Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

PHYSICS **0625/52**

Paper 5 Practical **October/November 2017**

MARK SCHEME

Maximum Mark: 40

Published

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

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

Question	Answer	Marks
1(a)	correct use of set-square <u>AND</u> vertical ruler	**1**
1(b)(i)	$t_1 = 29.5 \pm 2.5$ (s)	**1**
1(b)(ii)	correct T_1 from candidate's value of t_1	**1**
	unit s seen at least once in **(i)** or **(ii)**	**1**
1(c)(i)	$t_2 = 27.7 \pm 2.5$ (s)	**1**
1(c)(ii)	$T_2 < T_1$ and to 2 or 3 significant figures	**1**
1(d)	statement to match readings	**1**
	justification to include the idea of within (or beyond e.c.f) the limits of experimental accuracy e.g. (very) close / almost equal / the same	**1**
1(e)	final box ticked	**1**
1(f)	4 or 5 correct (fewer than 4 correct = 0 marks)	**1**
	From top box to bottom box V, V, V, V, P, P all correct (= full marks)	**1**

Question	Answer	Marks
2(a)	realistic room temperature	**1**
2(b)	realistic hot water temperature	**1**
	mixture temperature between hot and room	**1**
	temperature fall correct AND °C seen at least once and not contradicted	**1**
2(c)	to make sure that the temperature is the same throughout	**1**
2(d)	realistic new temperatures	**1**
2(e)	realistic new temperatures	**1**
2(f)	room temperature seen and correct conclusion	**1**
2(g)	heat loss (to surroundings) / time delays in transferring the water or did not wait for thermometer readings to stabilise	**1**
2(h)	insulation	**1**
2(i)	same starting temperature / same room temperature	**1**

Question	Answer	Marks
3(a)(i),(ii)	correct *u* values 20(.0), 22(.0), 25(.0), 30(.0), 35(.0)	**1**
	v values decreasing and all > 22.0 cm	**1**
	consistent 2 or consistent 3 significant figures for *v*	**1**
3(b)	graph:	
	axes correctly labelled and not reversed	**1**
	suitable scales	**1**
	all plots correct to ½ small square	**1**
	good best-fit curve judgement, thin, continuous line	**1**
3(c)(i)	2 points and straight line correct	**1**
3(c)(ii)	u_1 and v_1 read correctly to ½ small square	**1**
3(c)(iii)	correct calculation of *f* from candidate's values	**1**
	f value rounding to 14–16 cm	**1**

Question	Answer	Marks
4	**method:** **MP1** measure length of band	**1**
	MP2 hang load, measure new length	**1**
	MP3 repeat with different thicknesses/widths	**1**
	control variable: **MP4** use same (original) length of band each time	**1**
	table: **MP5** table with columns for thickness, (load) and length / extension with units	**1**
	conclusion: **MP6** plot a graph of extension / length against thickness (for the same load) OR load against extension / length for different thicknesses OR comparison via a table e.g. compare extensions / lengths of different thicknesses for the same load	**1**
	one additional point: **MP7** use same load / same range of loads use at least 5 thicknesses / take at least 5 different readings to plot a graph show how to measure extension e.g. $l - l_0$ use same type / material of rubber band	**1**