UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the November 2005 question paper

0620 CHEMISTRY

0620/06 **Paper 6 (Alternative to Practical), maximum mark 60**

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

The minimum marks in these components needed for various grades were previously published with these mark schemes, but are now instead included in the Report on the Examination for this session.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

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1 (a) boxes filled in correctly to show:

measuring cylinder (1)

spatula (1)

beaker (1) **[3]**

(b) blue **[1]**

(c) heat (1)

to crystallising point (1) **[2]**

2 (a) electrodes correctly labelled **[1]**

(b) bubbles at positive/negative electrode (1)

bulb lights up (1) **[2]**

(c) lighted splint (1)

pops (1) **[2]**

3 (a) pestle (1) and mortar (1) **[2]**

(b) chlorophyll more soluble in ethanol or similar **[1]**

(c) filtration **[1]**

(d) chromatography (1), paper (1), add pigments (1), use of solvent (1) **[4]**

4 **Table of results:**

volumes of gas correctly completed (21, 24, 39, 47 and 56)
- 1 for each incorrect **[3]**

(a) points correctly plotted in graph (3), - 1 for each incorrect

straight line (1) **[4]**

(b) experiment 2 (1)

not on line (1) **[2]**

(c) **(i)** experiment 5 (1)

(ii) strongest/more concentrated acid (1)

more collisions (1) **[3]**

(d) marble chip visible (1)

acid used up (1) **[2]**

(e) **(i)** e.g. size of chips different/starting the timer **[1]**

(ii) measure mass of chips/time individual experiments **[1]**

5 **(b)** **(i)** white (1)

precipitate (1)

dissolves (1) **[3]**

(ii) white (1)

precipitate (1)

insoluble (1) **[3]**

(c) acid gas/named/hydrated salt **[1]**

(d) not a sulphate (1)

not a halide (1) **[2]**

(e) ammonia **[1]**

(f) nitrate (1)

hydrated/water (1) **[2]**

6 **(a)** 2 arrows in correct positions (1) each **[2]**

(b) bromine (water) (1)

goes colourless (1) **[2]**

(c) suck-back problem **[2]**

7 **(a)** soil sample + water (1)

stir/heat (1)

filter (1)

add Universal Indicator (1)

chart (1) **[5]**

(b) more samples (1)

different parts of field (1) **[2]**

Total 60