CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 series

0625 PHYSICS

0625/63

Paper 6 (Alternative to 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		ge 2	Mark Scheme	Paper	
			IGCSE – October/November 2013	Syllabus 0625	63
1	(a)	m = 180.2(0) and unit (g) V_1 value = m unit $\underline{\text{cm}}^3$ c.a.o.		[1] [1] [1]	
	(b)	V ₂ = 170	c.a.o.		[1]
	(c)	D = 6.2 t	to 7.4, d_2 = 5.0 to 5.1, h = 7.9 to 6.3 allow e.c.f. to 246 <u>and</u> 2 or 3 significant figures only allow e.c.f.		[1] [1] [1]
	(d)	some was measuring parallax of d_1 not at	2 – one from: ater left in cup/spilt ng cylinder not read at eye level/perpendicularly/bott explained 3 – one from: liquid level 2 not inside diameters	om of meniscus	[1]
		difficult to	o measure <i>h</i> (because of sloping side) easured at eye level/perpendicularly/parallax explain	ed	[1]
	(e)	mass of	cup / zero reading on balance		[1] [Total: 10]
2	(a)	A = 87(°0	C) <u>and</u> B = 88(°C)		[1]
	(b)		rect (symbols or words) rrect (<u>0</u> , 30, 60, 90, 120, 150, 180)		[1] [1]
	(c)	and justif	nt matching temperature changes (accept 'no sign fication matching statement (comparison of tempera g specific mention of temperature change in same tin	ture changes)	if justified) [1] [1]
	(d)	i.e. any o same siz same vol same init same roo	ate condition relating to comparison one from: ce/thickness of beaker lume of water tial temperature om temperature / appropriate environmental conditione for cooling	on	[1]

Page 3		Mark Scheme	Syllabus	Paper
	_	IGCSE – October/November 2013	0625	63
	put lid extra e match most t	ensible alteration e.g. on/cover top of A experiment without insulation or lid / take lid off B ing explanation e.g. hermal energy loss by convection or o.w.t.t.e. only changed one factor or o.w.t.t.e.		[1] [1] [Total: 8]
3	(a) correc	t symbol connected in parallel		[1]
	ar pl	kes labelled, with units opropriate scales (plots <u>occupying</u> at least ½ grid) ots correct to ½ square est-fit line <u>and</u> thin, neat line, neat plots		[1] [1] [1]
	` '	angle method seen <u>on graph</u> rge triangle (at least 1/2 candidate's line)		[1] [1]
		correct from M and in range 0.7 to 0.8 or 3 significant figures and unit Ω (symbol or word)		[1] [1]
				[Total: 9]
4	(a) norma	al correct and pin separation at least 5 cm		[1]
	θ	oth reflected lines in correct place (through P_3 , P_4/P_5 , P_4/P_5), P_4/P_5 ,	P ₆) <u>and</u> thin/neat	[1] [1] [1]
	<u>and</u> ju (exped	e statement matching results (expect 'Yes' but allow e. stification matching statement ct 'within the range of experimental accuracy' or o.w.t.t. from results shown/used (correctly w.r.t statement)		%) [1] [1]
	thin lin view p lines tl	vo suitable precautions: nes / fine pencil protractor perpendicularly/parallax explained hrough centre of pin holes vell separated		
		ertical/not bent/viewed at base mirror so that reflecting surface is on line o.w.t.t.e.		[2]
	piaco			
				[Total: 8]

Page 4	Mark Scheme	Syllabus	Paper
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(a) neat, clear table with column headings and correct units

results arranged in order

5

(b) (i) 40°

(ii) plot a line graph [1] reading will clearly not lie on line allow suggestion of appropriate mathematical treatment

[Total: 5]

[1]

[1]