

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

AGRICULTURE

5038/03

Paper 3 Practical Test

May/June 2006

CONFIDENTIAL INSTRUCTIONS

1 hour 15 minutes

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

READ THESE INSTRUCTIONS FIRST

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

It is assumed that the ordinary apparatus of a science laboratory will be available, including a supply of purified water (distilled or deionised).

If arrangements are made for different sessions for different groups of candidates, care must be taken to ensure that the different groups of candidates are effectively isolated so that **no information passes between them.**

All specimens should carry only the code letters and numbers as indicated and their identity should not be revealed to the candidates.

Supervisors should ensure that all specimens have the correct identity attached to the specimen and that these are **not** removed during the examination.

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.

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 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 substance

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@cie.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.

This document consists of 2 printed pages.

All specimens/materials should carry only the letters/numbers as indicated and their identity should not be revealed to candidates.

Supervisors should ensure that all specimens have the correct identity attached to the specimen and that these are not removed or altered during the examination.

Specimens and apparatus should be provided as follows.

Question 1 Each candidate should have access to:

- a mixture of a 1% solution of glucose and 1% suspension of starch labelled **AS1** – enough for 25 ml per candidate;
- Benedict's solution labelled **Benedict's solution**;
- Iodine solution labelled **iodine solution**;
- 2 clean test-tubes;
- 2 clean boiling tubes;
- a method of warming test-tubes
- dropping pipette;
- 10ml pipette for adding **AS1** to Visking tubing;
- test-tube rack;
- white tile;
- 2 ten cm lengths of Visking tubing;
- cotton and a method of cutting the cotton to appropriate lengths eg scissors;
- a method of timing in minutes;
- a supply of deionised water;
- a method of labelling test-tubes eg. chinagraph pencil.

Question 2 Specimens **AS2**, labelled by these codes only.

- **AS2** – an almost ripe pod of any leguminous plant, ideally about 6-10 cm long. Details of the chosen species to be given in Supervisor's report.
- A scalpel, or similar.
- Hand lens.

Question 3

- **AS3** which is a sandy soil containing small stones and is labelled **AS3**. It may be necessary to mix some small stones and sand into a clay soil if there is no sandy soil available locally;
- **AS4** which is a more loamy soil. It may be necessary to mix some clay and or organic material into a sandy soil if there is no loamy soil available locally. The soil should be labelled **AS4**. Details of the two soils to be given in Supervisor's report;
- a supply of water;
- a funnel;
- a 100 ml measuring cylinder;
- a 250 ml beaker;
- cotton wool;
- a retort stand, boss and clamp;
- a method of timing in minutes and seconds.

The supervisor's report is to be filled in on the back page of the first candidate's script. Please ensure that this is done.

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