CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Advanced Level

**BIOLOGY** **9700/05**

Paper 5 Practical Test A2

May/June 2003

CONFIDENTIAL INSTRUCTIONS

**Great care should be taken to ensure that any confidential information given does not reach the candidates either directly or indirectly.**

**Instructions for preparing apparatus**

These instructions give details of the apparatus required by each candidate for each experiment in this paper. A summary of the questions that will be presented to the candidates is included, where appropriate, to allow the Biology teacher to test the apparatus and reagents (details on page 2) appropriately. **No access to the question paper is permitted in advance of the examination session.**

If a candidate breaks any of the apparatus, or loses any of the material supplied, the matter should be rectified and a note made in the Supervisor's Report.

Candidates must be provided with a microscope with low power and high power objectives (e.g. $\frac{2}{3}$ in and $\frac{1}{6}$ in). Each candidate must have the sole use of a microscope for 30 minutes.

Supervisors are advised to remind candidates that **all** substances in the examination should be treated with caution. Pipette fillers and safety goggles should be used where necessary.

In accordance with the COSHH (Control of Substances Hazardous to Health) Regulations, operative in the UK, a hazard appraisal of the examination has been carried out.

The following codes are used where relevant.

**C** = corrosive

**F** = highly flammable substance

**H** = harmful or irritating substance

**O** = oxidising substance

**T** = toxic substance

If you have any problems or queries regarding these Instructions, please contact CIE
by e-mail: International@ucles.org.uk,
by phone: +44 1223 553554,
by fax: +44 1223 553558,
stating the Centre number, the nature of the query and the syllabus number quoted above.



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Local Examinations Syndicate

**[Turn over**

**Immediately upon receipt of the urease tablets, these should be placed in a refridgerator as prolonged exposure to ambient temperatures above 30°C will reduce the activity of the enzyme.**

*Each candidate must be provided with the following apparatus and materials.*

**To be supplied by the Centre**

**Question 1**

**(i)** Three test-tubes, labelled **F1**, **F2** and **F3**, in a test-tube rack.
**F1** to contain 5 $cm^3$ of distilled water.
**F2** to contain 5 $cm^3$ of urea solution. The solution to be made by dissolving 10 g of urea in 400 $cm^3$ of distilled water.
**F3** to contain 5 $cm^3$ of urea solution. The solution to be made by dissolving 2 g of urea in 400 $cm^3$ of distilled water.

Each test-tube should be fitted with a bung.

**(ii)** 30 $cm^3$ of urease solution, labelled **F4**, made by dissolving 0.4 g (2 tablets) in 400 $cm^3$ of distilled water. Test the activity of the urease solution by mixing 5 $cm^3$ of urease solution and 5 $cm^3$ of solution **F2** in a test tube. Moist red litmus paper suspended above the mixture in the test tube should show a colour change within 5 minutes.

**(iii)** Several pieces of red litmus paper.

**(iv)** A stopclock or stopwatch or sight of a clock with second hand.

**(v)** Access to water.

**(vi)** A 5 $cm^3$ syringe or pipette.

**Question 2**

**(i)** Slide **S3** (from Cambridge).

**Question 3**

No apparatus is required.

**To be supplied by Cambridge**

**(i)** Answer books, which also contain the questions.

**(ii)** Urease tablets.

**(iii)** Slide **S3** (Question 2 and shared between two candidates).

## RETURN OF EXAMINATION MATERIALS TO CAMBRIDGE

**Please read the following instructions carefully.**

**Immediately after the examination, the slides must be returned to Syndicate Buildings in the containers in which they were received, using the self-adhesive label for the parcel; they must not be included in parcels of scripts.** On occasion, it may be possible for the Syndicate to offer certain slides or materials, used in the examination, for sale to Centres. In this case, an Order Form will be enclosed with the materials sent from Cambridge for the examination. Slides and containers not returned in good condition will be charged at the rate of £3 per item.

## REPORT FORM

In order to minimise the disadvantages of a practical examination at which the Examiner is not present, the teacher responsible for the examination is asked to complete the Report Form on the back cover of the script of the candidate whose name appears first on the attendance register. Further comments by teachers need only be made on those scripts where difficulties are encountered.

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