

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	
<b>TOTAL</b>	

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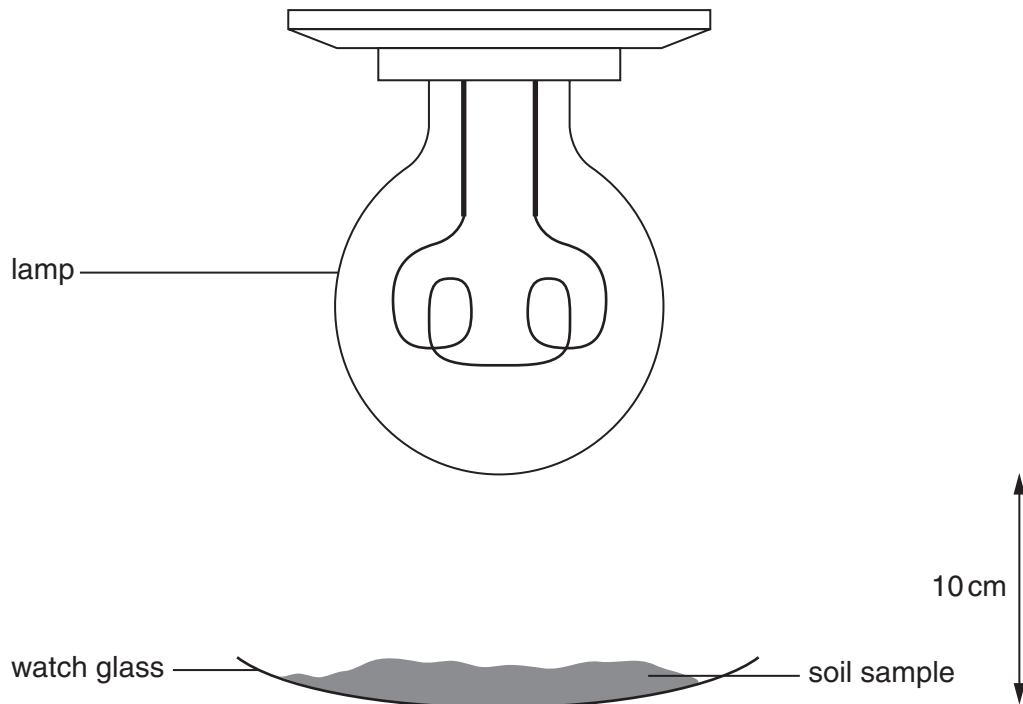
**This question paper consists of 8 printed pages.**



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 <b>AS1</b> / °C	temperature of <b>AS2</b> / °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
<b>AS5</b>		
<b>AS6</b>		

[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
<b>AS5</b>		
<b>AS6</b>		

[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
<b>AS5</b>		
<b>AS6</b>		

[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.**