UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2012 question paper for the guidance of teachers

0625 PHYSICS

0625/61

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 must be read in conjunction with the question papers and the report on the examination.

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Paç		ge 2	Mark Scheme: Teachers' version	Syllabus	Paper	
			IGCSE – May/June 2012	0625	61	
1	(a)	50–250 g	g (or 0.05–0.25 kg) correct unit required		[1]	
	(b)	Centre of mass marked close to centre of cylinder Clear indication of how centre of mass is placed above the 90.0 cm mark				
	(c)	OR rule of OR mass	ikely to exactly balance/ difficult to balance could slide on pivot s could slide re of mass of rule not at 50.0 cm mark not uniform1			
		Do <u>not</u> a	ccept comments about poor/careless technique		[1]	
	(d)	(d) Repeat readings (wtte) OR a reference to finding exact position of centre of mass of metre rule OR a reference to dealing with centre of mass of rule not being at 50.0 cm main			[1]	
	(e)	OR Withi	ne/ reasonable/ same to 3 significant figures in limits of experimental accuracy (wtte) many significant figures in experimental result		[1]	
					[Total: 6]	
2	(a)	θ _R = 22(°	°C)		[1]	
	(b)	Table: mm, °C Correct o	d values 100, 80, 60, 40, 20, 10		[1] [1]	
	(c)	Tempera	ature difference = 3(°C), higher		[1]	
	(d)	Draughts Room te	s mperature/humidity		[1] [1]	
	(e)	Waiting t Wait for s	t avoidance of parallax explained, in using rule or the time between readings steady thermometer reading	ermometer		
			np to cool/warm up and average		[1]	
					[Total: 7]	
					[]	

3	(a)	(i)	(cm, V, A)	[no mark awarded]
		(ii)	Graph: Axes correctly labelled with quantity and unit and correct way around Suitable scales – plots occupy at least half the grid All plots correct to ½ small square Good line judgement (ecf for curve if <i>d</i> plotted) Single, thin, continuous line	[1] [1] [1] [1]
		(iii)	Triangle using at least half of candidate's line clearly indicated on gra Evidence of subtraction seen G value 1.5 when rounded to 2 significant figures	nph [1] [1] [1]
	(b)		me as G , rounded to 2 or 3 significant figures t Ω /ohms	[1] [1]
				[Total: 10]
4	(a)	<i>x</i> =	n range 79 to 80 (mm), 7.9 to 8.0 (cm) 61 (mm) and consistent correct unit for both (mm or cm) 80 (cm), X = 61 (cm) ecf from (i) and (ii)	[1] [1] [1]
	(b)		14.5(cm) allow ecf from (a) r 3 significant figures and correct unit	[1] [1]
	(c)	lde	rrect statement for results (expect Yes or wtte) a of within (or beyond) experimental accuracy or wtte n only score if previous mark is scored	[1] [1]
	(d)	Use How Mor Ma Me Obj	y one from: e of darkened room w to avoid parallax when taking readings vement of lens back and forth to obtain clearest image rk lens holder to show position of centre of lens tre rule clamped or on bench ject, lens and screen all perpendicular to bench ject and lens same height above bench	[1]
		ردی	pot and tone dame hoight above bellen	[Total: 8]

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5	(a)		ight perpendicular to scale icular line continues to measuring cylinder at surfa	ce level	[1 [1 [1
	(b)		$V_{\rm G}$ = 7 (ecf allowed) nes in cm ³ , unit given at least once, not contradicted	ed	[1 [1
	(c)	$(V_3 - V_1)$	= 24, V_A = 17 (ecf allowed)		[1
	(d)	Som V _W : Wate Wate Tube Either V _A	e from: er increases V_3 / tube not pushed in far enough he water in test-tube/air is compressed er remaining in tube er remaining in measuring cylinder e overfilled, wtte (surface tension effect) for V_W (accept only once): suring cylinder readings not very sensitive traction produces large percentage uncertainty		[3

[Total: 9]