

JUNE 2002

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK : 60

SYLLABUS/COMPONENT : 0620/6

**CHEMISTRY
(ALTERNATIVE TO PRACTICAL)**



Question Number	Mark Scheme Details	Part Mark
1 (a)	<p><u>A</u> - (thistle) funnel (1)</p> <p><u>B</u> - (conical) flask (1)</p> <p><u>C</u> - gas jar (1)</p>	3
(b)	→ into thistle funnel (1)	1
(c)	<p>limewater (1) milky (1) not spirit test</p> <p>/cloudy</p>	2
2 (a)	(i) red / pink (1)	1
	(ii) colour of drink interferes or similar (1)	1
(b)	<p>heat (1) condense (1) / ^(fractional) distillation (2)</p> <p>/boil / evaporate</p>	2
(c)	<p>chromatography (1) drink applied to</p> <p>paper (1) solvent (1) only two spots (1)</p> <p>/water /ethanol max 3</p>	3

Question Number	Question (including any Source Details)	Part Mark
3 (a) (i)	to keep the magnesium out of contact with acid or similar (1)	1
(ii)	to <u>measure</u> volume of gas (1) not collect	1
(b)	shake the flask / let go cotton (1)	1
(c)	excess - more than enough to react (1)	1
(d)	<u>Grid</u> All points correctly plotted (2) (-1 for each incorrect) smooth line graph (1)	3
(e) (i)	At 2 minutes (1) not on smooth curve (1)	2
(ii) (1) (1)	15 cm ³ (± 1) (1) , indication (1)	2
(g) (1) (1)	curve on/below original graph levelling out at 40 cm ³ (1)	1
4 (a)	bubbles / fizz / water turns cloudy (1) <small>calcium smaller / gets hot</small> <small>not d. solve.</small>	1
(b)	gas given off moves the pieces (1)	1
(c)	> 7 (1)	1

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5	<p>Table Experiment 1 24.9 cm³ 24.9</p> <p>Completed Difference 24.9 cm³ (1)</p> <p>Experiment 2 12.5 cm³ 12.5</p> <p>Difference 12.5 cm³ (1)</p>	2
(a) (i)	Experiment 1 (1)	1
(ii)	more in Experiment 1 (1), 2x as much / double volume for Expt 2 (1)	2
(iii)	Solution <u>B</u> 2x as concentrated as <u>A</u>	1
(iv)	25.0 (1) cm ³ (1) eq for volume	2
(v) (b)	iron (iii) (1)	
	brown precipitate (with sodium hydroxide) (1)	2
(c)	use a burette to measure the iron(II) ions (1) / pipette	
	more accurate (1) not syringe	2

Question Number	Mark Scheme Details	Part Mark
6 (a) (i)	blue (1) precipitate (1)	2
(ii)	blue precipitate (1) dissolves (soluble (1) / solution) <u>deep / royal</u> blue (1)	3
(e)	oxygen (1) / O_2	1
(f)	chlorine (1) / Cl_2	1
(g)	catalyst / oxidising agent (1) transition metal / manganese (1) max 2 oxide	2
7 (a)	$MnO_2 = (2)$ reagent (1) indicator	2
(b)	eg bromine (1) decolourise in propene, stays same in propane (1)	2
(c)	barium chloride (1) white precipitate in H_2SO_4 (1) no change in HNO_3	2

