

Candidate Name _____

Centre Number

Candidate
Number

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CAMBRIDGE INTERNATIONAL EXAMINATIONS
Joint Examination for the School Certificate
and General Certificate of Education Ordinary Level

AGRICULTURE

5038/3

PAPER 3 Practical Test

OCTOBER/NOVEMBER SESSION 2002

1 hour 15 minutes

Candidates answer on the question paper.

Additional materials:

As listed in Instructions to Supervisors

TIME 1 hour 15 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided on the question paper.

Use sharp pencils for your drawings. Coloured pencils or crayons should **not** be used.

INFORMATION FOR CANDIDATES

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

FOR EXAMINER'S USE

1	
2	
3	
TOTAL	

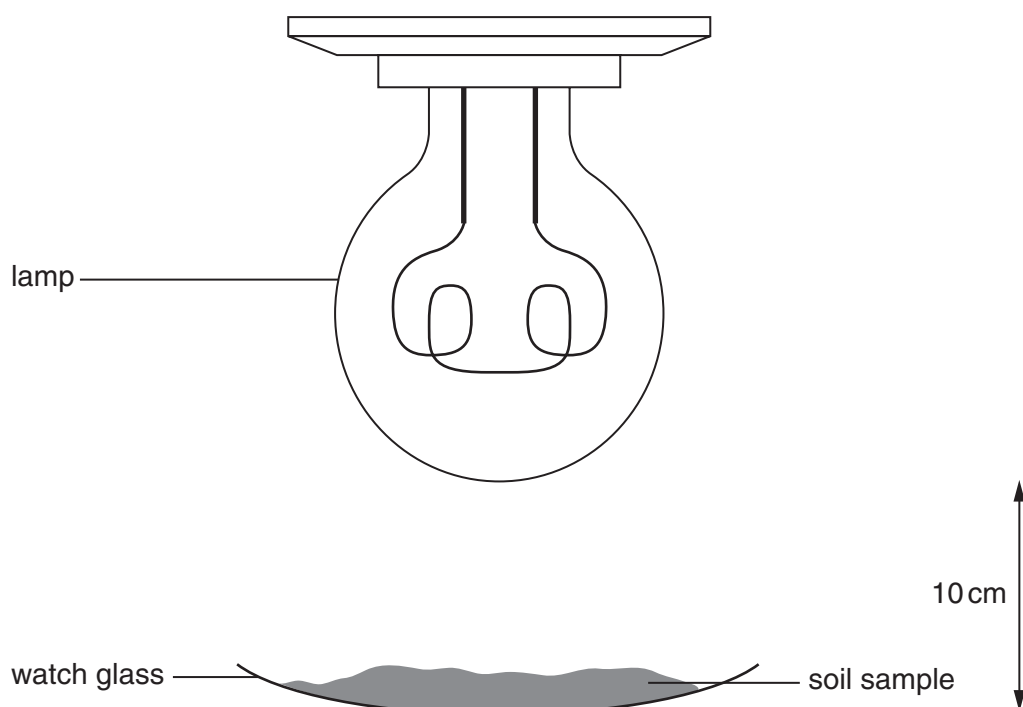
This question paper consists of 8 printed pages.



Answer **all** the questions.

Write your answers in the spaces provided.

- 1 (a) You will investigate the effect of radiation on two soil samples, **AS1** and **AS2**.
- Place a sample of **AS1** in a watch glass and level the soil.
 - Take the temperature of **AS1** and record it in Table 1.1.
 - Switch on the power supply to the lamp taking the temperature of **AS1** each minute for 5 minutes.
 - Record the temperatures in Table 1.1.
 - Repeat the experiment with **AS2**.



(i)

Table 1.1

time / min	temperature of AS1 / °C	temperature of AS2 / °C
0		
1		
2		
3		
4		
5		

[2]

(ii) Which sample absorbed most radiation?[1]

(iii) Describe exactly how you measured the soil temperature using a thermometer.

.....

.....

.....

.....[2]

(iv) How could the results of this experiment be made more reliable?

.....

.....

.....[1]

(b) Suggest how to prevent solar radiation from increasing the soil temperature.

.....

.....

.....[2]

[Total : 8]

- 2 (a) (i) Make a large, labelled drawing of specimen **AS3** to show its external features.

[3]

- (ii) Remove one side of **AS3** so that you can see the internal structure.

Make a labelled drawing of the internal structure of **AS3**.

[3]

(b) Cut **AS4** in half so that you can see the internal structure.

(i) State two observable similarities between the internal structures of **AS3** and **AS4**.

1.

.....

2.

.....[2]

(ii) State three observable differences between **AS3** and **AS4**.

1.

.....

2.

.....

3.

.....[3]

(c) Suggest how the seeds of **AS3** and **AS4** are dispersed.

.....

.....

.....

.....[2]

[Total : 13]

- 3 **AS5** and **AS6** are food supplements for young animals. Each contains a mixture of food types. You will do a series of tests to identify the food types in **AS5** and **AS6**.

(a)

- Place a small amount of **AS5** into a clean, dry test-tube.
- Add 3 cm depth of Benedict's solution.
- Warm the mixture carefully for at least 3 minutes, taking care not to boil it.
- Repeat the experiment using **AS6**.

Fill in your results and conclusions in the table below.

supplement	results	conclusions
AS5		
AS6		

[2]

(b)

- (i)
- Place a small amount of **AS5** on to a white spotting tile or similar.
 - Use a pipette to add a few drops of iodine solution.
 - Repeat the experiment using **AS6**.

Fill in your results and conclusions in the table below.

supplement	results	conclusions
AS5		
AS6		

[2]

- (ii) What is the advantage of using a white background for this test?

.....[1]

(c)

- Place a small amount of **AS5** into a clean, dry test-tube.
- Add 3 cm depth of copper sulphate solution and then 3 cm depth of sodium hydroxide solution.
- Gently warm the contents using a water-bath.
- Repeat the experiment using **AS6**.

Fill in your results and conclusions in the table below.

supplement	results	conclusions
AS5		
AS6		

[2]

(d) Suggest which of the supplements should be given to an injured animal and state why.

supplement

reason

.....[2]

[Total : 9]

- 1 Was any difficulty 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.

scientific name

Centre Number School

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