



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

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AGRICULTURE

5038/03

Paper 3 Practical Test

October/November 2010

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 the candidates.

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

Specimens and apparatus should be provided as follows.

1 Each candidate will need:

- a common annual or ephemeral weed with roots and leaves, labelled **AS1** – if possible the weed should also have flowers and seeds
- a perennial weed with rhizome, roots and leaves, labelled **AS2**.

2 Each candidate will need:

- a filter funnel 8-10 cm in diameter with a line marked on it 1 cm down from the rim
- a retort stand, clamp and boss.
- 200 cm³ beaker
- 100 cm³ measuring cylinder with graduations
- mineral wool or glass wool to plug the funnel
- a stop clock or stopwatch capable of timing 5 minutes
- sufficient soil labelled **AS3** to fill the funnel provided
AS3 needs to be approximately:

50 % coarse sand	}	proportions by volume mix together well
30 % fine sand		
20 % sieved garden soil		
- sufficient soil labelled **AS4** to fill the funnel provided
AS4 needs to be approximately:

30 % clay	}	proportions by volume mix together well
20 % peat		
50 % fine sieved garden soil		

If sourcing the soils is difficult **AS3** needs to be freely draining, and **AS4** needs to be slowly draining.

- access to water
- access to a container for the disposal of samples **AS3** and **AS4**.

3 Each candidate needs access to test tubes labelled **AS5**, **AS6** and **AS7**. There should be at least one set of test tubes between three candidates.

Test tube labelled **AS5** contains petrol or ethanol mixed with one drop of lubricating oil to give a pale yellow colour.

Test tube labelled **AS6** contains lubricating oil, any 20 W - 50 multi-grade or single-grade up to 30 W.

Test tube labelled **AS7** contains a heavy duty gear oil, EP 80 W - 120.

Each test tube should contain a small ball bearing or, if not available, a small marble to move up and down with the oil when the tube is inverted.

The tubes need to be filled to within 1 cm of the top, and should be corked or bunged and sealed securely with tape.