UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

0625 PHYSICS

0625/62   Paper 62 (Practical), maximum raw mark 40

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1 **(a)** table:

1/d values correct

0.0331, 0.0418, 0.0500, 0.0585 (0.058 to 2 sig. fig.), 0.0662 [1]

consistent 2 or 3 significant figures [1]

(b) graph:

axes labelled [1]

scales suitable, <u>plots</u> occupying at least half grid [1]

plots all correct to ½ square (ecf) – take centre of plot if large [1]

well judged line thin line (≤½ square) [1]

(no mark if plots > ½ square)

(c) triangle <u>method</u> used and <u>shown</u> (any indication on graph) [1]

(triangle) using at least half line (can be seen in calculation) [1]

(d) μ 27 – 33 (NO ecf) [1]

2 or 3 significant figures and unit g [1]

[Total: 10]

2 **(a)** table:

t in s, θ in °C (either in words or mixture of symbols and words)

(NOT degrees/centigrade) [1]

times 30, 60, 90, 120, 150, 180 [1]

(b) both temperature falls correct (ignore unit or lack of unit) 26, 30 [1]

(c) justification matches statement (expect B)

and by reference to readings (need a comparison – not 'heat' or 'it')

B <u>&</u> temp fall [1]

in same time [1]

(d) any two from:

same starting temperature

stir/same thermometer position

same interval time

constant room temperature/carry out at same time

same volume/amount/mass of water

avoid draughts or wtte [2]

(NOT reference to container, insulation, precaution)

(extra answers: –1 if incorrect, ignore if neutral)

[Total: 7]

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3 **(a)** diagram:

correct symbols for ammeter, voltmeter and lamps
(lamp – cross at least ½ diameter by eye) (ignore power source)　　　　　　[1]
voltmeter position correct　　　　　　[1]
lamps in parallel in a correct circuit (e.g. single voltmeter)　　　　　　[1]

(b) table:

V, A, Ω (any in symbols, words or a mixture)　　　　　　[1]
Correct R values　6.13, 6.00, 3.11　　　　　　[1]
Consistent 2 or 3 significant figures　　　　　　[1]

(c) statement matches readings (expect NO)　　　　　　[1]
justification matches statement
and by reference to <u>resistance results</u> (don't need numbers)　　　　　　[1]

[Total: 8]

4 **(a)** normal labelled (allow N N' on end or N, N' alone)　　　　　　[1]

(b) P_1P_2 distance at least 3 cm　　　　　　[1]

(c) line to H drawn neatly and correctly　　　　　　[1]
θ correct to ±1°　60　　　　　　[1]
(θ – 2i) correct　0 (ecf) (ignore sign)　　　　　　[1]
unit ° at least once in **(c)** and not contradicted　　　　　　[1]

(d) 2° (ignore unit and sign)　　　　　　[1]

(e) statement matches results (ecf)
expect YES if 0 and 2,
NO only if 'too different' or wtte in justification　　　　　　[1]
justification matches statement and by reference to results
(allow almost/nearly the same or within expt accuracy)　　　　　　[1]

[Total: 9]

5 **(a)** x = 3.9 and y = 5.4 (any answer correct when rounded to 2 sf) [1]
both with correct unit [1]
m = 1.38 no unit, 2 or 3 significant figures (allow x for unit)
or correct calculation from <u>correct</u> x and y [1]

(b) any two from:
      clamp rule or place on bench
      use area away from direct sunlight/dark room/bright object
      ensure object and lens same height (from bench)
      mark on lens holder (accept on lens)
screen and lens perpendicular to bench/aligned/in straight line/on principle axis
move lens slowly (backwards and forwards)
repeats
avoid parallax (or wtte) with <u>action</u> given   2

(c) scale drawn on paper on screen/graph paper on screen/
mark on screen (then) measure/clamp ruler on scale/
use translucent screen and measure from other side [1]

[Total: 6]