

**MARK SCHEME for the October/November 2009 question paper
for the guidance of teachers**

0625 PHYSICS

0625/05

Paper 5 (Practical Test), maximum raw mark 40

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Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – October/November 2009	0625	05

1 (a)–(e)

Table:

correct d values 10, 20, 30, 40, 50	[1]
t values present	[1]
T values correct	[1]
T values in range 1.4–2.1	[1]

Graph:

axes labelled	[1]
scales suitable, plots occupying at least half grid	[1]
plots all correct to $\frac{1}{2}$ square	[1]
well judged line	[1]
thin line, 5 neat plots	[1]

(g) Statement NO and not through origin/negative gradient/ x increases, T^2 decreases/wtte [1]

[Total: 10]

2 (a) (i) θ_h 100 – 65 ($^{\circ}\text{C}$) [1]

(iii), (iv), (b) & (d) (i), (ii)

Table:

t in s, θ in $^{\circ}\text{C}$	[1]
correct t values 30, 60, 90, 120, 150, 180	[1]
position A temperatures decreasing	[1]
position B temperatures decreasing	[1]
evidence of temperatures to 1 $^{\circ}\text{C}$	[1]

(c) θ_h 100–65 ($^{\circ}\text{C}$) [1]

(e) statement matches readings and justified by reference to readings [1]

(f) any two from:
 same starting temperature/temperature of hot water
 constant room temperature/keep away from draughts/out of direct sunlight
 same time intervals [2]

[Total: 10]

Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – October/November 2009	0625	05

3 (a)–(f)

Table:

V, A, Ω	[1]
first row of table: V to at least 1 dp (1–2.5) and I to at least 2 dp and $< 1A$	[1]
second row of table: V and I present, I different from above and not zero	[1]
correct R value (first row)	[1]

- (g)** y correct ratio (series/parallel) [1]
 y correct arithmetic [1]
2/3 significant figures and no unit [1]

- (h)** correct symbols and circuit (ignore power source symbol) [1]
voltmeter position correct [1]
control current/voltage/resistance/speed of motor [1]

[Total: 10]

- 4 (c)** f 14–16 (cm) [1]
unit to match number [1]

- (d)** more than one value shown [1]
correct method of finding average shown [1]
 d value 4–6 cm [1]

- (e)** sensible t value [1]

- (f)** correct method of using blocks (more than half lens enclosed) [1]
rule shown touching blocks [1]

- (g) (i)** f value correct (with or without unit) [1]

- (ii)** explanation that matches results (expect 'No, too far out to be explained by experimental inaccuracy' (wtte)) [1]

[Total: 10]