June 2004

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 0620/06

CHEMISTRY
Alternative to Practical



	Page 1			abus 320	Paper 6			
1	(a)		A Funnel B Flask C (Teat) Pipette/dropper	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 1 1	[3]		
	(b)		Increase surface area Reference to rate/efficiency/easily	1 1	[2]			
	(c)		pH may be different/vary at different places/fair test	1	[1]			
	(d)		Reference to plants/crops growth No plants	1 0	[1]			
2	(a)		First 4 Second 3		1	[1]		
	(b)		Water and air/oxygen necessary for rusting Statement referring to any tube e.g. no water and air in tube	1 1	[2]			
3	(a)		Bulb lights up/silver liquid/metal formed/bubbles/fizz/lead x	Bulb lights up/silver liquid/metal formed/bubbles/fizz/lead x				
	(b)	(i)	Suitable material e.g. carbon/graphite/steel/Pt/Ag/An	1	[1]			
		(ii)	Indication on diagram of cathode	1	[1]			
	(c)		Bromine/Br ₂ Anode/positive		1 1	[2]		
	(d)		Reference to toxicity of bromine/lead/lead bromide NOT harmful/dangerous	1	[1]			
4			Experiment 1 Temperatures correct (-1 any incorrect)	2	[2]			
			Time/Min 0 0.5 1 1.5 2 2.5 3 3.5 4 Temp/°C 22 24 26 28 29 30 30 29 28	4.5 5 27 2				
			Experiment 2 Temperatures correct (-1 any incorrect)	2	[2]			
			Time/Min 0 0.5 1 1.5 2 2.5 3 3.5 4 Temp/°C 21 19 17 15 14 13 13 14 15		5 7			
	(a)		Graph. Points plotted correctly (-1 each incorrect)	3				
			Smooth lines/curves Labelled	2 1	[6]			
	(b)	(i)	Temperature from graph 29.5°C ± 0.25°C		1			
			Temperature from graph 13.5°C		1	[2]		
		(ii)	 Exothermic Endothermic 		1 1	[2]		
	(c)		Carbonate Fizz/gas with acid		1 1	[2]		

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	(d)	(i) (ii)	22°C 21°C Reference to room temperature/reaction finished	No units only (1 1 1	[3]
5	(a)	(i)	White Precipitate		1 1	[2]
			No change/white precipitate/insoluble in excess		1	[1]
		(ii)	No/thin precipitate/no reaction		1	[1]
	(b)		Ammonia		1	[1]
	(c)		Reference to limewater/test for carbon dioxide		1	[1]
	(d)		Nitrate Alkali/hydroxide/oxide		1 1	[2]
6	(a)		Indication of copper oxide		1	[1]
	(b)		Black to red/pink/brown		1	[2]
	(c)		To cool/condense Steam/water		1 1	[2]
7	(a)		Anhydrous copper sulphate/cobalt chloride Goes blue/pink in water, no change for ethanol		1 1	[2]
	(b)		Add indicator/named indicator or CO ₃ ² -/Mg Turns red/correct colour in acid, no change for sodiul	m sulphate	1 1	[2]
	(c)		Add silver nitrate White precipitate with hydrochloric acid, no change w	vith nitric acid	1 1	[2]
8			Add known mass of manganese oxide To (measured volume of) hydrogen peroxide Bubbles Test gas with glowing splint Result Filter Dry solid Reweigh and compare (max 6)		1 1 1 1 1 1	[6]
			(IIIax V)	T. (. 1.5		
				Total for Pa	per	[60]