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)	<i>M</i> values 112.3, 113.5 (to 3 or 4 sig. figs only) g at least once, not contradicted (symbols or words))	[1] [1]
		(iii) 113	gnore sig. figs)	[1]	
	(b)	114 (g) o	C.a.o.		[1]
	(c)	mass X referenc 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]
					[~]
	(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)	θ _C = 19 ((°C)		[1]
	(b)	s, °C, sy	mbols or words		[1]
	(c)	12 cm ³ (ι	unit needed)		[1]
	(d)		cm ³), (expect 42 cm ³ e.c.f. (c)) given to nearest 1 cm ³ only and sensible method		[1] [1]
	(e)	<u>initial</u> ho <u>initial</u> co	n: urrounding temperature / other environmental condit t water temperature ld water temperature / mass / amount of hot water	ion	
			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)).45 (A)		[1] [1]
		(ii) R ₁ =	1.56 or 1.6 (Ω) e.c.f. (i)		[1]
	(b)	<i>V</i> ₂ = 0.6	(V) and $V_3 = 0.5$ (V) c.a.o.		[1]
	(c)	1.8 (V) e	e.c.f. V ₁ , V ₂ , V ₃		[1]
	(d)		ymbols for ammeter, lamp, voltmeter arallel circuit with ammeter and voltmeter correctly	connected	[1] [1]
	(e)	(e) statement matches candidate's results and idea of within/beyond limits of experimenta accuracy or that values are too far apart / too different			
	(f)	bright <u>er</u>			[1]
					[Total: 9]
4	(a)		800, 1.670, 1.570, 1.410, 1.275 (2 or more sig. figs. ues 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		[1] [1] [Total: 6]
5	(a)	suitable s all plots o good line	rectly labelled scales (at least half the grid used) correct to ½ small square e judgement inuous line and fine plots		[1] [1] [1] [1] [1]

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – May/June 2013	0625	62
()	method used <u>and shown</u> least half of line		[1] [1]
(c) f = 14.0 f to 2 or	– 16.0 (cm) 3 significant figures <u>with unit</u>		[1] [1]
(centre mark ble clamp re lens, ob repeat t	from: ed room / brighter lamp / no other lights of) lens and object same vertical height from bench ock at centre of lens ule or place on bench ject and screen are vertical / perpendicular to bench he measurements le <u>screen</u> backwards and forwards (to get sharpest i	1	[2]
move u	e <u>screen</u> backwards and forwards (to get sharpest	inage)	[2]
			[Total: 11]