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

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

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1. **(a)** Three straight lines in correct positions [1]
All lines continuous, straight, neat and thin [1]

(b) a = 4.2 – 4.4 (cm) no ecf [1]
Well-judged position in triangle [1]
Line correctly drawn [1]

(c) Viewing line directly in front of card (owtte) [1]

[Total: 6]

2. **(a)** 23 (°C) [1]

(b) t in s, θ in °C [1]

T_1= 14 [1]
T_2 = 1 [1]

(c) Graph:
Axes the right way round, both labelled with quantity, ignore unit [1]
Use of the scale temperature 50 – 80 and time 0 – 200 or 0 – 250, using the whole grid [1]
All seven plots correct to ½ small square [1]
Good line judgement [1]
Thin line [1]

(d) Greater rate of cooling in first 30 s (owtte) ecf possible [1]
Decreasing slope of graph (owtte) ecf possible [1]

[Total: 11]

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3. **(a)** **(i)** 5.4 or 5.43 or 5.429 AND 5.9 or 5.94 or 5.938 [1]
R values both to 2 significant figures OR both to 3 significant figures, in table [1]

(iii) V, A , Ω [1]

(b) **(i)** Correct series circuit [1]
Correct symbols for ammeter, voltmeter and lamps [1]

(ii) R_T = 8.26(Ω) [1]

(c) Statement: expect No (ecf available for Yes) [1]
Outside limits of experimental accuracy (owtte) [1]

(d) Brightness changes (owtte) [1]

[Total: 9]

4. **(a)** Normal in centre at 90° to **MR** [1]
CD drawn correctly [1]
Both neat and thin [1]

(b) **(i)** **CN** drawn correctly [1]

(ii) *i* = 23(°) ± 1(°) (ecf allowed) [1]

(c) **(i)** Line through P_3 and P_4 correct [1]
r = 21(°) ± 1(°) [1]

(d) Any two:
Thickness of lines
Thickness of mirror
Protractor can only be read to $\pm$ 1° OR protractors are not that precise (owtte)
Thickness of pins [2]

[Total: 9]

5. 1.5 cm [1]
100 cm^3 [1]
0.07 m^2 [1]
0.12 A [1]
23 cm [1]

[Total: 5]

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Abbreviations in the mark scheme:

ecf = error carried forward.
owtte = or words to that effect.
c.a.o. = correct answer only

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