

JUNE 2002

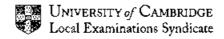
INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 0653/6

COMBINED SCIENCE (ALTERNATIVE TO PRACTICAL)



1.	(a) 1.1, 1.4, 1.8, 2.0 cm	[4]
	 (b)(i) points plotted correctly (2) smooth line of best fit (if extended, must pass through origin)(1) (ii) activity increases with surface area (1) proportional to surface area(1) 	[3] [2]
	(iii) more cells cut more enzyme released greater surface area	[1]
	total 10 marks	
2.	(a) (i) 40 cm (1) (ii) 40cm (1) (iii) 40g (1)	[3]
	(b) (i) 30 x 40 = 1200 m x 10 = 1200 m = 120 g (working must be shown) (ii) 4 cm side (1), volume = 4 ³ = 64 cm ³ (1) (working must be shown)	[3] [2]
	(c) (i) arrow points towards the pivot (1) (ii) because the cube is lighter in water OWTTE (1)	[2]
	Total ten marks	
3.	(a) (potassium carbonate), because there is a residue on adding KHCO3 to water OWTTE (mark for reason)(1)	[1]
	(b) (i) any value above 7 (ii) It increases	[1] [1]
	(c) carbon dioxide (1)	[1]
	(d) ammonia (1)	[1]
	(e) no gas given off (1) white ppt (1)	[2]
	(f) Place hydrochloric acid in a suitable vessel and add the white powder (1) using a thermometer to find the temperature before and after the reaction (1) temperature rise with potassium carbonate	
	or fall with potassium hydrogenearbonate (1)	[3]

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Paper

Syllabus 0653

total ten marks

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	(a) te	mperature/ air(oxygen)) light		[1]
	dis dis dis (ii)	suitable table drawn to germination and grow h A germinated and h B germinated but h C no germination acid rain reduces germ effect more marked w	oth(1) d grown successful it growth stunted C no growth (1) nination and stunts	ily (1) DWTTE (1) growth (1)	[4]
	(c)	make solutions of known number of see grow in controlled con count and work out pe	ds (1) nditions (1)	ny 3 points	[3]
	(a) att	racts insects (1) to pol	•		[2]
	(b) etl	nanol dissolves colour	better better solver	it than water (1)	[1]
	(c)(i)	closed (1) vessel with (ii) two spots shown(1	eluent (1) below st 1) vertically above	art line(1) start line (1)	[3] [2]
		d acid alkali to see col e or both reagents nam			[2]
		tot	al 10 marks		
	(a) 7	8 57 47 mA			[3]
.′	(b)	points plotted correctl smooth curve (NOT s	• • •		[2]
	(c)	36mA (answer based	d on candidate's gr	aph))	[1]
	(d)	42 ohms (error carrie	ed forward)		[1]
	and wire	ircuit drawn including ariable resistor showi or resistor(1) nation, vary resistance	ing a voltmeter in p	parallel with a suit	able
	-	V against A and obtain rigin OWTTE (1)	n a straight line pas	sing through	[3]