



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

CANDIDATE  
NAME

CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**AGRICULTURE**

**5038/03**

Paper 3 Practical Test

**October/November 2009**

**1 hour 15 minutes**

Candidates answer on the Question Paper.

Additional Materials: As listed in Confidential Instructions.

**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	
<b>1</b>	
<b>2</b>	
<b>3</b>	
<b>Total</b>	

This document consists of **8** printed pages, **3** blank pages and **1** Supervisor's Report.



1 **AS1** is a flower.

(a) (i) Remove from the flower:

- a sepal;
- a petal;
- stamen (the anther and filament together).

Keep the parts as whole as possible.  
Draw and label the parts removed.

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Use*

[4]

- (ii) Cut the ovary, style and stigma in half lengthwise.  
Draw and label the ovule, the stigma and the style.

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Use

[3]

**AS1** is a plant pollinated by insects.

- (iii) State **two** ways that the flower, **AS1**, is adapted for insect pollination.

.....

.....

..... [2]

(b) **AS2** is a complete flowering plant.

(i) Draw the plant and label **three** different parts.

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Use

[3]

**AS2** is a plant pollinated by wind.

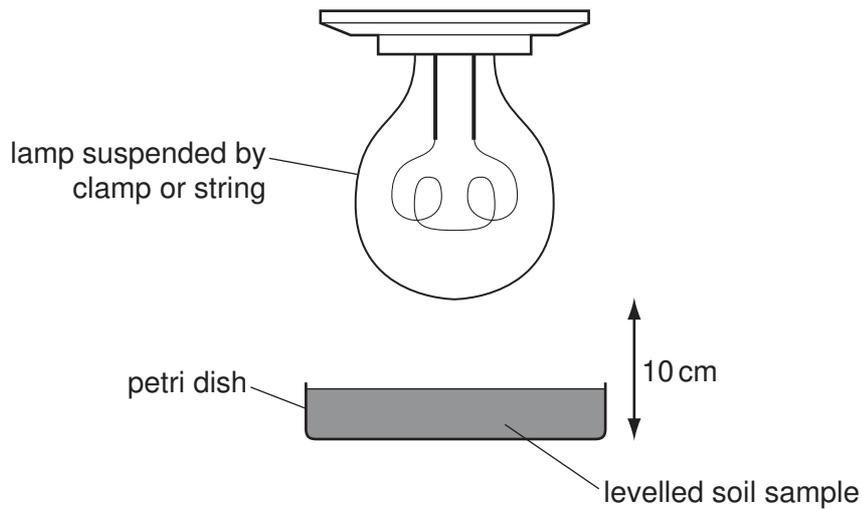
(ii) How is the flower in **AS2** adapted for wind pollination?

.....  
.....  
..... [2]

[Total: 14]



- 2 You are to investigate the effect of heat radiation on **two** soil samples, **AS3** and **AS4**. The diagram below shows how this is to be done.



- Place a sample of **AS3** in a petri dish and level the soil to a depth of about 1 cm.
- Take the temperature of **AS3** by placing the thermometer/probe in the soil.
- Record the temperature in Table 2.1.
- Switch on the power supply to the lamp.
- Take the temperature of **AS3** each minute for 5 minutes.
- Record these temperatures in Table 2.1.
- Repeat the procedure using **AS4**.

**Table 2.1**

(i)

time/min	temperature of <b>AS3</b> / °C	temperature of <b>AS4</b> / °C
0 (starting temperature)		
1		
2		
3		
4		
5		

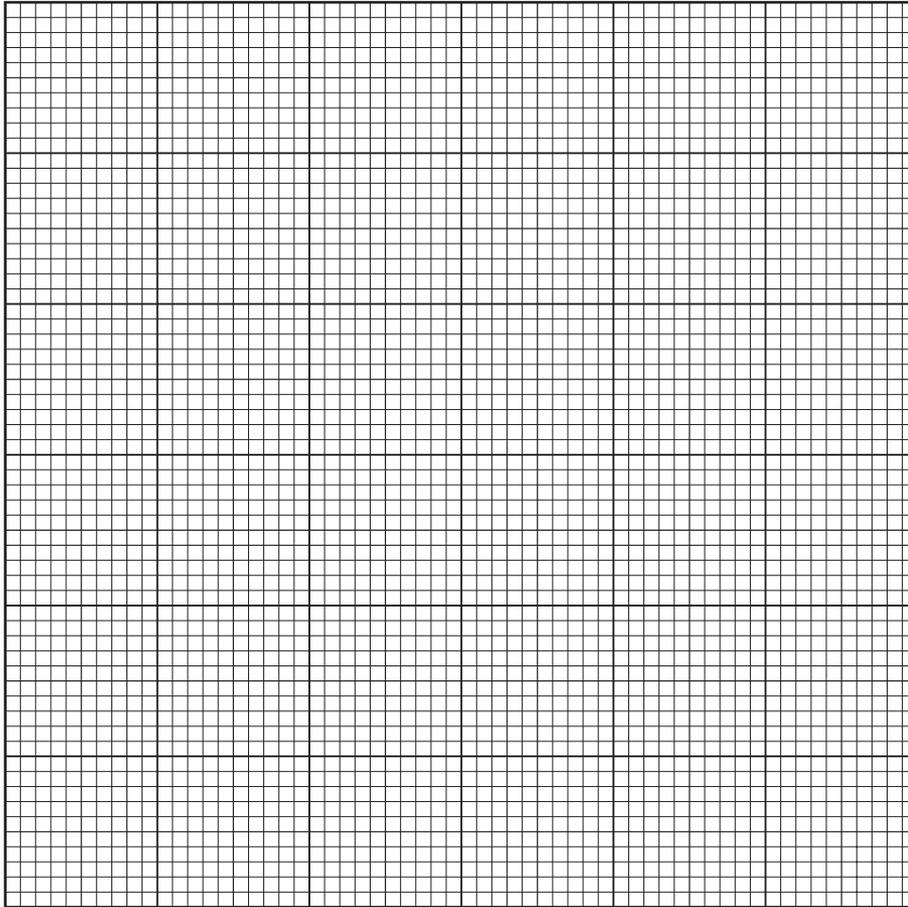
[2]

- (ii) Which sample absorbed most heat radiation?

..... [1]

(iii) On the graph paper below plot the results to show the changes in temperature for AS3 and AS4.

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[4]

(iv) Explain why the thermometer/probe is placed in the soil rather than on the surface.

.....

.....

.....

.....

[1]

(v) Explain why the soil samples should have been air dried before the experiment.

.....  
.....  
.....  
..... [1]

(vi) Suggest **one** other way that the results of this experiment could be made more reliable.

.....  
.....  
..... [1]

**[Total: 10]**

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Use*

3 **AS5, AS6** and **AS7** are samples of **three** different soils.

- Use a hand lens to carefully examine soil sample **AS5**.
- With moist fingers rub the soil sample between your fingers.
- Repeat the procedure with soil samples **AS6** and **AS7**.

(i) Match the soil samples with the soil description in the table below.

description	soil sample
dark and organic soil	<b>AS</b>
clay soil	<b>AS</b>
course sandy soil	<b>AS</b>

[3]

(ii) Which soil sample

could be easily leached? ..... [1]

readily absorbs energy from the sun? ..... [1]

would be improved with the addition of lime to flocculate the soil?

..... [1]

**[Total: 6]**





**SUPERVISOR'S REPORT**

*\*The supervisor or teacher responsible for the subject is asked to answer the following questions.*

**1** Name the flower used for **AS1**.

common name .....

scientific name .....

Name the flowering plant used for **AS2**.

common name .....

scientific name .....

**2** Type of lamp provided.

.....

Lamp volts

.....

Lamp watts

.....

Give details of any difficulties encountered for this question.

.....

.....

**3** Briefly describe the nature of the soils

**AS5** .....

**AS6** .....

**AS7** .....

*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.**

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