

Candidate Name _____

Centre Number	Candidate Number

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

AGRICULTURE

PAPER 3 Practical Test

5038/3

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	

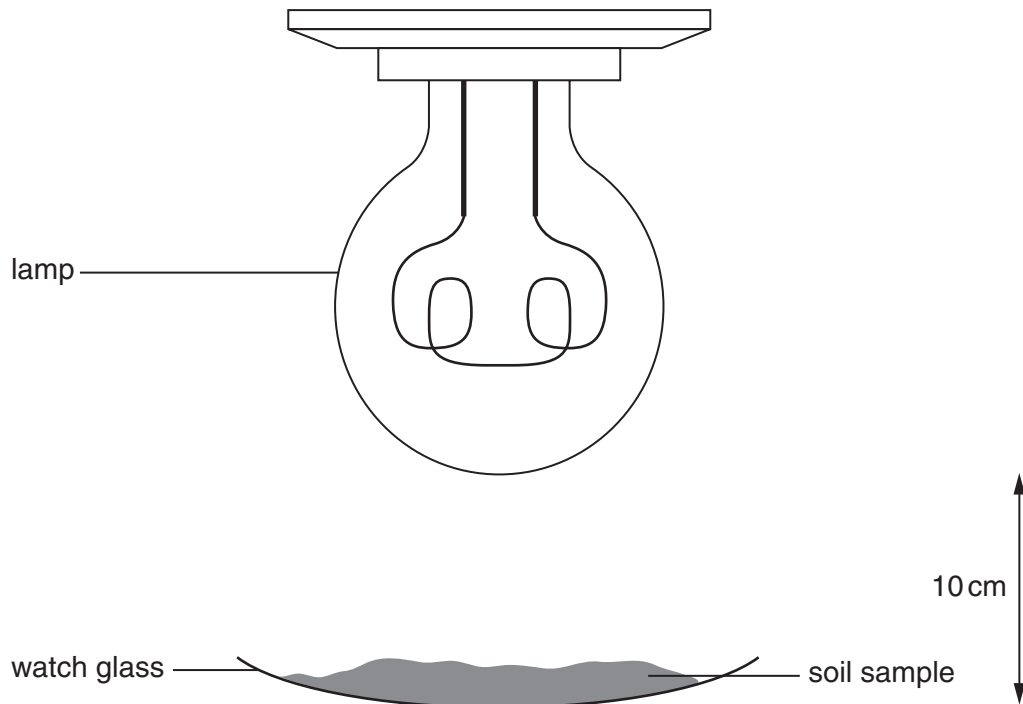
This question paper consists of 8 printed pages.



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]

SUPERVISOR'S REPORT

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

- 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.

- 3 For Question 2, state the identity of the plants used for **AS3** and **AS4** specimens.

AS3 common name

scientific name

AS4 common name

scientific name

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

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