Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICS **0625/61**

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.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

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GENERIC MARKING PRINCIPLE 5: Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).
GENERIC MARKING PRINCIPLE 6: Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Question	Answer	Marks
1(a)(i)	*b* 16.9	**1**
1(a)(i)	*a* / *b* 1.37 (ecf allowed)	**1**
1(b)	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(c)	triangle method indicated on graph	**1**
	triangle at least half of candidate's distance between extreme plots	**1**
1(d)	Correct calculation, $W = G$	**1**
	to 2 or 3 significant figures	**1**
1(e)	Balance on pivot with no load – balance point is at c of m	**1**
1(f)	Obtaining a stable balance	**1**

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Question	Answer	Marks
2(a)(i)	V = 2.5	**1**
	I = 0.3(0)	**1**
	Both units correct	**1**
2(a)(ii)	R_1 8.33 (ecf allowed)	**1**
2(b)	R_2 11.4 with unit Ω	**1**
2(c)	Statement matches results	**1**
	Justification matches statement	**1**
2(d)	Lamps in parallel and correct symbol for lamp	**1**
	One voltmeter, with correct symbol, in parallel with lamps	**1**
	Variable resistor in correct position, with correct symbol	**1**

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Question	Answer	Marks
3(a)	24 (°C)	**1**
3(b)(i)	Times 60, 120, 180, 240, 300	**1**
3(b)(ii)	Units s and °C	**1**
3(c)	10, 7	**1**
3(d)(i)	Correct box ticked to match readings	**1**
3(d)(ii)	Justification to match **(i)**, quoting figures	**1**
	Reference to same time	**1**
3(e)	Two from: Insulate Lid Lower starting temperature Higher room temperature Smaller volume of water Smaller surface area	**2**
3(f)	Clearly shown perpendicular line of sight	**1**
	Clearly shown bottom of meniscus	**1**

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Question	Answer	Marks
4	**MP1** How the ball will move: Back and forth / like a pendulum	**1**
	MP2 Release from a determined position, time until stops	**1**
	MP3 Repeat with at least two more values of independent variable	**1**
	MP4 Statement of variable to be changed	**1**
	MP5 Statement of a variable to keep constant	**1**
	MP6 Table with columns for chosen variable that is changed and time with correct units, s for time.	**1**
	MP7 Compare chosen variable with time. Or plot graph of chosen variable against time	**1**

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