Centre Number	Candidate Number	Name

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

AGRICULTURE **0600/02**

Paper 2

October/November 2004

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 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 EXAMINER'S USE	
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	

This document consists of **16** printed pages.

1 **(a)** State a use, other than for food, of

donkeys .....

sheep .....

geese ..... [3]

(b) Fig.1.1 is a pie chart that shows the contribution of different products to the farming income of Namibia.

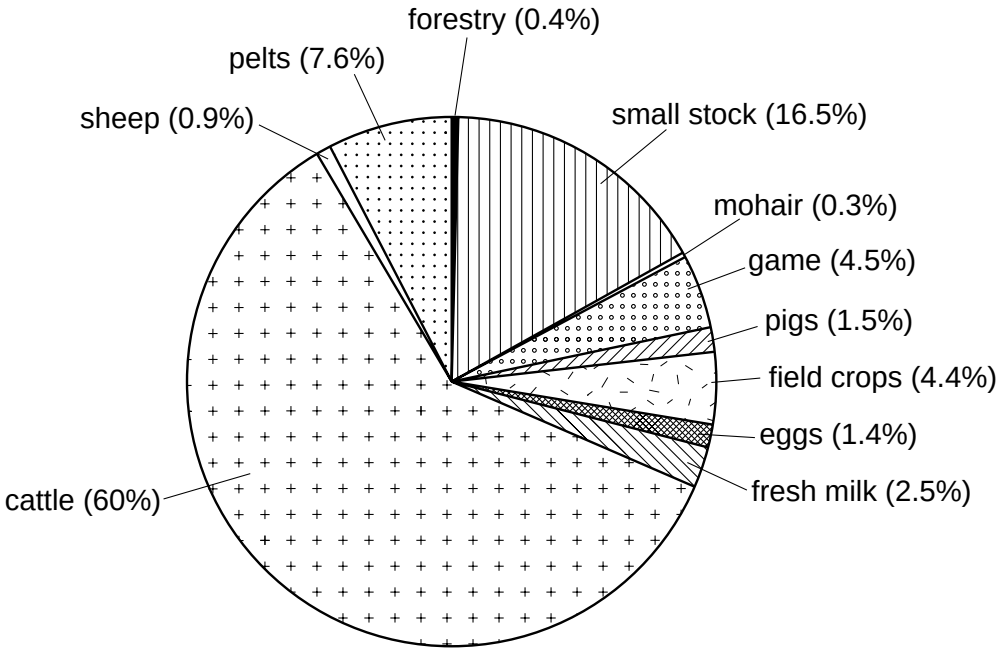

Fig. 1.1

(i) State **two** conclusions that can be made from this pie chart about the type of farming in Namibia.

.....

.....

..... [2]

(ii) Use the data to decide whether the cattle are mostly kept for meat or milk.
Give a reason for your answer.

.....

..... [1]

(c) As the human population rises, more food is required yet less land will be available for farming.

Suggest **two** ways in which food supplies might be maintained on less land.

.....

.....

.....

..... [2]

[Total : 8]

2 **(a)** Fig 2.1 shows weathering of rocks.

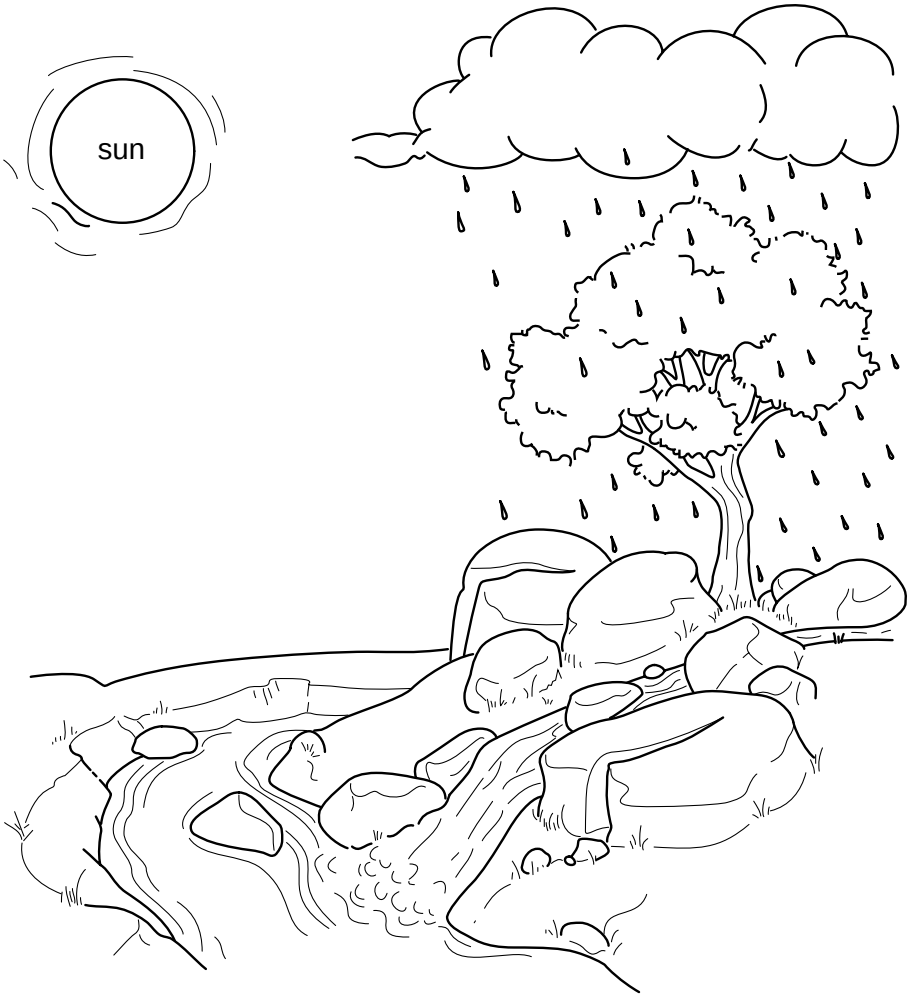

Fig. 2.1

(i) State **three** methods of weathering indicated by this diagram.

1. .....

2. .....

3. ..... [3]

(ii) Weathering produces the inorganic sand and clay particles found in soil.

Name **two** organic components of soil.

1. .....

2. ..... [2]

(iii) Describe the structure and characteristics of a loam soil.

.....

.....

.....

.....

..... [3]

(b) Explain how cultivation may improve

soil structure .....

soil fertility. ..... [2]

(c) Fig. 2.2 shows part of the nitrogen cycle

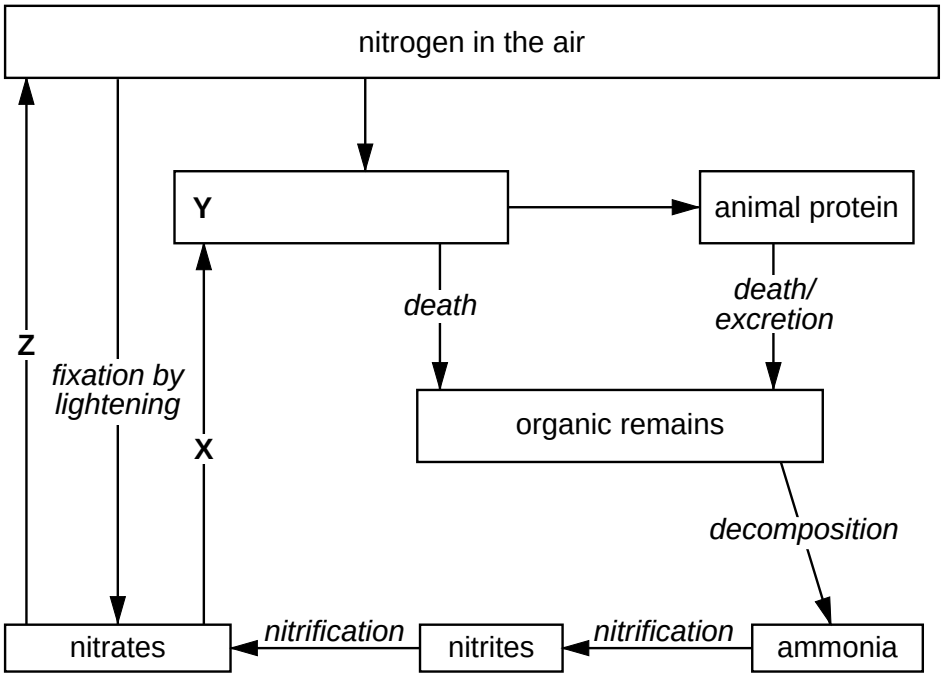

Fig. 2.2

Name process X .....

Name component Y .....

Name process Z ..... [3]

[Total : 13]

[Turn over

3 **(a)** Fig. 3.1 shows a sweet potato plant.

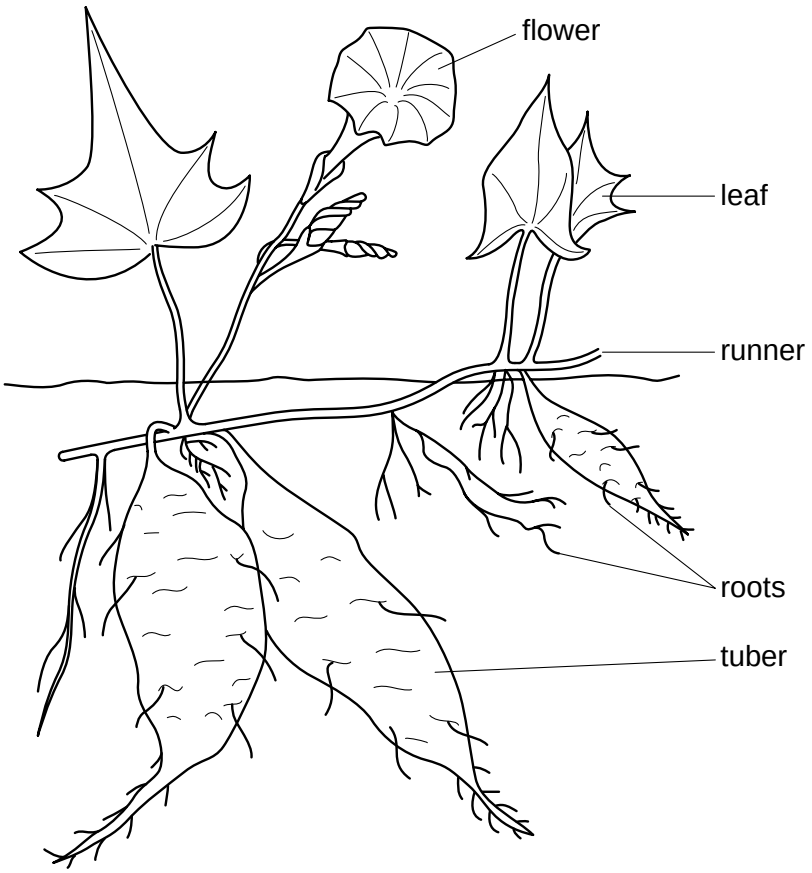

Fig. 3.1

(i) State how the plant is pollinated during sexual reproduction.

..... [1]

(ii) State what substance is stored in the tubers.

..... [1]

(iii) Describe how the sweet potato reproduces asexually.

.....

.....

.....

.....

.....

..... [3]

(b) The sweet potato plant makes its own food by photosynthesis.

(i) Complete the word equation for this process.

carbon dioxide + …… ⟶ sugar + ……

[2]

Fig. 3.2 shows the rate of photosynthesis at different times of the day.

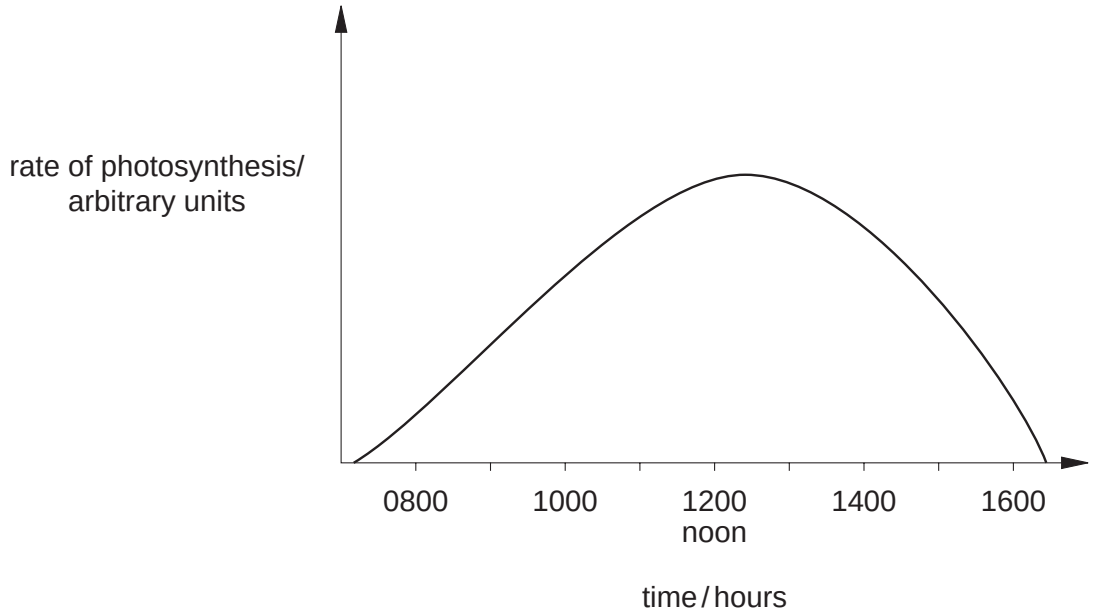

Fig. 3.2

(ii) Suggest a reason why the rate is increasing during the morning.

..... [1]

(iii) State the role of light in photosynthesis.

.....

..... [1]

(iv) During photosynthesis carbon dioxide enters the leaf by diffusion.

What is meant by *diffusion*?

.....

.....

..... [2]

[Total : 11]

4 **(a)** Fig 4.1 shows an area where clearing, stumping and burning are happening.

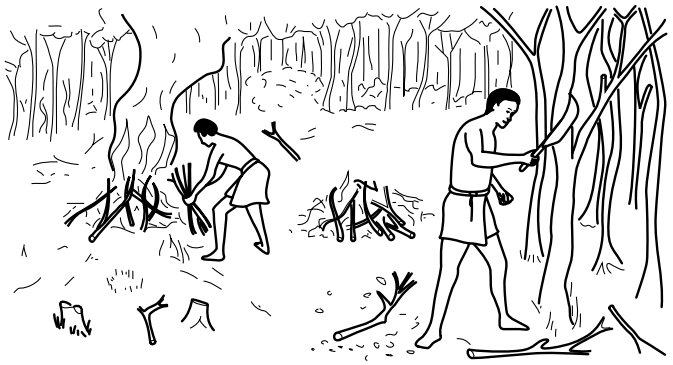

Fig. 4.1

(i) List the tasks needed to make a seedbed on the cleared land.

.....

.....

..... [3]

(ii) Suggest why it would not be appropriate to apply a fertiliser high in potassium (potash) to this reclaimed land.

.....

..... [1]

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

For this crop state

(i) a suitable sowing or planting time ..... [1]

(ii) the type of fertiliser to be used on the crop .....

and when this fertiliser should be applied ..... [2]

(iii) a disease .....

and how it can be recognised. .....

.....[2]

[Total : 9]

5 **(a)** Animal rations consist of

proteins, fats and ……;

minerals and ……;

water and …… . [3]

(b) **(i)** Name an animal feed that contains a large amount of protein. .....

(ii) Name an animal feed that contains a large amount of water. ..... [2]

(c) What is a maintenance ration and when is it fed to an animal?

.....

.....

..... [2]

(d) Table 5.1 lists three causes of poor health in animals.

Complete the table so that for each cause there is an example and a method of prevention.

cause	example	prevention
poor diet	lack of calcium	mineral lick/ feed bone meal
infectious disease	……	vaccination
inherited genetic defect	undershot jaw	……

[2]

Table 5.1

[Total : 9]

6 **(a)** Fig. 6.1 shows the reproductive organs of a ruminant.

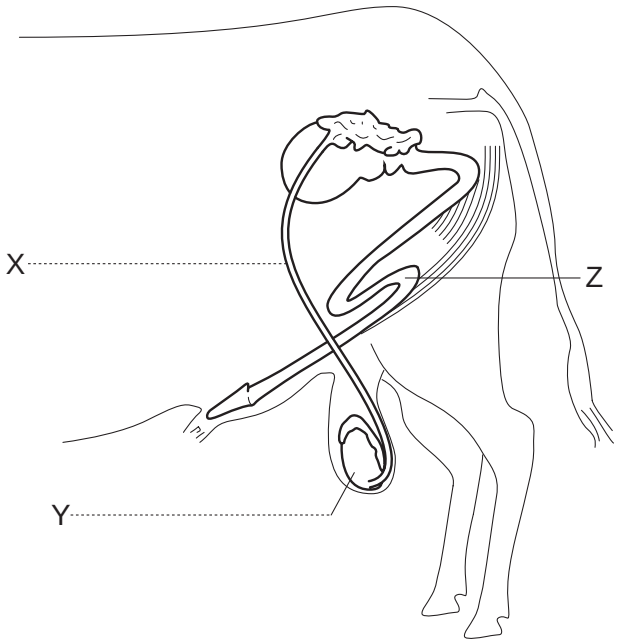

Fig. 6.1

(i) Label the parts X, and Y on the diagram. [2]

(ii) Suggest a function for the shape of the part labelled Z on the diagram.

.....

..... [1]

(b) As a result of fertilisation offspring are produced that inherit characteristics from both parents.

(i) What are the units of inheritance called? ..... [1]

Fig. 6.2 shows the offspring that result from the crossing of two homozygous (pure breeding) varieties of rabbit.

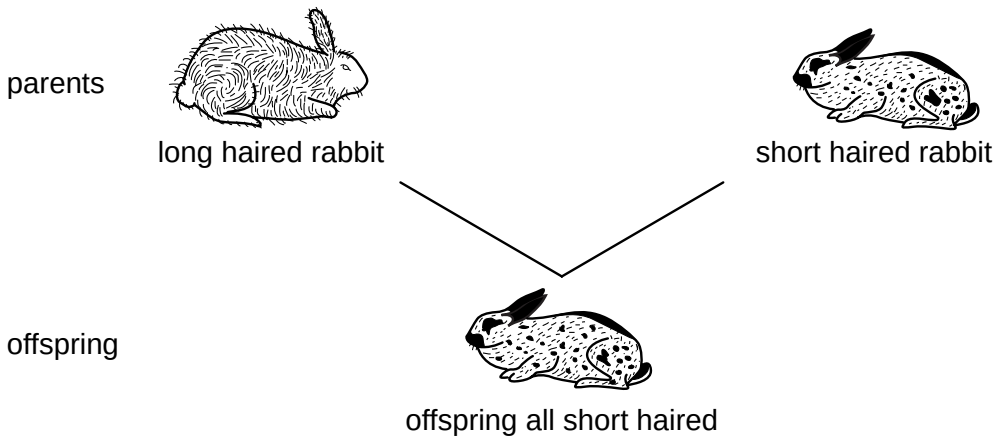

Fig. 6.2

(ii) State why there are no long haired offspring.

.....

..... [1]

(iii) The offspring were allowed to mate with each other.
Explain why some of the next generation were long haired.
Space is provided for any diagrams you want to draw.

.....

.....

..... [2]

(c) Describe the process of fertilisation (not mating) in a **named** type of farm animal.

Farm animal .....

.....

.....

.....

.....

..... [3]

[Total : 10]

7 **(a)** Fig. 7.1 shows a farm by a dam.

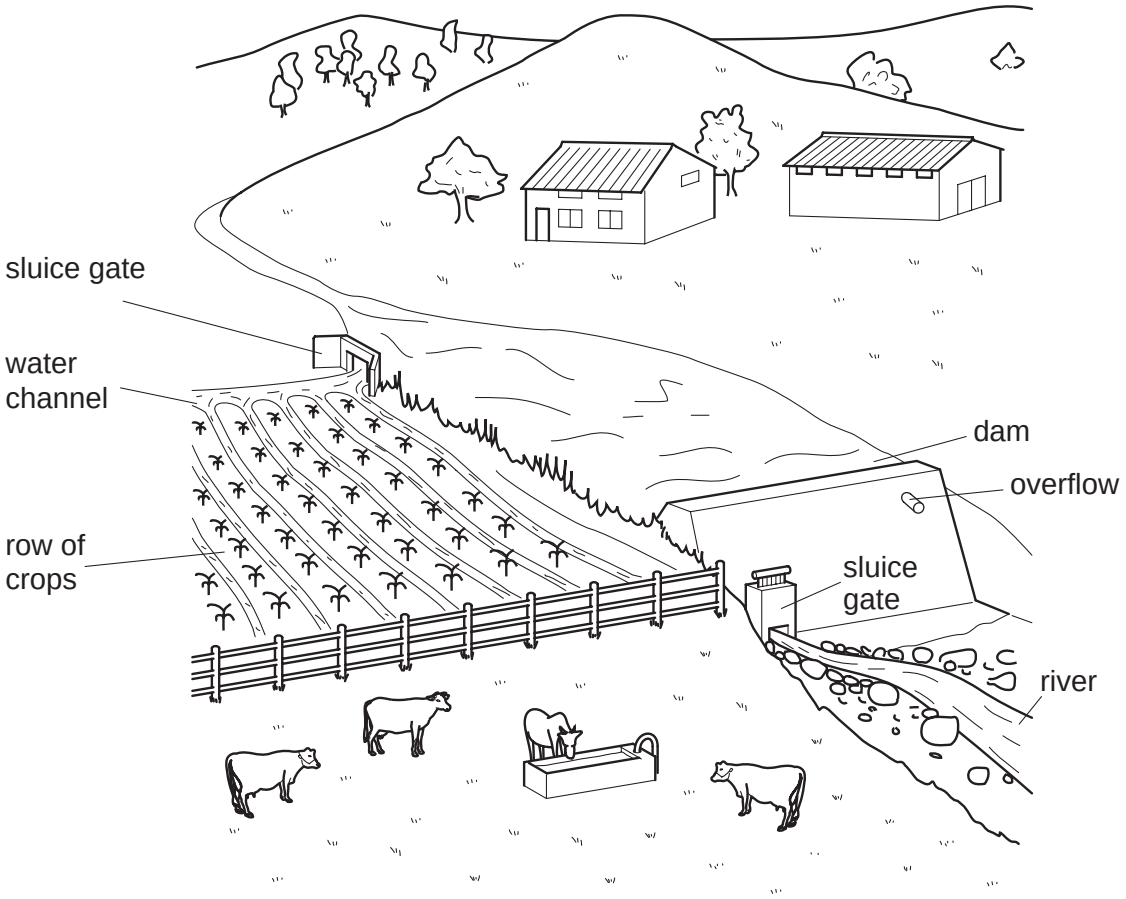

Fig. 7.1

(i) How is the level of water in the dam controlled?

.....

..... [1]

A pipe is to be laid to the cattle trough.

(ii) Make a sketch in the space below to show how to join two sections of pipe.

[2]

(iii) What name is given to the method of irrigation being used for the crops in Fig. 7.1?

..... [1]

(iv) Suggest an advantage that using a sprinkler system of irrigation would have over the system shown.

.....

..... [1]

(v) Suggest how a supply of water under constant pressure could be supplied to the farm house and farm building.

.....

..... [1]

(b) Describe the construction of a concrete floor suitable for the farm building.

.....

.....

.....

.....

.....

..... [3]

[Total : 9]

[Turn over

8 (a) (i) Name a weed that grows in a named local crop.

crop …… weed …….. [1]

Fig. 8.1 shows hand tools used in agriculture.

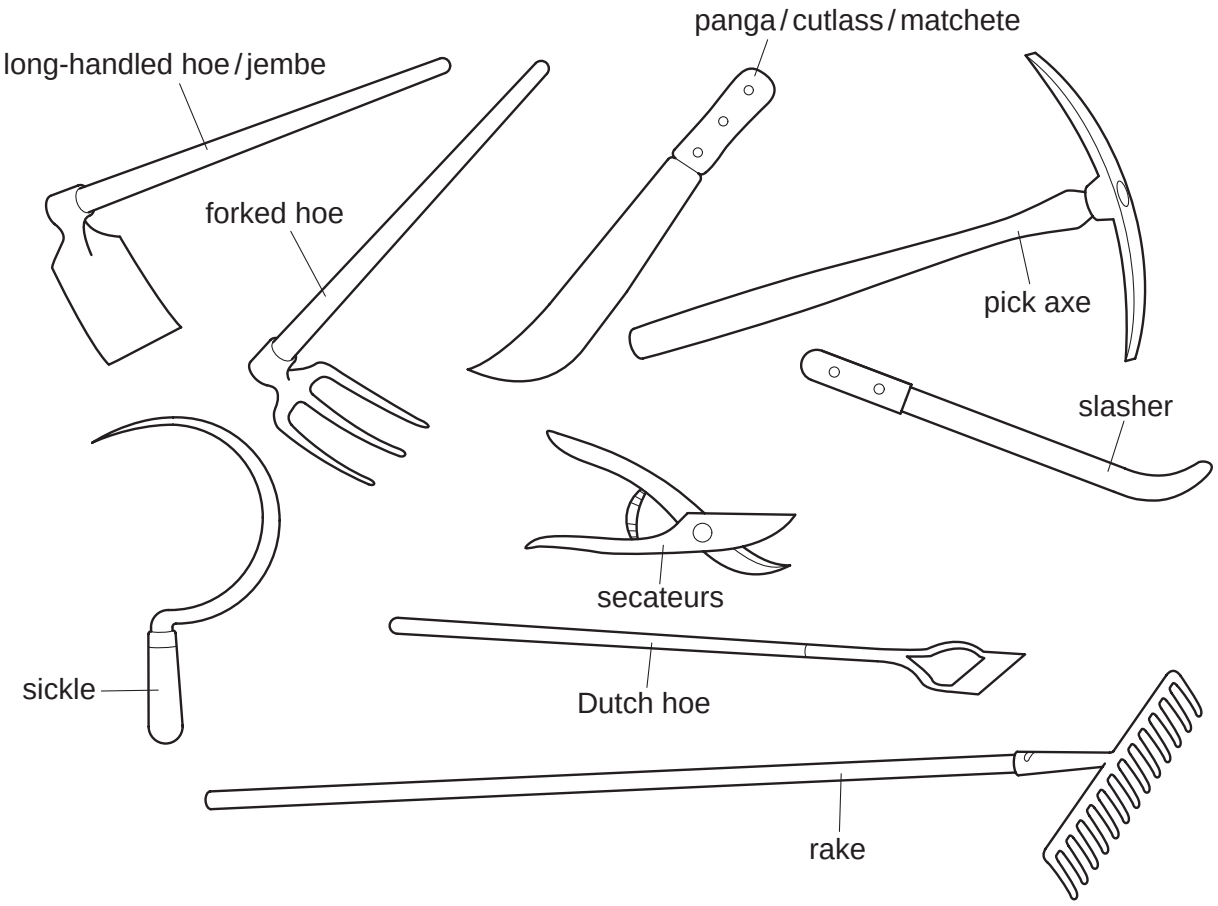

Fig. 8.1

(ii) Which tool would be most suitable for controlling this weed?

..... [1]

(iii) Describe how the tool is used for weed control.

.....

.....

..... [1]

(b) Weeds in pasture can be controlled by using chemicals.

(i) State a disadvantage of using chemicals.

.....

..... [1]

(ii) State how these chemicals should be stored.

.....

.....

..... [2]

(c) Pasture can be treated with lime.

Explain how liming may improve pasture.

.....

.....

.....

..... [2]

(d) Pests destroy pasture and crops.

Fig. 8.2 is drawn from leaves damaged by a pest.

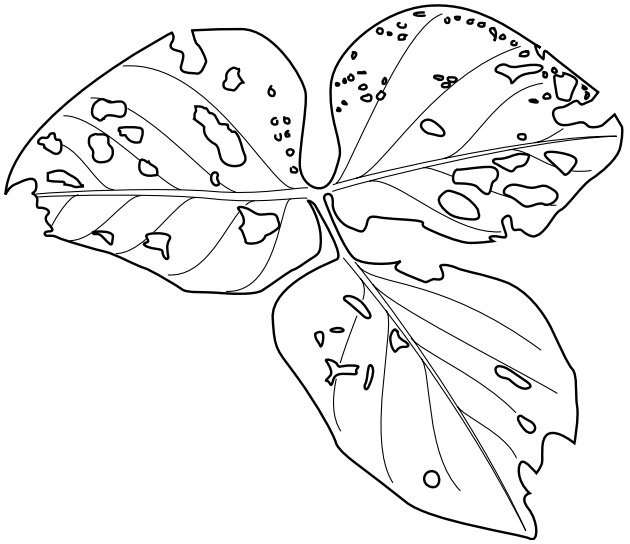

Fig. 8.2

(i) Name a pest that could have chewed these leaves.

..... [1]

(ii) Suggest **two** reasons why such damage to the leaves would reduce the growth of the plant.

.....

.....

.....

..... [2]

[Total : 11]