UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2007 question paper

0625 PHYSICS

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

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1 **(b)** θ_1 sensible room temp [1]

(d) θ_2 suitable hot water temp down to 60°C [1]

(f) θ_3 (greater than θ_1 and less than θ_2) [1]

(g) θ_2 (a little less than or equal to θ_2 in **(d)**) [1]

(i) θ_3 less than θ_2 in **(g)** and greater than θ_3 in **(f)** [1]

(b) – **(i)** <u>all</u> temperatures in °C, correctly written [1]
evidence of temperatures to 1°C [1]

(j) **(i)** heat loss to surroundings [1]

(ii) any two from:
insulation / mat
lid
speedier transfer
repeats
wait to record maximum temperature
stirring
include beaker in calculation [2]

[Total: 10]

2 **(a)** record of h_0, sensible (25 – 100cm) with correct unit [1]

(c) – **(h)** 6 sets of d and h [1]
evidence of h to nearest mm [1]
correct arithmetic for b [1]

(i) Graph:
correct axis labelled with symbol / unit [1]
plots to nearest ½ sq (-1 each error or omission) [2]
line, thin and best fit [1]

(j) no
not (a straight line) through origin (ecf)
OR negative gradient
OR as b increases, d decreases [1]

(k) use of set square / protractor / spirit level / plumbline [1]

[Total: 10]

3 **(b) – (f)** table complete with *V*, *I* and *R* values [1]
sensible values for *V* (1 – 4) and *I* (0.1 – 1.0) [1]
both *V* to at least 1 dp [1]
both *I* to at least 2 dp [1]
correct arithmetic for *R* values [1]
first *R* value between 3 and 5 x second value [1]
both *R* to 2 sf or both to 3 sf [1]

(g) all correct units: *V*, *A*, Ω (symbol or word) [1]

(h) fourth box [1]

(i) second *R* ¼ of first (or similar wording) [1]

[Total: 10]

4 **(a) – (g)** table complete with *x*, *y* and *f* values [1]
all *x, y* and *f* given to nearest mm [1]
all *x, y* and *f* in m [1]
correct arithmetic for *f* [1]
f values 140 – 160 mm [1]

(h) correct average *f* [1]
average *f* to 2/3 sf [1]
correct unit for average *f* (m, cm, mm) [1]

(i) precautions:
any two from:
use darkened area
metre rule on bench or clamped
object and lens same height from bench
mark on lens holder to show position of lens centre
lens perpendicular to light rays
choosing mid-point between acceptable positions
lens/screen perpendicular to bench
avoidance of parallax error, if action and reason given [2]

[Total: 10]