

Cambridge Assessment International Education

Cambridge International General Certificate of Secondary Education

PHYSICS 0625/61

Paper 6 Alternative to Practical

October/November 2017

MARK SCHEME
Maximum Mark: 40

Published

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Question	Answer	Marks
1(a)(i)	1.8 (V)	1
	0.38 (A)	1
1(a)(ii)	R ₁ 4.74 (4.737, 4.7)	1
1(b)	R ₂ = 9.47 OR 9.5 (2 or 3 significant figures required)	1
1(c)	Pointer at 0.13	1
1(d)	Statement YES or NO (owtte) Justification to include the idea of within (or beyond, ecf) the limits of experimental accuracy, matching the statement	1
1(e)	Determine each resistance in turn	1
1(f)	Three resistors in parallel, ONE voltmeter in parallel with resistors and correct symbols for voltmeter and resistors	1
	Variable resistor in series with the supply, correct symbol in a correct circuit	1
1(g)	Repeat with different currents OR to obtain a range of readings	1

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Question	Answer	Marks
2(a)(i),(ii)	v = 6.(0) AND $d = 8.(0)$ or $v = 60$ AND $d = 80$	1
	correct matching unit	1
2(b)(i),(ii),(iii)	$V = 60 \text{ cm}$ (or $10 \times \text{ candidate's } v$) and $D = 80 \text{ cm}$ (or $10 \times \text{ candidate's } d$)	1
	UV 1200 (ecf)	1
2(c)	One from: Different size Different brightness Sharpness/clearness/coloured edges	1
2(d)(i),(ii),(iii)	f values 15(.0) and 14.9 (14.87)	1
	f _A correct method	1
	2 or 3 significant figures	1
2(e)	Any two from: Difficulty deciding exact position of sharpest image Difficulty measuring to centre of lens Product <i>uv</i> increases problem Image edges blurred/not clear Insufficient sets of results	2
2(f)(i)	5 – 10	1
2(f)(ii)	Difference of at least 40 cm with a range 15–100	1

		. 32=3:1=2	
Question		Answer	Marks
3	MP1	Stopwatch (or equivalent) AND (metre) rule/ruler	1
	MP2	Measure time for 5 (+) oscillations	1
	МР3	Divide by number of oscillations to find period (T)	1
	MP4	Repeat for each bob	1
	MP5	Variable; one from: Initial amplitude/starting position Length of pendulum/thread Number of oscillations	1
	MP6	Table with column headings for t , or period (T), or both AND d , with correct units	1
	MP7	Conclusion: Plot graph(s) of d against period (T) or t (or vice versa) OR compare period (T) or t values for different diameters	1

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Question	Answer	Marks
4(a)	1/Q values 1.(0), 0.5(0), 0.3 <u>3</u> (3), 0.25, 0.2(0)	1
4(b)	Graph:	
	Axes correctly labelled and right way round	1
	Suitable scales	1
	All 5 plots correct to ½ small square	1
	Good line judgement, thin, continuous line	1
4(c)(i),(ii)	At least half line used for triangle method	1
	Clearly shown on graph	1
	P = 1.8 - 2.2 (N)	1
4(d)	1.9	1
4(e)	Two from: Difficulty in obtaining balance Difficulty in judging centre of loads Loads may slip/slide Forcemeter not sensitive Forcemeter zero error	2