| Centre Number | Candidate Number | Name |
| :--- | :--- | :--- |

## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Ordinary Level

PHYSICS
5054/03

Paper 3 Practical Test
May/June 2006

## ANSWER BOOKLET

2 hours

## READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
All of your answers should be written in this Answer Booklet: scrap paper must not be used.
Answer all questions.
Graph paper is provided in this Answer Booklet. Additional sheets of graph paper should be used only if it is necessary to do so.
At the end of the examination, fasten all work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

| For Examiner's Use |  |
| :---: | :---: |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| Total |  |

This document consists of $\mathbf{6}$ printed pages and $\mathbf{2}$ blank pages.

BLANK PAGE

## Section A

1 (a) (ii) determination of $L$
(iii) determination of $D$
(b) explanation of how you made sure that $L$ was determined as precisely as possible
(c) (ii) record of $V$
(d) calculation of $V_{\mathrm{s}}$
(e) calculation of $\frac{V_{\mathrm{s}}}{V_{\mathrm{s}}+V}$

2 (a) (ii) determination of $x$
(b) explanation of how you made sure that the metre rule was vertical
(c) (i) time for 20 oscillations
(ii) statement of one precaution
(iii) calculation of $T$
(d) calculation of $\frac{T^{2}}{x}$

3 (a) circuit diagram of the arrangement set up by the Supervisor
(b) record of $I_{1}$
(c) record of $I_{2}$
(d) record of $I_{\mathrm{T}}$
(e) estimation of the resistance of $\mathrm{R}_{2}$

4 (a) (i) record of $m_{B}$
(iii) determination of $m_{\mathrm{W}}$
(b) (iii) record of $\theta_{\mathrm{R}}$
(c) table of values of $t$ and $\theta$

(d) using the grid on page 7 , plot a graph of $\theta /{ }^{\circ} \mathrm{C}$ on the $y$-axis against $t /$ s on the $x$-axis
(e) determination of the rate of rise of temperature at $t=150 \mathrm{~s}$
(f) calculation of power using power $=\left(m_{\mathrm{W}} c_{\mathrm{W}}+m_{\mathrm{B}} c_{\mathrm{B}}\right) \times($ rate of rise of temperature $)$


## BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

