CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0625 PHYSICS

0625/62

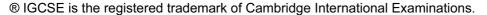
Paper 6 (Alternative to Practical), maximum raw mark 40

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 October/November 2015 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.





Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2015	0625	62

NOTES ABOUT MARK SCHEME SYMBOLS AND OTHER MATTERS

Brackets () around words or units in the mark scheme are intended to indicate wording used to clarify the mark scheme, but the marks do not depend on seeing the words or units in brackets, e.g. 10 (J) means that the mark is scored for 10, regardless of the unit given.

means "correct answer only". c.a.o.

e.c.f. means "error carried forward". This indicates that if a candidate has made an earlier mistake and has carried his incorrect value forward to subsequent stages of working, he or she may be given marks indicated by e.c.f. provided his or her subsequent working is correct, bearing in mind his or her earlier mistake. This prevents a candidate being penalised more than once for a particular mistake, but only applies to marks annotated "e.c.f."

owtte means "or words to that effect"

<u>Underlining</u> indicates that this <u>must</u> be seen in the answer offered, or something very similar.

OR indicates alternative answers, any one of which is satisfactory for scoring the mark.

AND indicates that both answers are required to score the mark.

Spelling Be generous about spelling and use of English. However, do not allow ambiguities, e.g.

spelling which suggests confusion between reflection / refraction / diffraction or

thermistor / transistor / transformer.

Answers are generally acceptable to any number of significant figures ≥ 2, except where Significant figures

the mark scheme specifies otherwise.

Fractions These are only acceptable where specified.

NOT indicates that an incorrect answer is not to be disregarded, but cancels another

otherwise correct alternative offered by the candidate. i.e. right plus wrong penalty

applies.

Syllabus

Paper

[Total: 7]

Ė	ago o	Cambridge IGCSE – October/November 2015	0625	62
1	(a)(i)(ii)	x = 40 mm/4(.0) cm AND y = 19 mm/1.9 cm both with correct unit		[1]
	(iii)	40(.0) AND 19(.0) in first line of table		[1]
	(b) gra	 axes both correctly labelled, right way round and with units suitable scales all plots correct to within ½ small square good best-fit line judgement, single, thin, continuous line 		[1] [1] [1]
	(c) tria	ngle method using at least half <u>candidate's line</u> , shown on graph		[1]
	G =	= 0.41–0.52 (2–3 sig. figs. only)		[1]
	` '	= 20–500 g = 2 × P (<u>exactly)</u> OR Q = P / <i>G</i>		[1] [1] [Total: 10]
2	(a) θ_1	= 82(°C)		[1]
	(b) (i)	s, °C, °C		[1]
	(ii)	10, 20, 30, 40, 50, 60		[1]
	(c)(i)(ii)	$\Delta\theta_1$ = 39 (°C) AND $\Delta\theta_2$ = 8 (°C)		[1]
	(iii)	temperature θ_2 at time $t = 0$ less than θ_1		[1]
	(d) vie	w thermometer at right angles		[1]
	(e) any	 one from: room temperature/other environmental factor volume/mass/quantity/amount of hot water initial temperature of the hot water initial temperature of the cold water initial temperature of the water 		[1]

Mark Scheme

Page 3

[Total: 9]

Р	age 4	4	Mark Scheme	Syllabus	Paper
			Cambridge IGCSE – October/November 2015	0625	62
3	(a)	(i)	$V_1 = 2(.0) \text{ (V)}$ $I_1 = 0.32 \text{ (A)}$		[1] [1]
		(ii)	R_1 = 6.25 (Ω) OR e.c.f. (i) AND correct units V, A, Ω in (i) and (ii)		[1]
	(b)	cor	rect arrangement of resistors rect position for voltmeter AND correct circuit symbols AND correct istors A , B and C	labelling of	[1] [1]
	(c)	(i)	$3.0/3.04/3.043$ (Ω)		[1]
		(ii)	2.1/2.05/2.06/2.07/2.08 OR e.c.f. AND <u>no unit</u>		[1]
	(d)		tement matches results ification including the idea of within (or beyond) the limits of expering	nental accura	[1] acy [1]
					[Total: 9]
4	(a)(i)(ii)	 ray-trace: normal drawn at centre of MR incident ray at 30° (± 1°) incident ray 8.0 cm long 		[1] [1] [1]
	(b)	P ₁ F	P₂ distance ≥ 5 cm apart		[1]
	(c)	(i)	all lines correctly drawn AND all lines single, thin, continuous lines		[1]
		(ii)	$r = 27(^{\circ})-30(^{\circ})$		[1]
	(d)	any	 two from: ensure pins are vertical/view bases of pins pins far apart (or ≥ 5 cm) thin lines/sharp pencil/thin pins 		[2]
	(e)	any	 one from: thickness of mirror/mirror glass silvered at back surface thickness of pins difficulty in lining up pins (and their images exactly) 		[1]

	Page 5	Mark Scheme	Syllabus	Paper
		Cambridge IGCSE – October/November 2015	0625	62
5	(a)	(human) reaction time		[1]
	` '	ruler or metre rule repeat for different diameters around the hole		[1] [1]
	(c)	 any two from: size/mass/weight/volume/diameter/density of ball size of the sand grains/type of sand/nature of the sand 		

dampness/depth of sand

[Total: 5]

[2]