CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Ordinary Level

AGRICULTURE 5038/03

Paper 3 Practical Test

May/June 2003

1 hour 15 minutes

Candidates answer on the Question Paper.

Additional Materials: As listed in Instructions to Supervisors

READ THESE INSTRUCTIONS FIRST

Write your name, Centre number and candidate number in the spaces provided at the top of this page. Write in dark blue or black pen in the spaces provided on the Question Paper. You may use a soft 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 Exam	iner's Use
1	
2	
3	
Total	

This document consists of **5** printed pages,a Supervisor's Report and **2** blank pages.

Answer all the questions.

Write your answers in the spaces provided.

I AS	-	e of soil that has been heated in an oven at 100 °C for two days and then left
		peen removed from the soil by this process?
		[1]
	20 g of AS	1 has been weighed for you.
	until n	the soil on a metal tray, on a tripod and heat strongly over a Bunsen burner o more smoke comes from the sample. the sample to cool.
(b)	Complete ⁻	Table 1.1 with your observations while you wait for the sample to cool.
		Table 1.1
sam	ple	colour of AS1
before	burning	
after bu	urning	
		[2]
(c)	Describe to	wo safety precautions you have taken during this experiment.
	1	
	2	[2]
	Make sure	that the soil is cool before you continue with this experiment.
	 Empty 	your cooled sample of AS1 on the metal tray using a balance. the cooled soil sample into the waste soil container provided. the empty metal tray.

(d) Complete Table 1.2 to work out the percentage of organic matter in AS1.

Table 1.2

weight of AS1 before burning	20 g
weight of AS1 after burning	
loss in weight	
percentage of organic matter in AS1	

[4]

(e) (i)	How can a farmer increase the amount of organic matter in the soil?
	[1]
(ii)	What is the advantage to the farmer of increasing the amount of organic matter in the soil?
	עון

[Total : 12]

2 Table 2.1 describes methods to test a 1 cm³ sample of a solution for starch, reducing sugar and protein.

Table 2.1

	method to test a 1 cm ³ sample of a solution
starch	add 3 or 4 drops of iodine solution to sample in a test-tube
reducing sugar	heat sample with 1 cm depth of Benedict's solution in a test-tube in a water-bath for 3 minutes
protein	add 3 cm depth of sodium hydroxide and 3 cm depth of copper sulphate solution to sample in a test-tube and gently shake

AS2 and **AS3** are solutions made from livestock food supplements. Each supplement may contain starch, reducing sugar and protein.

(a) Use the information in Table 2.1 to test **AS2** and **AS3** to complete Table 2.2 with your results.

Table 2.2

	AS2	AS3
colour when mixed with iodine solution		
colour when heated with Benedict's solution		
colour when mixed with sodium hydroxide and copper sulphate solutions		

	[6]
(b)	What conclusions can you make about AS2 and AS3 from your results?
	AS2
	AS3
	[4]
(c)	Suggest two precautions that should be taken when storing these food supplements or a farm.
	1
	2[2]

[Total: 12]

3	(a)	Make a labelled drawing of AS4 to show its external features.
U	(u)	make a labelled drawing of Ab+ to show its external leatures.

		[5]
(b)	What is the function of AS4 ?	
		[1]
	[Total :	61

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SUPERVISOR'S REPORT

Cer	ntre N	Number School
Sig	ned	
	pre _l mina	paration of the Practical Test has been carried out so as to fully maintain the security of the tion.
Dec	clarat	tion to be signed by the Principal, and completed on the top script from the Centre.
	(c)	any information that is likely to assist the Examiner, especially if this cannot be discovered from the scripts.
	(b)	accidents to apparatus or materials;
	(a)	difficulties arising from faulty specimens;
		ails. Reference should be made to
2		the candidate experience any difficulty during the course of the examination? If so, give brief
1	Was	s any difficulty experienced in providing the necessary materials? Give brief details.
111	e Su	pervisor or reacher responsible for the subject is asked to answer the following questions.
*Th	e Su	pervisor or Teacher responsible for the subject is asked to answer the following questions.

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