## **CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**International General Certificate of Secondary Education** 

## MARK SCHEME for the May/June 2013 series

## 0625 PHYSICS

0625/62

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 May/June 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 – May/June 2013	0625	62
1	(a)	(i)(ii)	M values 112.3, 113.5 (to 3 or 4 sig. figs <b>only</b> ) g at least once, not contradicted (symbols or words)	)	[1] [1]
		(iii) 113	or 112.9 or correct average of candidate's values (ig	gnore sig. figs)	[1]
	(b)	114 (g) d	c.a.o.		[1]
	(c)	mass X reference mass of	f mass of rule not at 50.0 cm not uniform / of varying density e to difficulty in obtaining balance implied o.w.t.t.e.		[2]
		111400 110	t chacky roog		[-]
	(d)	one from: mark line through the centre of the mass (can award from diagram) use position of edges of mass on rule			
					[1]
					[Total: 7]
2	(a)	$\theta_{\rm C}$ = 19 (	(°C)		[1]
	(b)	s, °C, sy	mbols or words		[1]
	(c)	12 cm <sup>3</sup> (ι	unit needed)		[1]
	(d)		cm <sup>3</sup> ), (expect 42 cm <sup>3</sup> e.c.f. <b>(c)</b> ) e given to nearest 1 cm <sup>3</sup> only and sensible method		[1] [1]
	(e)	initial ho initial co	n: urrounding temperature / other environmental condit t water temperature Id water temperature ' mass / amount of hot water	tion	
			ay on adding cold water / same time for cooling		[2]
					[Total: 7]

	Page 3		Mark Scheme	Syllabus	Paper
			IGCSE – May/June 2013	0625	62
3	(a)	(i) $V_1 = I = 0$	0.7 (V) 0.45 (A)		[1] [1]
		(ii) R <sub>1</sub> =	1.56 or 1.6 (Ω) e.c.f. (i)		[1]
	(b)	$V_2 = 0.6$	(V) and $V_3 = 0.5$ (V) c.a.o.		[1]
	(c)	1.8 (V) e	e.c.f. V <sub>1</sub> , V <sub>2</sub> , V <sub>3</sub>		[1]
	(d)		ymbols for ammeter, lamp, voltmeter arallel circuit with ammeter and voltmeter correctly o	connected	[1] [1]
	(e)		nt matches candidate's results and idea of within/bey or that values are too far apart / too different	yond limits of expe	erimental [1]
	(f)	bright <u>er</u>			[1]
					[Total: 9]
4	(a)		800, 1.670, 1.570, 1.410, 1.275 (2 or more sig. figs. les consistently to 2 or 3 significant figures	)	[1] [1]
	(b)	gives an reduces reaction	from: nore accurate <u>value of <i>T</i></u> average value (of <i>T</i> ) (effect of ) human reaction error time less significant all / oscillations are too quick / bob swings too fast		[1]
	(c)	avoidanc	ce of parallax error <u>explained</u>		[1]
	(d)		rranged parallel either side of bob and touching bob ectly placed, touching the blocks and spanning the g	gap	[1] [1]
					[Total: 6]
5	(a)	suitable s all plots of good line	rectly labelled scales (at least half the grid used) correct to ½ small square judgement inuous line and fine plots		[1] [1] [1] [1]

Page 4	Mark Scheme	Syllabus	Paper		
	IGCSE – May/June 2013	0625	62		
(b) triangle method used <u>and shown</u> using at least half of line					
(c) f = 14.0 - f to 2 or 3	- 16.0 (cm) 3 significant figures <u>with unit</u>		[1] [1]		
(centre o mark blo clamp ru lens, obj repeat th	from: d room / brighter lamp / no other lights f) lens and object same vertical height from bench ck at centre of lens le or place on bench ect and screen are vertical / perpendicular to bench e measurements e screen backwards and forwards (to get sharpest in		[2]		

[Total: 11]