CAMBRIDGE
INTERNATIONAL EXAMINATIONS

November 2003

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0625/06

PHYSICS
Alternative to Practical

UNIVERSITY of CAMBRIDGE
Local Examinations Syndicate

Page 1	Mark Scheme	Syllabus	Paper
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1	(a)	wind string round more than once		1
		divide measured length by number of turns to find c		1
	(b) (i)	correct diagram, blocks parallel, one at each end		1
	(ii)	119 mm OR 11.9 cm to 121 mm OR 12.1 cm		1
	(c)	V = 32.39 to 32.41		1
		cm^3		1
	(d) (i)	V_m = 0.5 – 2 cm^3		1
	(ii)	correct calculation and 2/3 sf	(ignore unit)	1
				TOTAL 8
2	(a) (i)(ii)	2 neat continuous rays	(thickness up to as EF)	1
	(iii)	normal where incident ray meets mirror (90° by eye)		1
	(iv)	i = 20° ± 1° (allow e.c.f. if mark for normal not scored)		1
	(b) (i)(ii)	lines complete and neat with AX correctly intersecting		1
	(iii)	AY = 5.9 – 6.1 cm AND YX = 5.5 + 0.3 cm		1
	(c)	any one from:		
		thickness of mirror		
		thickness of lines		
		thickness of pins		
		judgement of where lines cross		1
				TOTAL 6
3	(a)	pointer at 0.35 A		1
	(b) (i)	variable resistor/rheostat/potentiometer		1
	(ii)	V		1
		A		1
		Ω		1
		One R correct		1
		All R correct	(6.129, 5.769, 4, correctly rounded)	1
		Consistent sf for R (either all 2 sf or all 3 sf)		1
	(iii)	variable resistor/number of cells		1
	(c)	Voltmeter in parallel with resistors (or power source)		1
		Ammeter next to X		1
		Symbols correct and all connections drawn in		1
				TOTAL 12

Page 2	Mark Scheme	Syllabus	Paper
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4	**(a)**	Scales: y-axis 1N = 4 cm; x-axis 1m/s2 = 4/5 cm right way round	1
		Both axes labelled with quantity and unit	1
		Plots to ½ sq (-1 each error or omission, minimum mark zero)	2
		Line thickness less than 1 mm and no 'blob' plots	1
		Well judged best fit single straight line	1
	(b)	Large triangle used (> ½ line) clear on graph	1
		Interpolation to ½ sq (if large enough triangle present)	1
		Value 1.38 – 1.48	1
		kg and 2/3 sf	1
			TOTAL 10
5	**(a)**	Two from:	
		same volume of water	
		same starting temperature of water	
		same size/shape/type beakers	
		same thickness/mass/volume of insulator	
		same room temp	2
	(b)	64°C (with unit)	1
	(c)	B	1
			TOTAL 4