CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0620 CHEMISTRY

0620/51 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 **(a)** table of results for Experiment 1
initial and final volume boxes completed correctly (1)
difference box correctly completed (1)
comparable to supervisors (1) ± 2 cm^3 [3]

(b) table of results for Experiment 2
initial and final volume boxes completed correctly (1)
difference box correctly completed (1)
comparable to supervisors (1) ± 2 cm^3
all readings to 1 dp (1) [4]

(c) fizzing / bubbles, etc. (1) [1]

(d) **(i)** pink (1)
not: purple

to colourless (1)
not: clear [2]

(ii) orange / pink (1) [1]

(e) **(i)** alkalis (1)
not: bases [1]

(ii) carbonate / carbon dioxide (1) [1]

(f) **(i)** difference in expt 1 – difference in expt 2 (1)
cm^3 (1) [2]

(ii) 2 × difference in expt 2 (1) [1]

(iii) greater volume needed to react with **T** (1)
allow: ecf from **(i)** and **(ii)** [1]

(g) **(i)** 4 × difference value expt 1 (1)
4 × difference value expt 2 (1)
four times volume of solution **R** (1) [3]

(ii) volume of acid used > 50 cm^3 / more than burette can hold (1)

set up two burettes / fill burette twice (1) [2]
guidance: reference to impurities (max 1)

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2 tests on solid **U**

(a) pink (1)

powder / crystals (1) [2]

(b) drops / condensation (1)

blackens / brown / dark solid (1) [2]

(c) any **five** from:
beige / (pale) brown (1)
precipitate (1)
fizzes / bubbles (1)
glowing splint (1)
relights (1)
black / darkens (1) [5]

(d) beige / (pale) brown precipitate (1) [1]

(e) white (1)

precipitate (1) [2]

(f) no reaction / change / no precipitate (1) [1]

(g) not a chloride / halide (1) [1]

(h) oxygen / O_2 (1) [1]

(i) any **three** from:
sulfate (1)
hydrated salt (1)
transition metal (1)
catalyst (1) [3]

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