UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2010 question paper

for the guidance of teachers

0625 PHYSICS

0625/61   Paper 6 (Alternative to Practical), maximum raw mark 40

1   (a)   correct $1/d$ values 0.0222, 0.0294, 0.0370, 0.0444, 0.0518
          all to 2 significant figures or all to 3 consistent significant figures

    (b)   graph:
          axes suitable and labelled   [1]
          all plots correct to ½ small square   [1]
          good line judgement   (position)   [1]
          thin line, single, no blobs   (quality)   [1]

    (c)   gradient by triangle method using at least ½ candidate's line   [1]
          clear, on graph, how obtained   [1]

    (d) z value 0.9 – 2.5   [1]
          2 or 3 significant figures and unit cm given   [1]

                                                                               [Total: 10]

2   (a) θ_r 26   [1]

    (b)   (i) s and °C   in both tables   [1]

          (ii) at least 300s and given to nearest 10s or in mins   [1]

    (c)   Table 2.2 (heating) justified by two temperature differences compared,
          must see 14 and 44/56 OR 74 to 60 and 25 to 69/81   [1]

    (d)   any two from:
          same starting temperature
          constant room temperature/avoid draughts/same place
          same time intervals
          same thermometer (wtte)
          same mass/amount/volume of water
          same beaker
          lid always used   [2]

                                                                                [Total: 6]

3 (a) 0.3 – 0.31

(b) Ω, A
10.1   [1]

(c) correct calculation of $0.5I_o$ shown (ecf)   [1]
10(Ω)   [1]

(d) diagram:
resistors in parallel   [1]
voltmeter symbol   [1]
voltmeter position   [1]

[Total 8]

4 (a) (i) – (iii)
EF extended correctly and neat   [1]
P_3P_4 line drawn correctly and neat   [1]
G labelled   [1]
P_1 and P_2 at least 5cm apart   [1]

(iv) and **(v)** 40 – 42   (ecf)   [1]
(θ – 2i) correct   (ecf)   [1]

(b) (i) 2 and unit (^{o}) present at least once   [1]

(ii) yes (or No, ecf)   [1]
reference to 'within limits of experimental accuracy'
(or close enough or wtte)   [1]

(c) no concern about pins being vertical (or wtte)   [1]

[Total: 10]

5 (a) any three from:
mass/volume/amount of water
room temperature
temperature of water
amount of stirring
size/shape of beaker
temperature of ice cube
number/mass/size of cubes   [3]

(b) any three from:
stopclock: time
balance: mass
thermometer: temperature
measuring cylinder: volume (of water)   [3]

[Total 6]