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

0625/52 Paper 52 (Practical), maximum raw mark 40

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1 **(a)** table:
5 d values in cm (all < 50) [1]
1/d values correct (at least 2 significant figures) [1]

(b) graph:
axes labelled [1]
scales suitable, plots occupying at least half grid [1]
plots all correct to ½ square [1]
well judged line thin line [1]

(c) triangle method used and shown (any indication on graph) [1]
(triangle) using at least half line (can be seen in calculation) [1]

(d) μ 27 – 33 (g) [1]
2 or 3 significant figures and unit g [1]

[Total: 10]

2 **(a)** table:
t in s, θ both in °C [1]
times 30, 60, 90, 120, 150, 180 [1]
beaker A temperatures decreasing [1]
dish B temperatures decreasing more rapidly [1]
evidence of temperatures to 1 °C [1]

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

(c) justification matches statement (expect B)
and by reference to readings (need a comparison – not 'heat' or 'it')
B & temp fall for this mark [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: 10]

3 **(a) – (e)** table:

V, A, Ω [1]
V to at least 1 dp (1 – 2.5) [1]
I to at least 2 dp and < 1A [1]
correct R values [1]
circuit 3 R value less than other two values [1]

(f) diagram:
correct symbols [1]
voltmeter position correct [1]
lamps in parallel in correct circuit [1]

(g) statement matches readings (expect NO) [1]
justification matches statement and by reference to results [1]

[Total: 10]

4 ray trace:
one set of lines present, thin, neat and in correct areas [1]
normal drawn [1]
EF at 30° to normal (by eye) [1]
one P_1P_2 distance at least 5 cm [1]
one P_3P_4 distance at least 5 cm [1]

(h) θ correct to $\pm$ 2° [1]

(i) $(\theta - 2i)$ correct [1]

(j) θ and $(\theta - 2i)$ present, unit ° at least once in **(h)**, **(i)** or **(j)** [1]

(k) statement matches results (YES or NO) [1]
justification matches statement and by reference to results (within limits of experimental inaccuracy, wtte or too different, wtte) [1]

[Total: 10]