**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)** $\theta_r$ 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]**

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**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]
($\theta$ – 2$i$) 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]**

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