

**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

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.

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1 (a)–(e)

**Table:**

correct  $d$  values 10, 20, 30, 40, 50

$t$  values present

$T$  values correct

$T$  values in range 1.4–2.1

[1]  
[1]  
[1]

**Graph:**

axes labelled

scales suitable, plots occupying at least half grid

plots all correct to  $\frac{1}{2}$  square

well judged line

thin line, 5 neat plots

[1]  
[1]  
[1]  
[1]  
[1]

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

[Total: 10]

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

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

**Table:**

$t$  in s,  $\theta$  in  $^{\circ}\text{C}$

correct  $t$  values 30, 60, 90, 120, 150, 180

position **A** temperatures decreasing

position **B** temperatures decreasing

evidence of temperatures to 1  $^{\circ}\text{C}$

[1]  
[1]  
[1]  
[1]  
[1]

(c)  $\theta_h$  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]

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3 (a)–(f)

**Table:**

$V, A, \Omega$

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]**