

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

Paper 3 Practical Test			May/June 2008	
AGRICULTUR	E	5038/03		
CENTRE NUMBER		CANDIDATE NUMBER		
NAME				

Candidates answer on the Question Paper.

Additional Materials: As listed on Instructions to Supervisors.

#### **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 or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer all questions.

At the end of the examination, fasten all your 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		
Total		

This document consists of 6 printed pages and 1 blank page and 1 Supervisor's Report.



IB08 06\_5038\_03/3RP © UCLES 2008

[Turn over

### Answer **all** the questions.

For Examiner's Use

Write your answers in the spaces provided.

- 1 AS1 and AS2 are two soil samples.
- Mark up two boiling tubes; one with AS1 and the other with AS2.
- Put 2 cm depth of **AS1** into the boiling tube labelled **AS1** and stand the boiling tube in a rack or holder.
- Put 2 cm depth of AS2 into the other boiling tube, labelled AS2.
- Add tap water to each boiling tube to within 0.5 cm of the top.
- Place a cork or rubber bung into each tube and shake both boiling tubes for 20 seconds, taking care to fully invert the boiling tube at least three times.
- Then allow the boiling tubes to stand for 5 minutes in the boiling tube rack or holder.

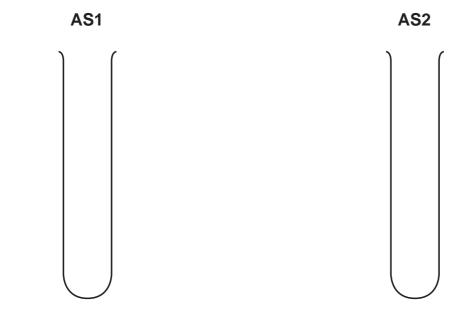
While this is happening use the remaining soil samples **AS1** and **AS2**.

(a)	Moisten your fingers with tap water. Rub <b>AS1</b> between your thumb and fore-fing Describe how the soil feels.	jer.
		[2]
(b)	Moisten your fingers with tap water. Rub <b>AS2</b> between your thumb and fore-finger. Describe how the soil feels.	
		[2]

Now return to the boiling tubes.

For Examiner's Use

(c) Draw on the diagrams below of the two boiling tubes to show the different layers. Label the humus and **two** other layers in each tube.



(d) Measure in mm the depth of humus in each sample and record the results below.

Depth of humus: AS1 \_\_\_\_\_\_[2]

(e) Which sample AS1 or AS2 would be best for:

crops needing well drained soil

Give a reason for your answer

[2]

crops needing a rich organic soil

Give a reason for your answer

[2]

[Total: 14]

[4]

2 You are provided with **two** bean seeds. **AS3** is a dry seed and **AS4** has been soaked in water for at least 24 hours.

For Examiner's Use

(a) Look carefully at **AS3**. You may find that a hand lens allows you to observe in more detail. In the space below draw a large, clear, labelled diagram showing three different parts.

[3]

**(b)** Remove **AS4** from the water and place it on a white tile or mat. Using a scalpel and forceps, remove the outer layer of the seed. Separate the seed into **two** halves and make a large drawing of both halves, showing the main structures.

Label the: cotyledon, radicle and plumule.

[3]

(c)	Take <b>one</b> of the halves of <b>AS4</b> and break it up into small pieces by chopping with a scalpel.  Add three or four drops of iodine and note the result below.	
	Colour after adding iodine	
	This suggests that the white material inside the seed is rich in	
	[2]	
(d)	In addition to the food nutrient found in <b>(c)</b> , beans are a rich source of the food nutrient needed for animal growth.	
	Name this food nutrient	
	Describe a test that could be used to demonstrate the presence of this nutrient.	
	[2]	

For Examiner's Use

[Total: 10]

3

	5 is a part from a petrol engine.  Identify AS5	[1]	For Examiner's Use
(b)	Draw a simple diagram to show the main parts of <b>AS5</b> .		
		[4]	
(c)	Suggest <b>one</b> possible fault in <b>AS5</b> which may affect its efficiency.		
		[1]	
	[Tatal	. 61	1

[Total: 6]

## **BLANK PAGE**

#### SUPERVISOR'S REPORT

\*The Supervisor or Teacher responsible for the subject is asked to answer the following questions. 1 Was there any difficulty in providing the soil samples AS1 and AS2? Was there any difficulty experienced with using the soil samples? 2 Which plant species did you use for the bean seeds AS3 and AS4? Was there any difficulty in providing the bean seeds AS3 and AS4? 3 Was there any difficulty in providing the petrol engine part **AS5**? Declaration to be signed by Principal and completed on the top script from the Centre. The preparation of the Practical Test has been carried out so as to fully maintain the security of the examination. Centre Number School

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 Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

© UCLES 2008 5038/03/M/J/08

\*Information that applies to all candidates need only be given once.