CAMBRIDGE
INTERNATIONAL EXAMINATIONS

NOVEMBER 2002

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 60

SYLLABUS/COMPONENT : 0620/6

CHEMISTRY
(ALTERNATIVE TO PRACTICAL)

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

Question Number	Mark Scheme Details	Part Mark
1	(a) A – spatula only (1)	
	B – beaker only (1)	
	C – funnel (1) not filter	3
	(b) more than enough to coat (1) / residue	1
	(c) 6–7 (1)	1
2	(a) top box – sulphuric acid (1)	
	bottom box – sodium chloride (1)	2
	(b) gas passed through water (1)	
	gas is soluble in water (1)	2
	gas collected by upward delivery (1)	
	gas is denser than air (1)	2
	(c) fume cupboard / goggles (1)	1
	or well-ventilated room / gloves	

marks independently

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3 (a)	Points correctly plotted (2), −1 for each incorrect.	
	Smooth line graph, ignoring 3 minutes point (1)	3
(b)	Point at 3 minutes, 256.6g (1)	
	not on curve (1)	2
(c)	gas given off (1)	1
(d)	to prevent loss of acid (spray) (1) / only gas out	1
(e)	5 minutes (1)	1
(f)	Sketch graph below original graph (1)	
	levelling off at same mass (1)	2

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4 (c)	Table of results.	
	Initial temperatures correct (2) – 1 for any incorrect 18 21 19 22	
	Maximum temperature correct (2) 23 24 79 22	
	Differences correctly calculated (2) 5 3 60 0	6
(a) (i)	magnesium (1)	1
(ii)	Greatest temperature rise (1) Observation – gas given off rapidly (1) / fastest	2
(iii)	Hydrogen (1)	1
	Experiment 2 Initial temperature 21 (1) maximum temperature 39 (1)	2

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4(b)	temperature rise (1)	1
(c)	redox / displacement (1)	1
(d)	least copper iron zinc most magnesium (1)	1
5(c)	catches fire / ignites (1) yellow / blue flame (1) / smoky	2
(d)	yellow (1) precipitate (1)	2
(e)	cream / white (1) precipitate (1) / yellow	2
(f)	organic (1) hydrocarbon (1) / alkane / alkene (1) 2 max.	2

Question Number	Mark Scheme Details	Part Mark
6 (a)	pipette / burette (1)	1
(b)	name (1) not Universal Indicator, litmus eg methyl orange / phenolphthalein.	1
	colour change (2) eg yellow (1) to orange / pink (1)	2
for litmus	blue (1) → purple / red (1) pink (1) to colourless (1)	
(c)	The acid (1) less needed to neutralise the KOH (1)	2
(d)	repeat experiment (1) without indicator (1) / charcoal evaporate solution (1) to crystallising point (1) max 3	3
	max indicator = max 2	

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7	known mass of fertiliser (1) Add known volume of water (1) Warm to 30°C (1) Stir (1) Filter (1) / Evaporate to dryness Dry and weigh residue (1) Work out solubility (1) max 6 / conclusion Total	6 60