UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2010 question paper for the guidance of teachers

0625 PHYSICS

0625/62

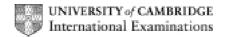
Paper 6 (Alternative to Practical), maximum raw mark 40

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.

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1	(a) a and b correct 2.3cm, 2.1cm	[1]
	(b) (i) and (ii) x and y correct (10a and 10b)/(23cm, 21cm)(iii) m correct arithmetic, in g (110/109.5(2)(g))	[1] [1]
	(c) (i) and (ii) at least two values given for w and t more than two values given for w or t correct values for w and t (2.75 – 2.85cm, 0.4cm)	[1] [1] [1]
	(iii) V calculation correct (110 – 114(cm³)) or ecf	[1]
	(iv) density to 2 or 3 significant figures (0.960 – 1.00) or ecf unit g/cm ³	[1] [1]
	(d) centre of mass at 50cm mark/midpoint/middle (wtte)	[1] [Total: 10]
2	(a) t in s, θ in °C seen in BOTH (symbols or words (sec allowed but NOT degrees/centigrade)	[1]
	(b) 19 (°C)	[1]
	(c) rate of heating greater (wtte) (can be included as part of justification) comparison given of changes in temperature with correct numbers	[1] [1]
	(d) any two from: same (starting) temperature (wtte) constant room temperature/draughts (wtte)/environment/place carry out in same time intervals/duration/allow 'time' alone same thermometer (wtte)	
	NOT volume of water/location of thermometer/beaker/'temperature' <u>alone</u> if > 2 responses, -1 for each <u>additional</u> incorrect (ignore 'neutrals')	[2]

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Syllabus

	<u> </u>	ige J	<u>, </u>	Mark Scheme: reachers version	Syllabus	raper
				IGCSE – October/November 2010	0625	62
3	(a)	2 –	2.1 (V)		[1]
	(b)	(i)	<i>R</i> in	Ω , V in V (symbols or words)		[1]
		(ii)	<u>10.1</u>			[1]
	(c)	all (-1	es lab plots of for fir	elled and scales suitable (origin included) correct to nearest ½ small square (must be visible) st incorrect plot, -2 for second) ed best fit line/curve		[1] [2]
		(all	ow 3	good plots on line with one anomaly) d) line/neat plots to <1/2 square		[1] [1]
	(d)	(ex (co V c (all	tension ntradi orrector ow ca	clearly shown on graph on follows trend of line/curve, can be dotted) octory calculation negates mark) to ½ small square (ignore unit) expect 1.6 V approundidate value for a 'reasonable' attempt at a line of clearly wrong trend or forced – e.g. to 2 or 0)	x	[1] [1]
						[Total: 10]
4	(a)	(i)	<i>m</i> va	alue correct <u>1.8/1.84</u> (2/3 sf) nit		[1] [1]
		(ii)		 = 2.9 – 3.1 cm high 3.9 – 4.1 base (diagonal from RH top 48 – 52mm) angle shape(by eye) with wire (seen in any rotation rted)	[1] [1] [1]
	(b)	OR	<u>clam</u>	n bench, <u>related to vertical line on block</u> <u>ped</u> immediately above lens een on diagram or in narrative)		[1]

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(c) any two of:

use of darkened room/bright light (wtte)

repeats/take averages

marking position of centre of lens on block

(allow 'look perpendicularly' but NOT 'eye level')

moving lens back and forth to spot best image/move lens slowly

[Total 8]

[2]

object & lens same height/all perpendicular to bench/all straight (parallax) if explained

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5 (a) three from:

mass/amount/volume/level of salt implication of salt particle size (e.g. 'same type of salt') mass/volume/amount/level of water size/shape of beaker amount/rate of stirring NOT ref to temperature/room temperature/type of thermometer

[3]

(b) three from: clock : time

thermometer : <u>temperature</u> balance : <u>mass</u> (NOT weight) measuring cylinder : <u>volume</u> NOT unit without quantity

(but ignore incorrect unit with correct quantity)

[3]

[Total: 6]