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CAMBRIDGE INTERNATIONAL EXAMINATIONS General Certificate of Education Ordinary Level

AGRICULTURE

Paper 3 Practical Test

5038/03

May/June 2003

Candidates answer on the Question Paper. Additional Materials: As listed in Instructions to Supervisors 1 hour 15 minutes

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	

Answer **all** the questions.

	Why.
	2
	Answer all the questions.
	Answer all the questions. Write your answers in the spaces provided. ble of soil that has been heated in an oven at 100 °C for two days and then left
1 AS1 is a sam to cool.	ple of soil that has been heated in an oven at 100 °C for two days and then left
(a) What has	been removed from the soil by this process?
	[1]
20 g of A	S1 has been weighed for you.
until	e the soil on a metal tray, on a tripod and heat strongly over a Bunsen burner no more smoke comes from the sample. The the sample to cool.
(b) Complete	Table 1.1 with your observations while you wait for the sample to cool.
	Table 1.1
sample	colour of AS1
before burning	
after burning	
	[2]
(c) Describe	two safety precautions you have taken during this experiment.
1	
2	[2]
	e that the soil is cool before you continue with this experiment.
	gh your cooled sample of AS1 on the metal tray using a balance.

Empty the cooled soil sample into the waste soil container provided.

Weigh the empty metal tray.

Table 1.2

(d) Complete Table 1.2 to work ou	3 ut the percentage of organic matter in AS1. Table 1.2	For Examiner's Use
weight of AS1 before burning	20 g	COM
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 organ	nic matter in the soil?
		[1]
(ii) What is the soil?	the advantage to the farmer of increasing	ng the amount of organic matter in
		[2]
		[Total : 12]

[6]

Table 2.1

2 Table 2.1 desc and protein.	4 cribes methods to test a 1 cm ³ sample of a solution for starch, reducing	For Examiner's Use
	Table 2.1	Tage Co
	method to test a 1 cm ³ sample of a solution	133
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		

(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 on a farm.
	1
	2[2]

Why.		
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3 (a) Make a labelled drawing of AS4 to show its external features.

	ڙ)]
(b)	What is the function of AS4 ?	
		••
	[1	[]
	[Total : 6	3]

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SUPERVISOR'S REPORT

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		SUPERVISOR'S REPORT
*Th	e Su _l	SUPERVISOR'S REPORT pervisor or Teacher responsible for the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the following question the subject is asked to answer the subj
1	Was	s any difficulty experienced in providing the necessary materials? Give brief details.
2		the candidate experience any difficulty during the course of the examination? If so, give brief ails. 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.
Dec	clarat	ion to be signed by the Principal, and completed on the top script from the Centre.
	prep mina	paration of the Practical Test has been carried out so as to fully maintain the security of the tion.
Sigi	ned	
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^{*}Information that applies to all candidates need only be given once.