

Centre Number	Candidate Number	Name
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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

AGRICULTURE

5038/03

Paper 3 Practical Test

October/November 2004

1 hour 15 minutes

Candidates answer on the Question Paper.

Additional Materials: As listed in 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 in the spaces provided on the Question Paper.

You may use a pencil for any diagrams, graphs, or rough working.

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

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.

If you have been given a label, look at the details. If any details are incorrect or missing, please fill in your correct details in the space given at the top of this page.

Stick your personal label here, if provided.

For Examiner's Use	
1	
2	
3	
Total	

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



Answer **all** questions.

Write your answers in the spaces provided.

1 AS1 and AS2 are two samples of soil.

- (a) • Examine each sample carefully.
• Rub each sample between your fingers.
• Wet your hand and try rolling each sample into a ball.

Describe **four** differences between **AS1** and **AS2** in the table below.

	AS1	AS2
difference 1		
difference 2		
difference 3		
difference 4		

[4]

- Quarter fill a boiling tube with **AS1**.
- Fill the rest of the boiling tube with cold, clean water.
- Shake the boiling tube thoroughly and leave it to stand in a rack.
- Repeat the experiment with **AS2** and a second boiling tube.

Leave the tubes to settle for 30 minutes.

You should begin Question 2 or Question 3 while the soil samples are settling.

- (b)** After the samples have settled draw the two boiling tubes in the space below. Label the drawings.

[4]

- (c)** As a result of the settling experiment, suggest **three** properties of **AS1**.

1.
2.
3. [3]

[Total: 11]

- 2 **AS3** and **AS4** are two food supplements suitable for farm animals. You are going to do a series of tests to find which food groups are in them.

(a) Test 1

- Mix a spatula of **AS3** with 4 cm depth of cold water in a clean test tube.
- Add an equal amount of Benedict's solution.
- Carefully warm the test tube in a water bath for 2 minutes.
- Record any colour change.
- Repeat Test 1 with **AS4**.

Complete the table below with your results and conclusions for Test 1.

supplement	result of heating with Benedict's solution	conclusions
AS3		
AS4		

[3]

(b) Test 2

- Mix a spatula of **AS3** with 4 cm depth of cold water in a clean test tube.
- Add a few drops of iodine solution.
- Record any colour change.
- Repeat Test 2 with **AS4**.

Complete the table below with your results and conclusions for Test 2.

supplement	result of adding Iodine solution	conclusion
AS3		
AS4		

[3]

(c) Test 3

- Mix a spatula of **AS3** with 4 cm depth of cold water in a clean test tube.
- Add 2 cm depth of aqueous sodium hydroxide and then 2 cm depth of aqueous copper sulphate.
- Gently mix the contents of the test tube.
- Record any colour change.
- Repeat Test 3 with **AS4**.

Complete the table below with your results and conclusions for Test 3.

supplement	result of adding sodium hydroxide and copper sulphate	conclusions
AS3		
AS4		

[3]

- (d) (i)** Explain why **AS4** is better in production rations than **AS3**.

.....

 [2]

- (ii)** Suggest how the supplements **AS3** and **AS4** should be given to farm animals.

..... [1]

[Total:12]

3 **AS5** is a flower from an insect pollinated plant.

(a) (i) Use a hand lens to examine **AS5** and then make a drawing of the flower.

State the magnification of the lens

[2]

(ii) Remove the petals from **AS5**. Then remove one of the stamens (the male reproductive organ). Make a drawing of this stamen.

[2]

(b) List **three** observations that show that this flower is pollinated by insects.

1.

2.

3. [3]

[Total:7]

1 Was any difficult experienced in providing the necessary materials? Give brief details.

2 Did the candidate experience any difficulty during the course of the examination? If so, give brief details. Reference should be made to

- (a)** difficulties arising from faulty specimens;
- (b)** accidents to apparatus or materials;
- (c)** any information that is likely to assist the Examiner, especially if this cannot be discovered from the scripts.

3 Identification of specimens.

Description of **AS1** and **AS2** in Question 1

.....

Species of flower **AS5** in Question 3

Declaration to be signed by the 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

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