UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2010 question paper

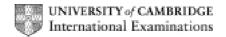# for the guidance of teachers

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 <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 (g)   [1]
  2 or 3 significant figures and unit g   [1]

  [Total: 10]

2 **(a)** table:

  t in s, θ both in $^{\circ}$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 $^{\circ}$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 <u>&</u> 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]

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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 <u>too</u> different, wtte) [1]

                                                           [Total: 10]