Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICS **0625/51**

Paper 5 Practical Test **May/June 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.

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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.

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).

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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)	*a* values decreasing all < 25 cm	**1**
	b values decreasing	**1**
	all values in cm	**1**
1(b)	Graph:	
	Axes correctly labelled with quantity and unit 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**
1(d)	Correct calculation, to 2 or 3 significant figures	**1**
1(e)	Difficulty in achieving exact balance OR difficulty in judging centre of P OR load easily slips OR less than sharp pivot point	**1**
1(f)	Mass value / 100 = $G \pm 10\%$	**1**

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Question	Answer	Marks
2(a)(i)	I to at least 2 decimal places and < 1 A	**1**
2(a)(ii)	All V to at least 1 decimal place and < 3 V	**1**
	V values increasing	**1**
	V/I correct	**1**
	V/I consistent 2 significant figures or consistent 3 significant figures	**1**
2(b)(i)	Box ticked to match results	**1**
2(b)(ii)	Justification to match results	**1**
2(c)	Correct calculation	**1**
	2 or 3 significant figures	**1**
	Unit Ω	**1**
2(d)	Keep current low OR switch off between readings	**1**

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Question	Answer	Marks
3(a)	Sensible value for room temperature with unit °C	**1**
3(b)	Correct times in both tables 0, 30, 60, 90, 120, 150	**1**
	Temperatures decreasing in Table 3.1	**1**
	Consistent significant figures for temperatures in both tables	**1**
3(c)	Decreasing temperatures in Table 3.2	**1**
	Overall temperature decrease no greater than in Table 3.1	**1**
3(d)(i)	Correct box ticked to match readings	**1**
3(d)(ii)	Justification to match temperature readings	**1**
	Reference to same time	**1**
3(e)	Use a black painted beaker and black painted can	**1**
	Use a shiny can and unpainted beaker (or put foil round the beaker)	**1**

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Question	Answer		Marks
4	**MP1**	Apparatus: forcemeter or pulley and weights arrangement	**1**
	MP2	Pull box up slope. Measure force and distance moved	**1**
	MP3	Repeat with different masses	**1**
	MP4	Key variable: angle of slope (or height of blocks, owtte)	**1**
	MP5	Key variable: Distance moved	**1**
	MP6	Table with columns for force and mass with correct units	**1**
	MP7	Calculate work done and compare with mass. OR, if there is a work done column in the table, compare work done with mass OR plot a graph of work done against mass	**1**

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