UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

0620 CHEMISTRY

0620/53 Paper 5 (Practical), 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 **(c)** table of results
initial readings completed correctly (1)
final readings completed correctly (1) all readings to 1 d.p. (1)
differences completed correctly (1)
comparable to supervisors (2) [6]

(d) pink (1) to colourless (1) **not:** clear [2]

(e) neutralisation / exothermic (1) [1]

(f) **(i)** C/3 smallest B/2 largest (1) one correct = 1 [1]

(ii) order is C/3 A/1 B/2 (2) one correct = 1 [2]

(g) experiment 2 is twice the volume of experiment 1 or converse (1) [1]

(h) twice value from table result for experiment 3 (1) cm^3 (1) [2]

(i) use a pipette / burette [1]

(j) effect none / owtte (1)
reason no change in concentration / temperature has no effect on quantities or moles / only affects speed (1) [2]

(k) any correct method that would work – precise details not needed
using same method with different acids = 0
reagents (1) method (1) result (1) [3]

e.g. to sodium hydroxide add named acid (1)
measure temperature change (1)
largest change = strongest / more concentrated solution (1)

e.g. to sodium hydroxide add named (excess)metal salt solution (1)
filter precipitate (1)
largest mass = strongest / more concentrated solution (1)

[Total: 21]

2 **(a)** **(i)** yellow / brown / orange (1) [1]

(ii) white / colourless (1) [1]

(b) (i) no change / no reaction owtte (1) [1]

(ii) white (1) precipitate (1) [2]

(iii) brown (1) precipitate (1) [2]

(iv) brown precipitate (1) [1]

(c) (i) solid white (1) condensation at top of tube (1)
limewater / blue litmus (1) milky / red (1) max 3 [3]

fizz / bubbles / effervescence (1) [1]

(ii) fizz / bubbles / effervescence / brown precipitate (1) [1]

(d) iron (1) (III) (1) chloride (1) [3]

(e) carbon dioxide (1) [1]

(f) carbonate / hydrogen carbonate (1)
non transition metal / named metal e.g. sodium (1) [2]

[Total: 19]