Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICS **0625/62**

Paper 6 Alternative to Practical **October/November 2019**

MARK SCHEME

Maximum Mark: 40

Published

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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Question	Answer	Marks
1(a)	perpendicular viewing of scale / use of horizontal aid, e.g. set-square / clamp rule / rule close to pendulum	**1**
1(b)(i)	27.6(0)	**1**
1(b)(ii)	1.38	**1**
1(b)(iii)	1.90	**1**
1(c)	graph: axes correctly labelled and right way round	**1**
	suitable scales	**1**
	all plots correct to ½ small square	**1**
	good line judgement, thin, continuous line	**1**
1(d)	triangle method indicated on graph	**1**
	with triangle at least half of candidate's line between the extreme plotted points	**1**
1(e)	correct calculation of *g*	**1**
	to 2 or 3 significant figures	**1**

Question	Answer	Marks
2(a)	0.56	**1**
	with correct unit A	**1**
2(b)(i)	1.07 / 1.1	**1**
	2 or 3 significant figures	**1**
2(b)(ii)	V, Ω	**1**
2(c)(i)	2nd box ticked	**1**
2(c)(ii)	justification – only award if the 2nd box is ticked	**1**
2(d)(i)	value approximately halfway between the 40 cm and 60 cm values	**1**
2(d)(ii)	correct *R* value from candidate's value in **(d)(i)**	**1**
	2 or 3 significant figures	**1**
2(e)	use a low(er) current / voltage / switch off between readings / add a resistor in series / use a thinner wire	**1**

Question	Answer	Marks
3(a)(i)	d = 8.0 cm or 80 mm	**1**
3(a)(ii)	D = 80 cm or 800 mm	**1**
3(b)	15.2 / 15.25 / 15.249 (cm)	**1**
3(c)(i)	14.9 / 14.85 (cm)	**1**
3(c)(ii)	correct average	**1**
	3 significant figures only	**1**
3(d)	one from: darkened room / brighter lamp object and lens at same height (above bench) object and lens and screen perpendicular to the bench ruler on bench or clamped mark centre of lens (on holder) move lens slowly / back and forth (to obtain best image)	**1**
3(e)(i)	D = 120(.0) (cm)	**1**
3(e)(ii)	(22.2 × 97.9) / 120 = 18.1 (cm)	**1**
3(e)(iii)	(expect not in agreement) too far apart / not close enough / more than 10% difference between values	**1**

Question	Answer	Marks
4	**MP1 method** diagram: container, ice (cubes, thermometer and insulation)	**1**
	MP2 ice (in container), measure time (for all the ice) to melt	**1**
	MP3 repeat with different insulators	**1**
	MP4 control variables (total) mass / volume of ice cubes	**1**
	MP5 any **one** from: thickness / amount of insulation room temperature / other environmental condition size / shape / surface area of ice cubes initial temperature (of ice cubes)	**1**
	MP6 table table with headings of (named) insulator and time with correct units	**1**
	MP7 conclusion (use the table to) compare the insulator with the time taken for the ice cubes to melt	**1**