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

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

(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 [1]

(b) Ω, A [1]
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]