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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

0625 PHYSICS

0625/63

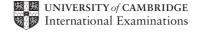
Paper 6 (Alternative to Practical), maximum raw mark 40

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

• Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.



	Page 2		Mark Scheme: Teachers' version Syllabus		Paper	
			IGCSE – October/November 2011	0625	63	
1	(a)	(i) pin	s P ₃ and P ₄ at least 5 cm apart		[1]	
		(ii) normal correct position and at 90°				
	(b)	(i) AB	drawn neatly and r = 20° \pm 2°		[1]	
		(ii) <i>i</i> =	$32^{\circ} \pm 2^{\circ}$ and unit shown at least once and no contrad	iction	[1]	
	(c)	view bases of pins / keep line of sight low / view close to table			[1]	
					[Total: 5]	
2	(a) 83(°C)				[1]	
	(b)	5460			[1]	
		7140 a i ecf θ_h fr	nd J at least once, not contradicted om (a)		[1]	
	(-)					
	(c)	<i>m</i>			-47	
			difference too large		[1]	
	(ii) any sensible suggestion involving heat loss to surroundings/ heat container				gained by [1]	
	(d)	ticks in boxes 3 and 4 (–1 for any extra ticks in boxes 1, 2, 5 or 6 to minimum of 0				
	if only two boxes ticked, 1 correct and 1 incorrect scores 1 mark)					
					[Total: 7]	
3	(a)	table:				
		<i>l</i> in m V in V,	I in A, R in Ω (words or symbols)		[1] [1]	
			es 1.6875, 3.4375, 5.03125 (2 or more significant figures consistent 2 or 3 significant figures	res)	[1] [1]	
	(h)	R (dire	etly) proportional to l o.w.t.t.e.		[41]	
	(0)	numeri	cal example given, allow two ratios within limits of experimental accuracy		[1] [1] [1]	
		idea oi	within milito of experimental accuracy		ניז	
	(c)	predicti working	on $10 \rightarrow 10.35$, no unit needed shown		[1] [1]	
		5	, 		ניז	

	(d)	wire me wire high	o from: e gets hot / burns out ter damaged e gets floppy / expands her meter readings / readings off scale wer source cuts out / fuses istance of wire increases	[2] [Total: 11]
4	(a)	hov mo ma plac	one from: of darkened room of to avoid parallax when taking readings ving lens back and forth to obtain clearest image rk at centre of lens holder ce / secure ruler on the bench s, object, screen perpendicular to the bench	[1]
	(b)	axe all p wel	rect graph: es labelled and scales plots correct to nearest ½ small square ll-judged best-fit line n line and small plots, ≤ ½ small square	[1] [1] [1] [1]
	(c)		h intercepts correct to ½ small square h between 6.4 and 7.0	[1] [1] [Total: 7]
5	(a)	(i)	h = 3.6, $w = 3.4$, $d = 3.2$ (cm) c.a.o.	[1]
		(ii)	V = 39 OR 39.2 OR 39.17 OR 39.168 AND cm ³ ecf (i) ρ = 2.6 OR 2.63 OR 2.64, ignore significant figures and unit, ecf	[1] [1]
	(b)	(i)	$V_1 = 50 (\text{cm}^3)$	[1]
		(ii)	$V_2 = 64 (\text{cm}^3)$	[1]
		(iii)	bottom of meniscus, direct vision	[1]
		(iv)	$V_{\rm s} = 14 ({\rm cm}^3) {\rm ecf} (i)(ii)$	
		(v)	ρ = 2.46, 2 or 3 significant figures AND g/cm ³ ecf (iv)	[1]

Mark Scheme: Teachers' version IGCSE – October/November 2011

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Syllabus 0625 Paper 63

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
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(c) (i) two from:

difficulty of making perfect cuboid shape o.w.t.t.e. measuring cylinder readings only to nearest cm³ o.w.t.t.e. smaller mass so greater inaccuracy volume of thread not taken into account air bubbles in clay / uneven density distribution / clay may absorb water / some clay may stick to the knife

(ii) either method but with sensible matching reason

[1]

[2]

[Total: 10]