

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2009 question paper  
for the guidance of teachers**

**0620 CHEMISTRY**

**0620/05**

Paper 5 (Practical Test), 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.

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- 1 observations bubbles/fizz/tube feels hot/magnesium dissolves [1]
- lighted splint (1) pops (1) [2]
- table of results**
- initial boxes correctly completed (1)
- final boxes correctly completed (1)
- comparable to supervisor's results (1) decreasing order (1) [4]
- (a) differences correctly completed [1]
- (b) all five bars correctly drawn (3), –1 for each incorrect labelled (1), if points plotted for graph = 1 [4]
- (c) (i) hydrogen [1]
- (ii) exothermic/redox/displacement  
not neutralisation/oxidation/reduction [1]
- (d) (i) experiment 1/A or from student's results ecf [1]
- (ii) sulfuric acid was the most concentrated/strongest [1]
- (e) (i) greater/higher ignore rate [1]
- (ii) half the value or half the value from the table/lower/decrease or less [1]
- (iii) more/larger volume of acid [1]
- (f) one error source from e.g.  
heat losses/use of measuring cylinders/magnesium pieces vary in mass/length [1]
- 2 (a) solution **K** colourless  
solution **L** colourless  
solution **M** colourless (1) for all three correct not white/clear [1]
- (b) check pHs from supervisor's results  
pH of solution **K** approx 8–12  
pH of solution **L** approx 11–14  
pH of solution **M** approx 0–3 (2) –1 for any incorrect [2]

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**tests on solution K**

- (c) (i) blue precipitate (1)  
 deep/royal blue solution or precipitate dissolves (1) [2]
- (ii) white (1) precipitate (1) [2]
- (iii) no reaction/change/colourless solution [1]

**tests on solution L**

- (d) (i) blue precipitate (1) [1]
- (ii) white precipitate (1) dissolves/clears (1) [2]
- (iii) brown (1) [1]

**tests on solution M**

- (e) white (1) precipitate (1) [2]
- (f) weak (1) alkali/base (1) or ammonia (2) [2]
- (g) strong (1) alkali/base/hydroxide (1) or sodium hydroxide (2) [2]
- (h) chloride (1) not chlorine ion  
 acid (1)  
 or hydrochloric acid (2) [2]