UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the June 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.

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Grade thresholds for Syllabus 0620 (Chemistry) in the June 2005 examination.

	maximum mark available	minimum mark required for grade:			
		A	C	E	F
Component 6	60	48	38	27	22

The threshold (minimum mark) for B is set halfway between those for Grades A and C.
The threshold (minimum mark) for D is set halfway between those for Grades C and E.
The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.
Grade A* does not exist at the level of an individual component.

June 2005

IGCSE

MARK SCHEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 0620/06

CHEMISTRY
Alternative to Practical

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1 **(a)** boxes completed retort/clamp stand (1)
(teat) pipette/dropper (1)
Bunsen burner (1)
[3]

(b) hydration/exothermic (1) **[1]**

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

(b) bubbles at positive electrode (1), bubbles at negative electrode (1)
bulb lights up/smells of bleach/greenish gas (1) **[3]**

(c) **(i)** chlorine (1) **[1]**

(ii) litmus/indicator (1) bleached/colourless (1) **[2]**

3 volumes from syringe diagrams;

15, 45, 61, 73, 74, 80 and 80 all correct (4) (-1 for each incorrect) **[4]**

(a) graph:
all points plotted correctly (3) (-1 for each incorrect)
smooth curve (1) **[4]**

(b) volume of acid from graph, 10.5 → 11.5 (1) **[1]**

(c) volume of hydrogen from graph, 29.5 → 30.5 (1) **[1]**

4 table of results:

all initial and final volume boxes correctly completed 0.0, 10.6, 14.9 36.1 (3)

difference boxes correctly completed, 10.6, 21.2 (1) **[4]**

(a) neutralisation (1) **[1]**

(b) **(i)** experiment 2 (1) **[1]**

(ii) experiment 2 more/greater volume (1) x 2 (1) **[2]**

(iii) **M** more concentrated/stronger than N (1) x 2 (1) **[2]**

(c) 21.2 (1) cm^3 (1)

twice as much calcium hydroxide (1) **[3]**

(d) e.g. use a pipette/burette <u>instead of a measuring cylinder</u> (1) **[1]**

5 **(b)** **(i)** fizz/bubbles (1) pops (1) **[2]**

(ii) fizz/bubbles (1) limewater milky (1) **[2]**

(c) weak (1) **[1]**

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(d) **(i)** hydrogen (1) **[1]**

(ii) carbon dioxide (1) **[1]**

(e) copper (1) 2+ (1) **[2]**

6 **(a)** no/little water present/little water implied (1) **[1]**

(b) any value less than 7 (1) **[1]**

(c) chromatography (1) apply to paper (1) use of solvent (1)

description of two yellow spots (1) **[4]**

paper in drink = max 2

7 **(a)** straight line (1) DRAWN WITH A RULER **[1]**

(b) inaccurate point is at pH 5 (1) not on line (1) **[2]**

(c) % corrosion decreases as pH increases (1) **[1]**

8 same amount/measured volume of peroxide (1)

add known mass of metal oxide (1)

time (1) measure volume of oxygen (1)

repeat with other oxide (1) compare/conclusion (1) **[6]**

method will not work = 0

Total 60

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