

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

**MARK SCHEME for the May/June 2010 question paper**  
**for the guidance of teachers**

**0620 CHEMISTRY**

**0620/63**

Paper 63 (Alternative to Practical), maximum raw mark 60

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 (a) Bunsen (burner) (1) tripod (1) condenser (1) [3]
- (b) (i) F (1) allow description
- (ii) G (1) allow description [2]
- 2 (a) pestle and/or mortar (1) accept diagram not bowl/crusher [1]
- (b) pour off/out liquid owtte (1) not separate/filter [1]
- (c) chromatography/chromatogram (1)  
 apply solution to paper (1)  
 use of (named) solvent (1) not water  
 conclusion/results/spots at different levels (1)  
 all marks can be scored from a labelled diagram  
 dipping paper in green solution = max 2 [4]
- 3 (a) volumes completed correctly  
 0, 20, 26, 41, 45, 46 –1 for each incorrect [3]
- (b) points plotted correctly including origin (3) –1 for each incorrect  
 smooth curve (1) [4]
- (c) point at 2 minutes (1)  
 off curve owtte (1) [2]
- (d) steeper curve (1) levels out at same volume (1) [2]

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- 4 (a) Table of results for Experiment 1  
temperature boxes completed correctly (2), –1 for each incorrect [2]  
23 25 27 26 25 24 23
- (b) Table of results for Experiment 2  
temperature boxes completed correctly (2), –1 for each incorrect [2]  
23 33 35 33 31 29 27
- (c) all points correctly plotted (3), –1 for any incorrect  
smooth line graphs (2) or two intersecting straight lines  
labels (1) [6]
- (d) value from graph  $\pm 1$  small square (1) shown clearly (1) [2]
- (e) (i) experiment 2 (1) [1]
- (ii) acid D more concentrated (1)  
stronger (1)  
more collisions (1) max [2]
- (f) to clean it/remove acid C owtte (1) [1]  
room temperature or initial temperature from table (1)  
reaction finished owtte (1) [2]
- 5 Tests on solid E
- (c) (i) white (1) precipitate (1)  
no change with excess/insoluble (1) [3]
- (ii) no reaction/thin/slight precipitate (1) [1]
- (d) contains water/hydrated (1) [1]
- (e) not a sulfate (1) accept not a carbonate [1]
- (f) ammonia (1) not ammonium [1]
- (g) nitrate (1)  
hydrated salt (1)  
not a sulfate (1)  
not a carbonate (1) max [2] [2]

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- 6 (a) electrolysis (1) [1]
- (b) platinum/graphite/carbon (1) [1]
- (c) (blue) litmus/universal indicator paper/pH paper (1)  
bleaches/turns white (1) [2]
- (d) hydrogen (1) [1]
- 7 add (named) acid/water/salty water to piece of copper/steel (1)  
heat (1)  
for specified/same time (1)  
observe reaction/effect (1)  
repeat with other metal (1)  
compare metals (1) [6]  
no reagents = 0 marks
- or heat metal (1)  
repeat with other metal (1)  
method for measuring conductivity (1) max [3] [3]

**[Total: 60]**