |  |  |     |
| Differences correctly completed (1)   | +3  | signs correct (1) |  |  |     |
|                                       | -4  |                   |  |  |     |
|                                       | -10 |                   |  |  |     |
|                                       | -6  |                   |  |  | [4] |

Page 3	Mark Scheme	Syllabus	er
	IGCSE – October/November 2008	0620	

- (b) all 4 bars correctly drawn (3), –1 for each incorrect labelled (1)
- (c) (i) solid **A**/Experiment 1 [1]  
(ii) temperature increased/heat given out [1]
- (d) Experiment 3 [1]
- (e) (i) double the value or  $(-)$ 8°C e.c.f. [1]  
(ii) half the value or  $(-)$ 3°C e.c.f. [1]  
(iii) more/larger volume of water (1) twice as much (1) for solid to dissolve in [2]
- (f) acid present (1) carbonate present (1) carbon dioxide (1) [max 2]

[Total: 17]

- 5 (a) solution K blue/green not precipitate [1]
- (c) tests on solution K
- (i) blue (1) precipitate (1) [2]  
(ii) blue precipitate [1]  
deep/royal (1) blue solution or precipitate dissolves (1) [2]  
(iii) no reaction/change/nothing [1]  
(iv) white precipitate [1]
- (d) tests on solution L
- (iii) no reaction/change/nothing [1]  
(iv) white precipitate [1]
- (e) acids [1]
- (f) iron (1) (III) (1) or  $\text{Fe}^{3+}$  (2) ignore anions [2]

[Total: 13]

<b>Page 4</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>er</b>
	<b>IGCSE – October/November 2008</b>	<b>0620</b>	

- 6 (a) Points plotted correctly (3), –1 for each incorrect  
smooth curve (1) not a straight line
- (b)  $47 \pm 1$  or reading from graph (1) curve extrapolated on grid (1) [2]
- (c) solid/crystals form owtte (1) 20g (1) [2]  
not solubility decreases

[Total: 8]

- 7 (a) heat/warm the acid (1)  
add excess oxide or description of no more solid reacting (1)  
filter/decant (1) [3]
- (b) heat qualified e.g. to crystallising point or description of e.g. using glass rod/leave it to  
evaporate (1)  
cool to form crystals (1)  
filter off crystals (1)  
method of drying crystals e.g. pressed filter papers/oven at low temperature (1) [max 3]

[Total: 6]

[Total for paper: 60]