

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

AGRICULTURE

5038/03

Paper 3 Practical Test

October/November 2004

CONFIDENTIAL INSTRUCTIONS

1 hour 15 minutes

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

Instructions for preparing apparatus

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 the candidate 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 session.**

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 letter and the 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.

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 hazards appraisal of the examination has been carried out.

The following codes are used where relevant.

C = corrosive substance

F = high 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.co.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.

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.

For Question 1:

Each candidate should have:

- (i) Two different fresh soil samples. AS1, labelled **AS1**, should be a sandy soil, more sandy than AS2. AS2, labelled **AS2**, should be a clay soil or a soil rich in humus. The soils, AS1 and AS2, should be described in the Supervisor's Report.
- (ii) Access to a supply of water.
- (iii) Two boiling tubes.
- (iv) Rack to stand boiling tubes.
- (v) Access to a clock.

For Question 2:

Each candidate should have:

- (i) A 50:50 mixture of starch and glucose labelled **AS3** with a spatula.
- (ii) A 20:80 mixture of glucose and a soluble protein such as albumen, labelled **AS4** with a spatula.
- (iii) Two clean test tubes or the facility to wash them.
- (iv) A ruler.
- (v) Benedict's solution labelled **Benedict's solution**.
- (vi) A water bath between 80°C and 90°C.
- (vii) Iodine in potassium iodide solution labelled **iodine solution**.
- (viii) Aqueous copper sulphate solution labelled **copper sulphate solution**.
- (ix) Aqueous sodium hydroxide solution labelled **sodium hydroxide solution**.

For Question 3:

Each candidate should have:

- (i) A flower of an insect pollinated plant. The flower should have obviously coloured petals and preferably have a scent. The stamens should be obvious and easily detachable. The flower should be labelled **AS5**. The species of flower should be stated in the supervisor's report.
- (ii) Hand lens with magnification clearly labelled.
- (iii) Scalpel or similar.
- (iv) Tweezers, forceps or similar.

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.