CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 series

0625 PHYSICS

0625/53

Paper 5 (Practical), maximum raw mark 40

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



Page 2		Mark Scheme	Syllabus	Paper
		IGCSE – October/November 2013	0625	53
(a)	m < 250 V_1 value unit cm^3	= <i>m</i>		[1] [1] [1]
(b)	V ₂ within	10% of <i>V</i> ₁		[1]
(c)	D calcula	all present and $d_1 > d_2$ ation correct to at least 1 d.p. ated correctly and $> V_1$ and V_2 and 2 or 3 significant	t figures only	[1] [1] [1]
(d)	some wa measurir parallax	2 – any one from: iter left in cup/spilt ng cylinder not read at eye level/perpendicularly/bot explained	tom of meniscus	[1]
	d_1 not at d_1 and d_2 difficult to	 3 – any one from: liquid level not inside diameters measure h (because of sloping side) asured at eye level/perpendicularly/parallax explain 	ed	[1]
(e)	mass of	cup / zero reading on balance		[1] [Total: 10]
(a)	times con θ beaker θ to at least	rect (symbols or words) rect (<u>0</u> , 30, 60, 90,120,150,180) A <u>and</u> θ beaker B decreasing ast 1°C came change in 180s in beaker B compared to A		[1] [1] [1] [1]
(b)	and justif	nt matching temperature changes (accept 'no signifi- fication matching statement (<u>comparison</u> of tempera specific mention of temperature <u>change</u> in <u>same tir</u>	iture changes)	justified) [1] [1]
(c)	same siz same vol same init same roo	ate condition relating to <u>comparison</u> , any one from: re/thickness of beaker lume of water tial temperature om temperature / appropriate environmental conditione for cooling	on	[1]

1

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Page 3		ge 3	Mark Scheme	Syllabus	Paper
			IGCSE – October/November 2013	0625	53
((d)	put l	sensible alteration e.g.: lid on/cover top of A a experiment without insulation or lid / take lid off B		[1]
		mos	ching explanation e.g.: It thermal energy loss by convection o.w.t.t.e. It only changed one factor o.w.t.t.e.		[1]
					[Total: 10]
3 ((a)		ential differences all < 2.5 V <u>and</u> to at least 1 d.p. ents all < 1.50 A <u>and</u> to at least 2 d.p.		[1] [1]
	(b)	appi plots	s labelled, with units ropriate scales (plots occupying at least ½ grid) s correct to ½ square t-fit line and thin, neat line, neat plots		[1] [1] [1]
((c)		triangle method seen <u>on graph</u> large triangle (at least 1/2 candidate's line)		[1] [1]
		` '	$R = M \underline{\text{and}} < 2.0$ 2 or 3 significant figures $\underline{\text{and}}$ unit Ω (symbol or word)		[1] [1]
					[Total: 10]
4 ((a)		ray trace: normal correct CD at 20° within 1° and equivalent reflected line in cor CD at 30° within 1° and equivalent reflected line in co all lines thin and neat $P_1 - P_2$ pin separation at least $5\mathrm{cm}$		[1] [1] [1] [1] [1]
			table: $\theta = 40^{\circ} \text{ and } 60^{\circ} \text{ within } 2^{\circ} \text{ (e.c.f. from candidate's } \alpha \text{)}$		[1]
•	(j)		definite statement matching results (expect YES but and justification matching statement (expect 'within the range of experimental accuracy' o values from results shown/used (correctly w.r.t. state	.w.t.t.e.)	ce >10%) [1] [1]
	(k)		any two suitable precautions: thin lines/fine pencil view protractor perpendicularly/parallax explained lines through centre of pin holes pins well separated pins vertical/not bent/viewed at base place mirror so that reflecting surface is on line o.w.t.	t.e.	[2] [Total: 10]