

CANDIDATE NAME

CENTRE

NUMBER

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Ordinary Level

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AGRICULTURE	5038/03
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Paper 3 Practical Test

May/June 2008

1 hour 15 minutes

CANDIDATE

NUMBER

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.



Answer **all** the questions.

Write your answers in the spaces provided.

- **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**.

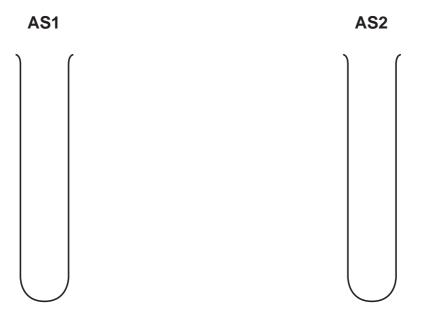
(a)	Moisten your fingers with tap water. Rub AS1 between your thumb and fore-fin Describe how the soil feels.	ger.
		[2]
(b)	Moisten your fingers with tap water. Rub AS2 between your thumb and fore-finger. Describe how the soil feels.	
		[2]

[4]

Now return to the boiling tubes.

(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.

3



d)	Measure in	mm the de	epth of humus	in each sample ar	nd record the	results below
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Depth of humus: AS1

(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]

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

een soa For iner's serve in more three different (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.

(c)	Take one of the halves of AS4 and break it up into small pieces by chopping 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 (c) , 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]
	[Total: 10]

Idontifi. ACE	76.
Identify AS5	TaCannbride
Drow a simple diagram to about the main parts of ASE	
Draw a simple diagram to show the main parts of AS5 .	
	[4]
Suggest one possible fault in AS5 which may affect its efficiency.	
	[1]
	[Total: 6]

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SUPERVISOR'S REPORT

*The Supervisor or Teacher responsible for the subject is asked to answer the following question

1 Was there any difficulty in providing the soil samples AS1 and AS2?
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.

Signed		
Centre Number	School	

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

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