UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

0625 PHYSICS

0625/63 Paper 6 (Alternative to Practical), maximum raw mark 40

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1 **(a)** 100, 200, 300, 400, 500 [1]

(b) Graph:
Axes labelled (label and unit) [1]
Scales suitable [1]
All plots correct to nearest ½ small square [1]
Continuous, straight, well-judged best fit line [1]
Thin line, neat plots [1]

(c) *F* correct from graph scale to ½ small square – must see unit of N [1]
Clear how obtained [1]

(d) Weight/mass/force of rule owtte [1]

[Total: 9]

2 **(a)** 23 (ºC) [1]

(b) s, ºC, ºC, words or symbols [1]
30, 60, 90, 120, 150, 180 [1]

(c) Uninsulated (owtte) OR no significant difference [1]
Justified by reference to temperature differences and time [1]

(d) Any two from:
initial temperature/starting temperature/temperature of hot water
(constant) room temperature/ correct named reference to environmental condition
tube size/same test-tube
thickness of glass
volume/amount/level of water
thickness of cotton wool
depth (of immersion) of thermometer
(rate of) stirring [2]

(e) Any two suitable insulators (that can be wrapped around tube) [2]

[Total: 9]

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3 **(a)** 4.29, 6.36, 8.50 [1]
consistent 2 or 3 significant figures [1]
cm, A, V, Ω in symbols or words [1]

(b) Yes [1]
Within limits of experimental accuracy [1]

(c) One of:
Switch off between readings
Use of low current (owtte) [1]

(d) Correct circuit symbol [1]
X position correct [1]

[Total: 8]

4 **(a)** i = 30° (±1°) - no penalty for missing or incorrect unit [1]

(b) a = 12 to 13mm/1.2 to 1.3cm [1]
b = 36mm/3.6cm [1]
Lines HF and P_4P_3H drawn neatly and correctly [1]
n correctly calculated [1]
n 2 or 3 significant figures, no unit [1]

(c) At least 5 cm [1]
Greater accuracy owtte [1]

(d) Pin: pins not vertical/not straight
OR pins too close
OR thickness of lines/size of holes [1]
Ray Box: thickness of ray [1]

[Total: 10]

5 **(a)** All labels correct: [1]
F/*W*/weight/load/Force
L//length
e/extension/x/Δ*l*/*E*
Units N, m, m only [1]

(b) Two from:
Same diameter/thickness/cross-sectional area/cross-section
Same length
(Room) temperature [2]

[Total: 4]

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