CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 series

0620 CHEMISTRY

0620/52 Paper 5 (Practical), maximum raw mark 40

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1 (a) Table of results for Experiment 1

initial and final volumes and differences completed correctly (1)

within ± 2 Supervisor (1)

all results (both tables) to 1 or 2 decimal places (including 0.0) (1) [3]

(b) Table of results for Experiment 2

initial and final volumes and differences completed correctly (1)

titre lower than experiment (1)

within ± 2 Supervisor (1) [3]

(c) (i) to speed up the reaction / owtte (1) [1]

(ii) colourless (1) **not:** clear, to brown / pink / purple / lilac / mauve (1) [2]

(iii) not an acid / alkali reaction or potassium manganate is coloured / self indicating owtte (1) [1]

(d) (i) experiment 1 **allow:** ecf from results (1) [1]

(ii) experiment 1 (about) 2x volume experiment 2 – quantitative relationship required. **allow:** ecf from results [1]

(iii) solution **B** / experiment 1 more concentrated / stronger or converse (1)

(about) 2x as concentrated – quantitative statement (1) [2]

(e) half value from table result for experiment 2 (1) cm^3 (1)

half volume / amount (of **C**) used (1) [3]

(f) (both) oxidation (1)
(and) reduction (occur) (1)

accept: answers using definitions of oxidation in terms of:
oxygen / hydrogen / electrons / oxidation numbers

transfer of electrons scores 2 [2]

(g) advantage: easy to use / quick / convenient (1)

disadvantage: not accurate owtte (1) [2]

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2 bubbles / fizz (ignore references to colour / ppt) (1) [1]

(a) pH = 7 (accept any in range 5 to 7, must be a number) (1) [1]

(b) **(i)** white precipitate (1)
dissolves / clears (1) [2]

(ii) white precipitate (1)
Insoluble / does not dissolve (1) (dependent on a ppt having been formed) [2]

(c) no change / colourless solution / no ppt / no reaction (1) [1]

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

(e) bubbles / fizz / effervescence (1)

limewater (1) milky (1) [3]

white (1) precipitate (1) [2]

(f) aluminium (1) sulfate (1) [2]

(g) carbon dioxide (1) [1]

(h) calcium (1) carbonate (1) [2]

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