UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2006 question paper

0625 PHYSICS

0625/05 Paper 5 (Practical), maximum raw mark 40

This mark scheme is published as an aid to teachers and students, 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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

The grade thresholds for various grades are published in the report on the examination for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

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International Examinations

1	**(a)**	*m* in g, sensible value (10 – 50)	[1]
	(b)	*l* in cm, sensible value (6 – 10) At least 3 measurements taken	[1] [1]
	(c)	Average calculated (method)	[1]
	(d)	At least 30 cm of string used *c* value sensible in cm (8 – 13 cm)	[1] [1]
	(e)	correct *V* (ignore unit, ecf)	[1]
	(f)	V_r less than *V* by up to 10% and whole number	[1]
	(g)	correct *d* (ecf) 1/2/3 significant figures	[1] [1]
			[Total: 10]
2	**(a) – (d)**	Table: 5 sets of *t* and *T* values Correct *T* Consistent 3 or consistent 4 significant figures for *T*	 [1] [1] [1]
	(e)	Graph: Sensible *T* scale, labelled, plots covering more than ½ grid Plots to ½ square Well judged line Line thin All plots to within $\pm$ 0.05s on line	 [1] [1] [1] [1] [1]
	(f)	statement NO and Reason not straight line through origin OR it is a curve	 [1]
	(g)	one of: Repeats More swings More *d* values/larger range Small/constant amplitude	 [1]
			[Total: 10]
3	**(a) – (i) & (k) – (p)**	Trace: Neat and complete Normal at 90° (by eye) **GJ** at 30° ($\pm$ 2°) **AG** = 11.4cm – 11.6 cm P_3P_4 distance $\geq$ 5 cm	 [1] [1] [1] [1] [1]
	(j)	candidate's r_1 correct to $\pm$ 2°	[1]
	(q)	candidate's r_2 correct to $\pm$ 2° *R* values 28° – 32° and 47° – 51° (ignore unit)	[1] [1]
	(r)	bases Pins may not be vertical (or words to that effect)	[1] [1]
			[Total: 10]

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4 (b) – (c) table complete, temperatures decreasing [1]
Temperatures to nearest 1°C [1]

(d) sensible *V* (150 – 250) [1]
cm^3 (or ml) [1]

(e) second table complete, temperatures decreasing [1]

(f) correct conclusion (see readings) [1]
Justification quoting temperature difference [1]

(g) Variables:
Three from:
Volume of water
Initial temperature
Room temperature
Same beaker for each experiment
Position of thermometer
Draughts/sunlight
Humidity [3]

[Total: 10]

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