

Centre Number	Candidate Number	Name
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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**AGRICULTURE**

**0600/02**

Paper 2

October/November 2006

**1 hour 15 minutes**

Candidates answer on the Question Paper.  
No Additional Materials are required.

**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.

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	
1	
2	
3	
4	
5	
6	
7	
8	
9	
<b>Total</b>	



1 (a) Fig.1.1 shows part of a farm.



Fig. 1.1

(i) Name the method of land use suggested by this diagram.

..... [1]

The tenure of this land could be communal and farmed by many families

or

rented and farmed by one family.

(ii) State the advantages and disadvantages of **one** of these systems of tenure.

.....  
.....  
.....  
..... [3]

(b) (i) Explain what farmers must do to sell their farm produce as organic.

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

(ii) Suggest an advantage of organic farming to

1 the farmer .....

.....

2 the environment .....

..... [2]

[Total : 8]

2 (a) State two differences between a sand particle and a clay particle.

- 1 .....
- 2 ..... [2]

(b) Fig. 2.1 shows dried samples of sand and clay placed in two tubes.

The tubes are held upright in beakers containing 100 cm<sup>3</sup> of water.

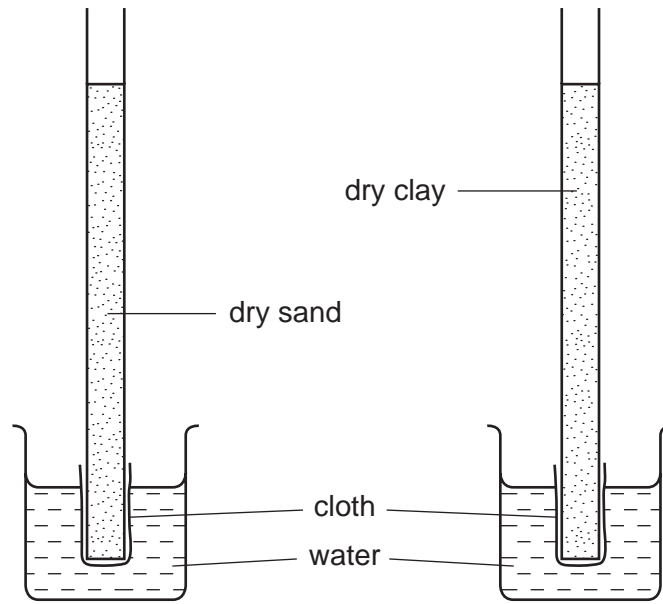


Fig. 2.1

(i) On Fig. 2.1 mark on **each tube** the level to which water might reach 12 hours after being placed in the beaker of water. [1]

(ii) Explain the reason for your answer.

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

(c) Fig. 2.2 is a photograph of a soil profile.

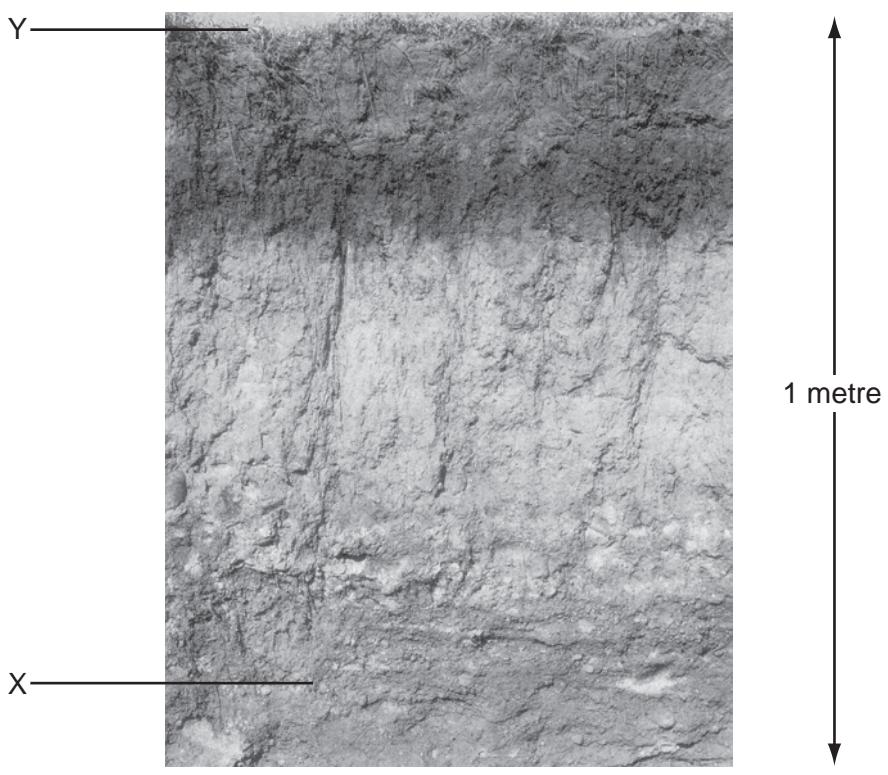


Fig. 2.2

(i) Draw **two** lines on Fig.2.2 to divide the soil profile into three layers. Label each layer. [4]

(ii) Describe how to test the pH of a sample of soil taken from **Y**.

.....

.....

.....

.....

..... [3]

(iii) Suggest how the pH might differ at **X** compared to **Y**.

Give reasons for your answer.

.....

.....

..... [2]

[Total :13]

3 (a) Fig. 3.1 shows a plant with one flower enlarged and cut in half.

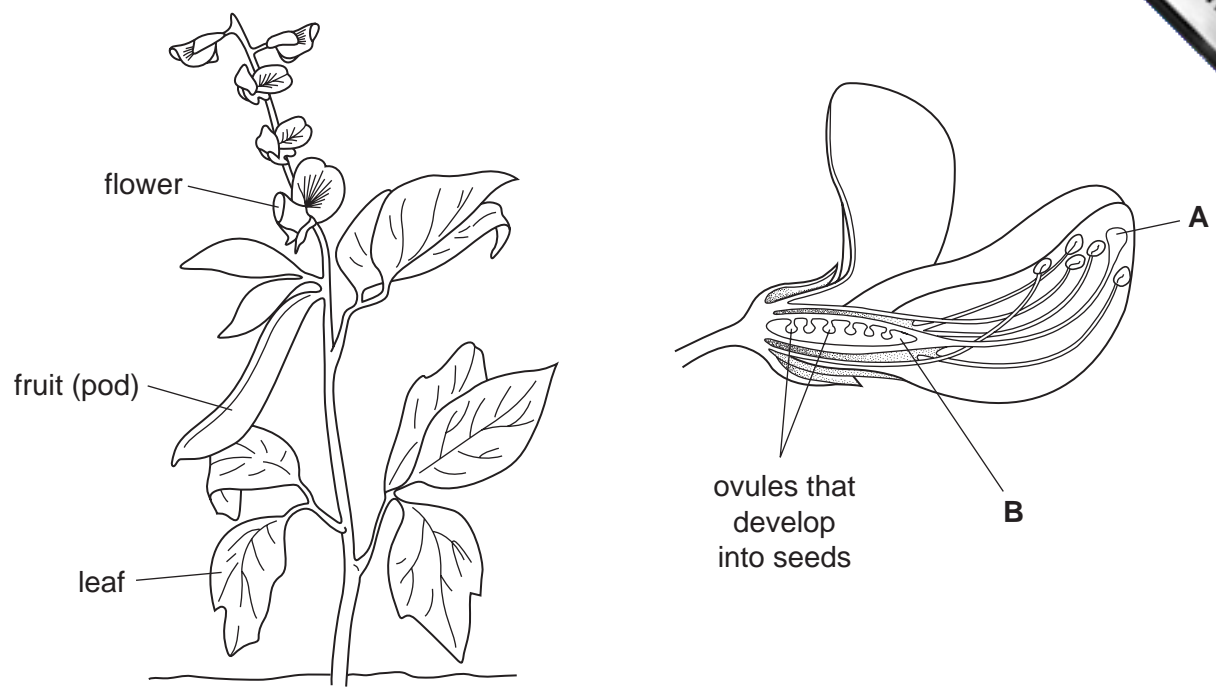


Fig. 3.1

(i) Name the parts of the flower labelled **A** and **B**.

**A** ..... **B** ..... [2]

(ii) Describe how the plant is pollinated.

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

(b) Seeds form after fertilisation.

Define fertilisation.

..... [2]

(c) As the seeds form, they use sugars made in the leaves.

(i) Where, in leaves, are most of these sugars made?

..... [1]

(ii) State two factors that affect the rate of sugar production in leaves.

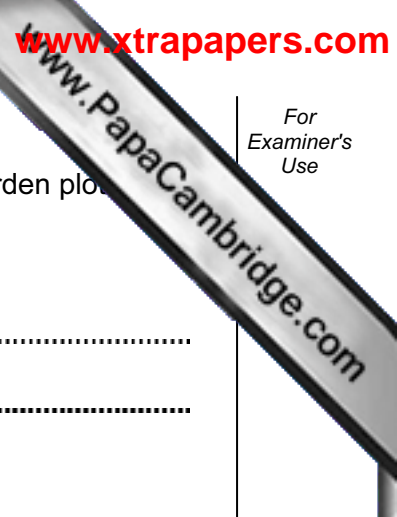
1 .....

2 ..... [2]

(iii) Explain how the sugar is carried to the developing seeds from the leaves.

.....  
.....  
.....  
.....  
..... [3]

[Total : 11]



4 (a) Give an explanation for the following when setting up a seed bed in a garden plot

1 digging in well rotted manure or compost rather than fresh material

.....  
.....

2 preparing a deep tilth for the seed bed

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

(b) Name a cereal crop. ....

(i) Name a weed growing in this crop. ....

State how to control this weed using a cultural method.

.....  
.....

(ii) Name a disease of this crop. ....

State how to prevent this disease, without using chemicals.

.....  
..... [4]



(c) Five pesticides were tested to find their effectiveness at protecting a crop from pests. The percentages of infested plants, one week after treatment, are shown in Table 4.1.

Table 4.1

treatment	% of infested plants				
	flea beetle	green aphid	blue-grey aphid	moth caterpillar	butterfly caterpillar
A	35	10	15	35	35
B	25	17	20	45	40
C	25	30	25	42	36
D	30	15	22	37	31
E	14	70	80	30	20
untreated	70	68	71	55	61

(i) Which pesticide was most effective at reducing infestation by moth caterpillars?

..... [1]

(ii) Which pesticide was least effective in reducing infestation by flea beetle?

..... [1]

(iii) Suggest a reason why there was greater infestation by blue-grey aphid in the crop treated by pesticide **E** than the untreated crop.

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

[Total : 9]

5 (a) Fig.5.1 shows the digestive system of a donkey.

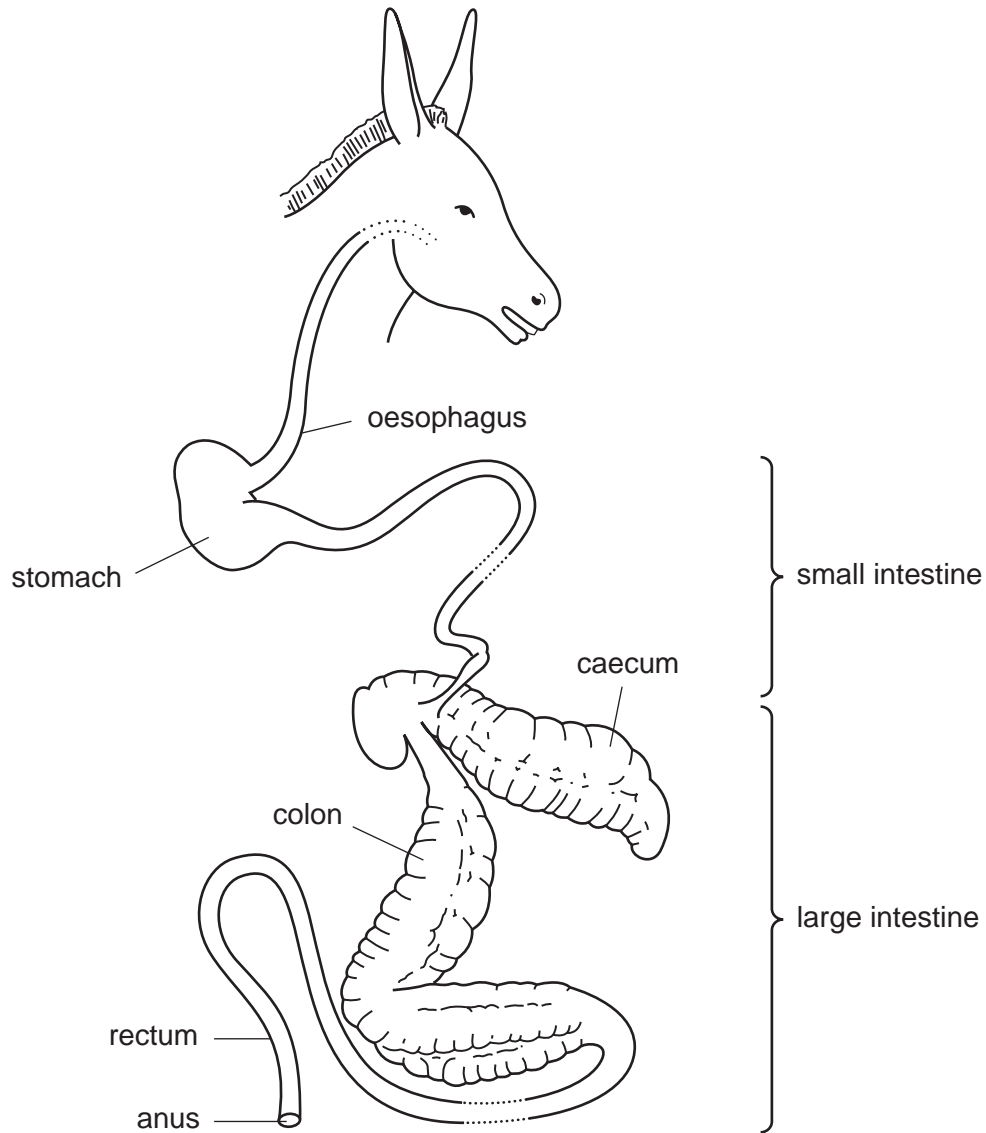


Fig. 5.1

(i) Using the information in the diagram state if the system is ruminant or non-ruminant. Give a reason for your answer.

..... [1]

(ii) What is the function of the caecum?

..... [1]

(b) Table 5.1 shows the percentage (%) composition of different foods.

Table 5.1

Type of food	% of total	% of dry matter				
	Water	Protein	Fat	Carbohydrate	Fibre	ash
Cassava	88.0	2.8	0.3	84.8	8.7	3.4
Dried grass	11.0	19.7	3.8	42.7	22.4	11.4
Fodder Beet	82.0	6.8	0.3	79.1	5.9	7.7
Groundnut cake	10.0	50.4	2.1	31.6	27.3	4.7
Hay	14.2	12.2	1.8	48.1	30.1	7.8
Maize	14.0	9.8	4.2	82.3	2.4	1.3
Mangels	90.0	9.2	0.8	76.9	6.2	6.9
Sorghum	14.0	10.8	4.3	80.1	2.1	2.7

(i) From the foods listed, name:

one fed as a protein concentrate, .....

one fed as a succulent, .....

one fed to provide roughage ..... [3]

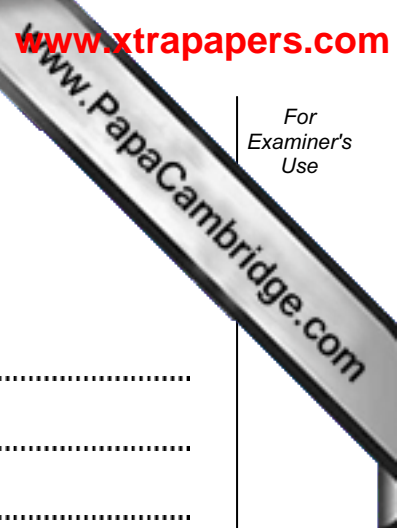
(ii) State **one** way a production ration differs from a maintenance ration. Give an example from Table 5.1 to support your answer.

.....

.....

..... [2]

[Total :7]



6 (a) Describe the process of birth in a named (not poultry) farm animal.

Animal chosen .....

.....

.....

.....

.....

..... [3]

(b) A black pig gave birth to 13 white piglets.

(i) What colour is dominant in these pigs.

..... [1]

(ii) Circle **terms** from the list below that can be used to describe the genetic make up for colour of the black mother.

Terms - dominant : heterozygous : homozygous : recessive [1]

(c) Explain how a farmer can increase yields by animal breeding.

.....

.....

..... [2]

[Total : 7]

7 (a) Draw part of a fence suitable to contain cattle in an enclosure.

Include a reference to scale

[2]

(b) Suggest how the following practices lead to improved pasture;

1 adding lime, .....

2 clearing away shrubs, .....

3 burning areas in rotation. ....

[3]

(c) Explain how the control of grazing can improve the quality of pasture.

.....  
.....  
.....  
.....  
.....

[3]

[Total : 8]



8 (a) Fig. 8.1 shows the collection of water from a roof.

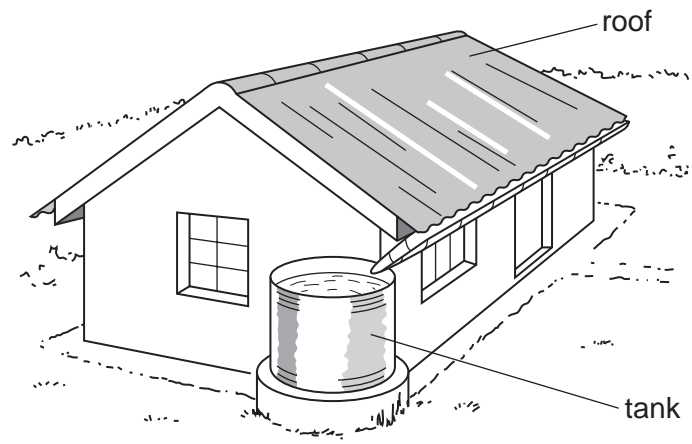


Fig. 8.1

(i) State two reasons why the water in the tank might not be suitable for use as drinking water.

1 .....

.....

2 .....

..... [2]

(ii) Mark on the tank in Fig. 8.1 where a tap should be placed to provide water for drip irrigation.

[1]

(iii) Fig. 8.2 shows a plastic water pipe used for drip irrigation.

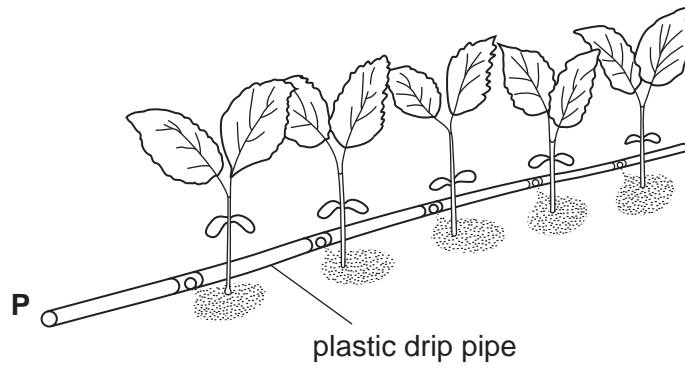


Fig. 8.2

State how to join a connecting pipe to the drip pipe at P.  
You can use a diagram to help explain your answer.

.....

[2]

(b) Suggest **two** advantages that drip irrigation has over furrow irrigation.

.....

.....

..... [2]

[Total : 7]

9 (a) List two products, other than meat, that are provided by ducks.

1 ..... 2 .....

(b) Fig. 9.1 shows pie charts that compare ducks killed in regions of the world in 1992 and 2002.

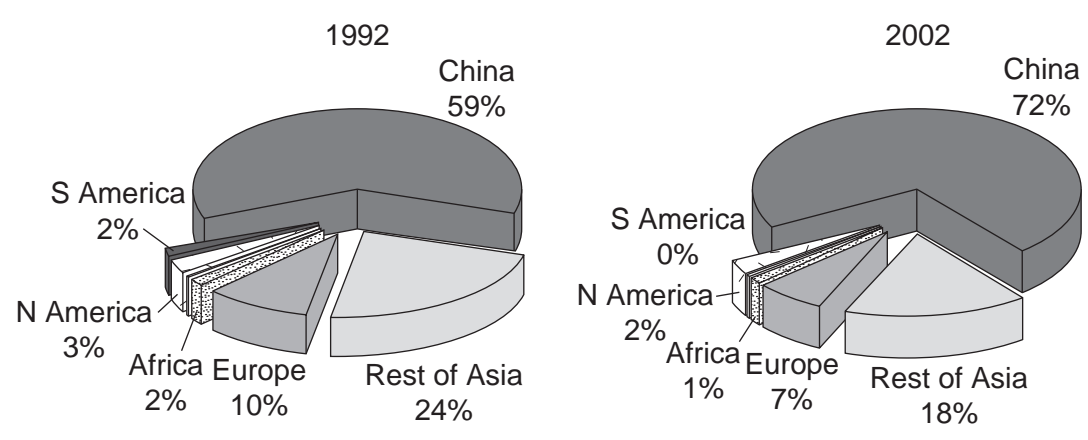


Fig. 9.1

(i) Which region shows the greatest increase in ducks killed over the 10 years?

..... [1]

(ii) State one other significant regional change in ducks killed over the 10 years.

..... [1]

(iii) Suggest what happened to the price of duck meat in Africa during this period. Give a reason for your answer.

..... [2]

(c) (i) List two symptoms of ill health in ducks.

1 .....

2 ..... [2]

(ii) Give two reasons why it is important to isolate sick ducks from the rest of the flock.

.....

..... [2]

[Total :10]

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