UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2006 question paper

0620 CHEMISTRY

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

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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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UNIVERSITY of CAMBRIDGE
International Examinations

1 (a) Boxes filled in correctly to show
tongs(1)
watch glass/evaporating basin/dish(1)
beaker(1) **[3]**

(b) oxidation/combustion/exothermic/redox(1) **[1]**

(c) > 7(1) **[1]**

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

(b) oxygen used in rusting(1) <u>not</u> air **[1]**

(c) $\frac{25}{150} \times 100$ (1) = 17%/ 16.6 → 17%(1) 2 for correct answer **[2]**

(d) more rust/quicker to rust/water further up tube/tube fills up(1) **[1]**

3 table of results
all volumes correct (2) 0, 9, 35, 62, 81, 88, 89 **[2]**
-1 for any incorrect

(a) graph
points (2) S-shaped curve joining all points(1) **[3]**

(b) exothermic/displacement/oxidation/redox(1) **[1]**

(c) (i) slow at start/speeds up/slows down at end max 2 **[2]**

(ii) surface dirty owtte at start/then clean/calcium being used up/warms up max 2 **[2]**

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4 table of results

(a) temperatures correctly completed(3) differences(1)

zinc	24	56	32
iron	25	41	16
magnesium	23	69	46

-1 for each incorrect **[4]**

(b) (i) magnesium(1) **[1]**

(ii) gas evolved rapidly/reacts(1) greatest (temperature) difference(1) **[2]**

(iii) hydrogen(1) **[1]**

(c) Table of results temperatures correct (6) **[6]**

Time /s	zinc	magnesium
0	24	26
10	27	54
20	29	62
30	33	67
40	37	68
50	40	67
60	43	65

(d) Graph. Points plotted correctly(2) - 1 for each incorrect
Smooth lines(1) labels(1) **[4]**

(e) temperature after 5s/ 25-26°C ± 0.5°C(1) indication on grid(1) **[2]**

(f) sketch line for Mg below powder Mg(1)
sketch line for iron powder below zinc/ any line below top curve(1) **[2]**

(g) prevent heat loss/insulation(1) **[1]**

(h) one improvement e.g. use a burette/pipette to measure solution/ lid(1) **[1]**

5 (a) (ii) red(1) litmus turns blue(1) reference to smell(1) max 2 **[2]**

(c) weak(1) acid(1) **[2]**

(d) ammonia(1) **[1]**

(e) ammonium chloride(1) **[1]**

(f) potassium iodide(1) **[1]**

6 (a) paint sample + water(1) filter(1) solid residue(1) max 2 **[2]**

(b) solid + organic solvent(1) add to paper(1)
chromatography(1) use of solvent(1) description of spots(1)
max 4 NB use of water = max 1 for chromatography **[4]**

(c) (i) apply paint, start timer(1) method of checking dry, note time(1)
no painting = 0 **[2]**

(ii) correct method(1) e.g. hair drier/wind/fan/increase temperature.
NOT catalyst. **[1]**

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[Total 60]

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