



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

PHYSICS

0625/52

Paper 5 Practical

October/November 2016

MARK SCHEME

Maximum Mark: 40

Published

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This document consists of **5** printed pages.

Page 2	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(a)(i)	value $50.0 \pm 0.5(\text{cm})$	1
1(a)(ii)	(a)(i) value – 20.0	1
1(a)(iii)	value between 10 and 20	1
1(a)(iv)	Correct W in the range 1.8 – 2.2 (N)	1
1(b)	new x at least 5 cm different from original and possible new x , y and W present W in the range 1.8 – 2.2 (N) unit N	1 1 1
1(c)	two from: difficult to judge the best position of ‘almost balanced’ is the centre of mass of the ruler exactly over the pivot/has the rule slipped on the pivot? the load(s) obscure the scale the position of the (centre of the) load(s) is difficult to judge	2 × 1
1(d)	correct value 2 or 3 significant figures	1 1
		Total: 11

Page 3	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
2(a)(i)	V_1 to at least 1dp and $< 3\text{ V}$ and I_1 to at least 2dp and $< 1\text{ A}$	1
2(a)(ii)	R correctly calculated	1
2(b)(i)	new values present $I_2 < I_1$ and $V_2 < V_1$ units V and A at least once, not contradicted	1 1
2(b)(ii)	correct R and unit Ω at least once, not contradicted	1
2(c)(i)	new values present and I_3 between I_4 and I_1	1
2(c)(ii)	R values same within 10%	1
2(d)(i)&(ii)	new values present and I_4 value largest, V_4 value largest	1
2(e)	statement to agree with results justification to include the idea of within (or beyond) the limits of experimental accuracy	1 1
2(f)	one from: power supply runs down zero error on meter wavering reading	1
		Total: 11

Page 4	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
3(a)	ray trace: normal correct AB = 8 cm and $i = 20^\circ \pm 1^\circ$	1 1
3(b)	initial P ₁ P ₂ distance at least 5.0 cm	1
3(c)	all lines neat and approximately correct table: x values measured correctly to ± 2 mm from trace x values 1.8, 2.9, 4.2, 6.0, 8.7 ± 0.5 cm	1 1 1 1
3(d)	Graph: axes correctly labelled suitable scales all plots correct to $\frac{1}{2}$ small square good line judgement, thin and continuous line	1 1 1 1
3(e)	any one from: difficult to judge when pins exactly in line ensure that the pins are vertical thickness of lines thickness of pins Protractor only measures to $\pm 1^\circ$	1
		Total: 11

Page 5	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
4	clock / stopwatch <u>and</u> source of heat	1
	heat to boiling with <u>and</u> without lid	1
	measure time taken to reach boiling point/boil	1
	same volume / mass / amount of water	1
	same starting temperature	1
	suitable table with column headings <u>and</u> units (seconds or minutes)	1
	conclusion drawn	1
		Total: 7