

CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**AGRICULTURE**

**0600/01**

Paper 1 Multiple Choice

October/November 2003

**45 minutes**

Additional Materials: Multiple Choice Answer Sheet  
Soft clean eraser  
Soft pencil (type B or HB is recommended)

**READ THESE INSTRUCTIONS FIRST**

Write in soft pencil.

Write your name, Centre number and candidate number on the answer sheet in the spaces provided unless this has been done for you.

There are **forty** questions on this paper. Answer **all** questions. For each question, there are four possible answers, **A, B, C, and D**.

Choose the **one** you consider correct and record your choice in **soft pencil** on the separate answer sheet.

**Read the instructions on the Answer Sheet very carefully.**

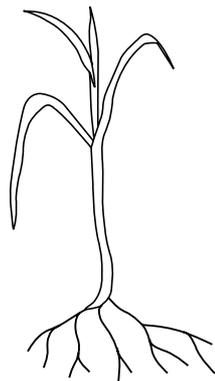
Each correct answer will score one mark. A mark will not be deducted for a wrong answer.  
Any rough working should be done in this booklet.

- 1 Which farm animals make the best use of poor grassland which includes bushes for
- A cattle
  - B goats
  - C pigs
  - D sheep

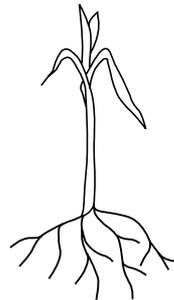
- 2 Which form of cultivation needs the most chemical fertiliser?

- A crop rotation
- B mixed farming
- C monoculture
- D organic farming

- 3 The diagram shows two specimens of a cereal crop plant. Plant Y is lacking a nutrient.

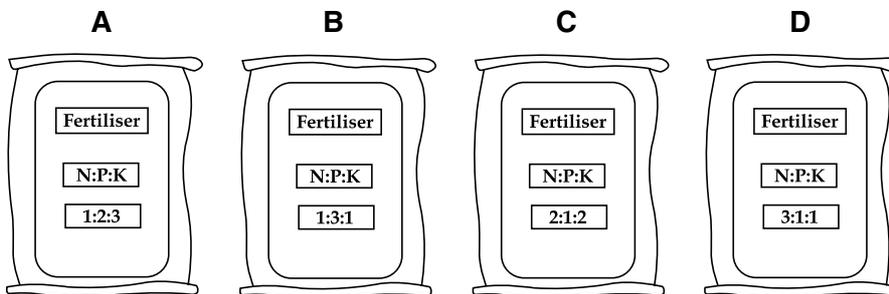


plant X



plant Y

Which fertiliser provides the highest proportion of the nutrient that Y needs?

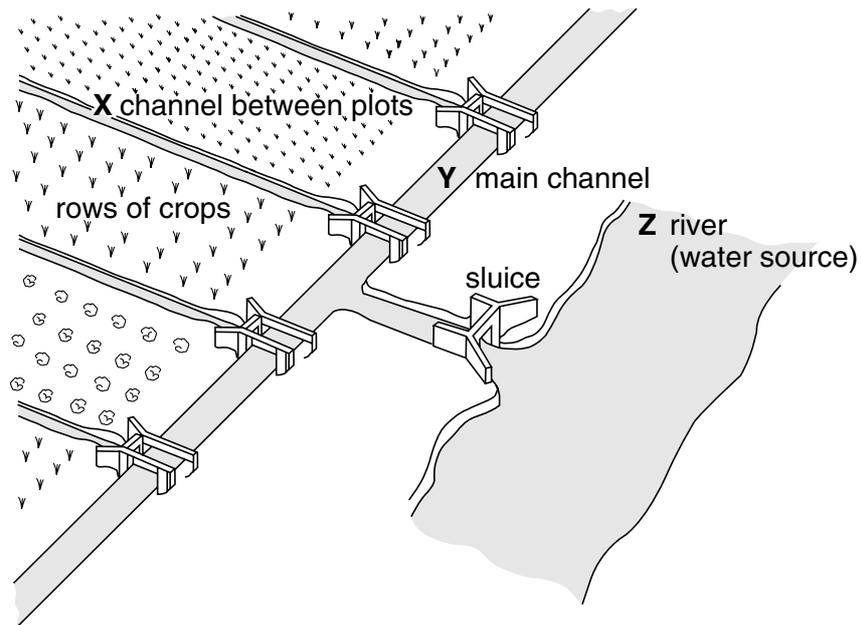


- 4 When land is prepared for crop production, which action can help to improve soil crumb structure?
- A adding animal manure
  - B adding water
  - C removing stones
  - D removing weeds

5 Which cultivation practice is used to reduce soil erosion?

- A contour ploughing
- B deep ploughing
- C harrowing
- D sub-soiling

6 The diagram shows furrow irrigation.



What are the required water levels for effective irrigation?

- A X, Y, and Z at the same level
- B X lower than Y, Z lower than Y
- C Y higher than X, Y and Z at the same level
- D Y higher than X, Z higher than Y

7 Some seedlings were transplanted. They were then watered but wilted soon after transplanting.

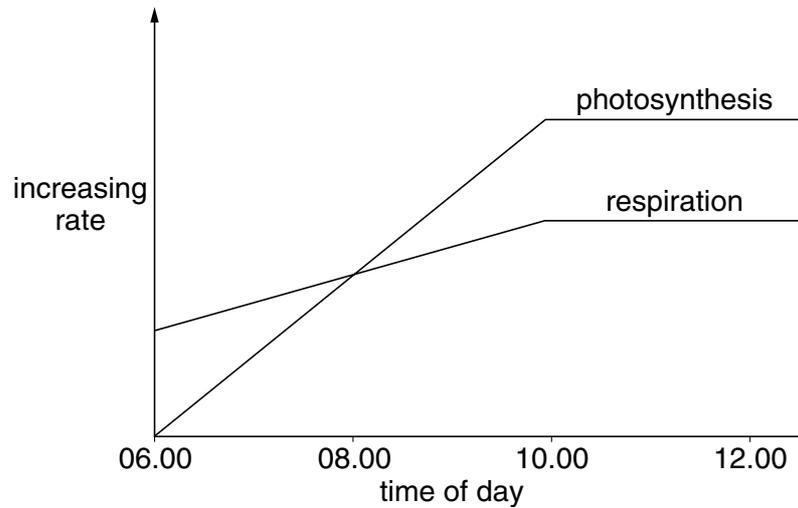
Why did this happen?

- A The roots were damaged.
- B The roots were given too much water.
- C The roots were too close together.
- D The roots were too far apart.

8 Which part of a flower will become the fruit after fertilisation?

- A anther
- B ovary
- C ovule
- D stigma

9 The graph shows the rates of photosynthesis and respiration in a leaf during the morning.

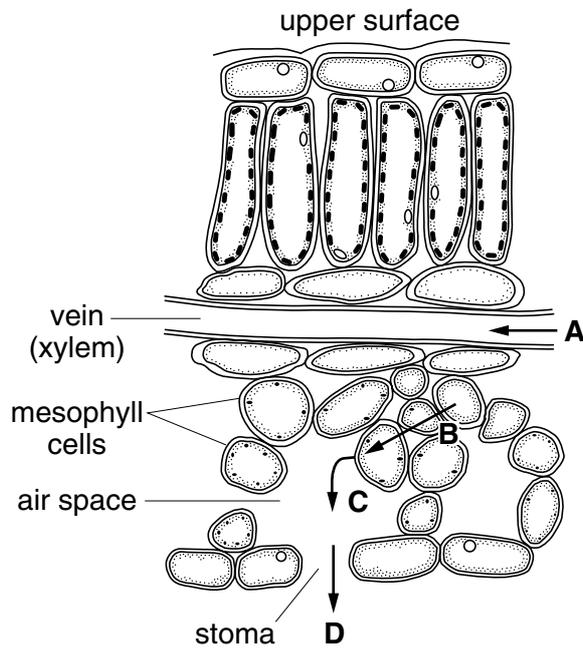


When is the amount of  $\text{CO}_2$  produced by the leaf greater than the amount of  $\text{CO}_2$  used by the leaf?

- A 06.00
- B 08.00
- C 10.00
- D 12.00

10 The diagram shows the passage of water through a leaf.

Which arrow represents osmosis?

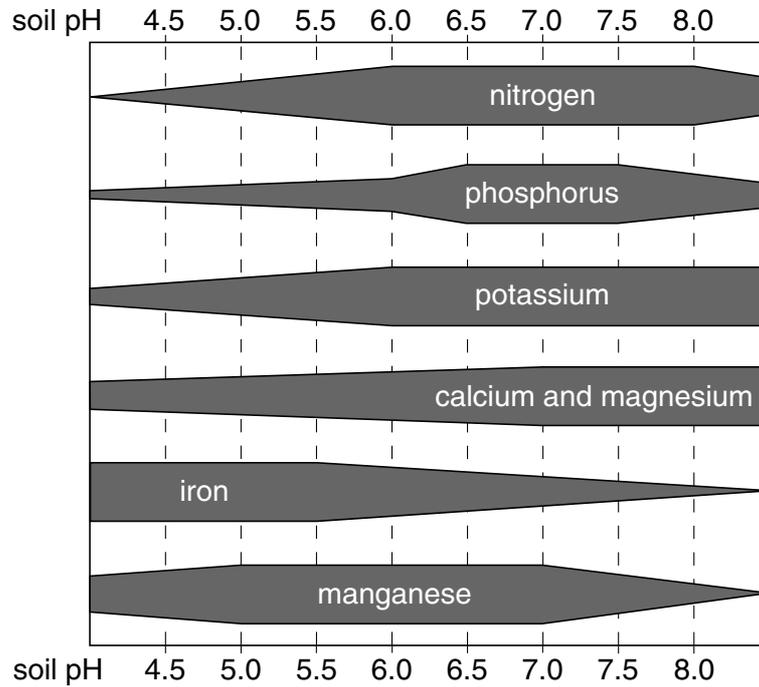


11 In flowering plants, fertilisation occurs when

- A the pollen grains are transferred from one plant to another.
- B the pollen grains land on the stigma.
- C the pollen tubes grow down the style.
- D the pollen tubes release nuclei to fuse with egg nuclei.

12 The diagram shows the availability of nutrients at different soil pH values.

The wider apart the lines, the more nutrient is available.



At which pH are N, P and K all **most** available?

- A 5.0
- B 6.0
- C 7.0
- D 8.0

13 What are the results of sowing at more than the recommended seed rate for a cereal crop?

|   | competition for nutrients increased | crop yield increased | more diseases develop |
|---|-------------------------------------|----------------------|-----------------------|
| A | ✓                                   | ✓                    | ✓                     |
| B | ✗                                   | ✗                    | ✗                     |
| C | ✓                                   | ✗                    | ✓                     |
| D | ✗                                   | ✓                    | ✗                     |

- 14 Which cause of damage, to a stored cereal crop, is best controlled by dry conditions?
- A birds
  - B fungi
  - C insects
  - D rats
- 15 Irish potatoes are affected by a virus disease, which causes the leaves to roll up and results in reduced yield.

What can control the spread of the virus?

- A increasing the use of nitrogen fertiliser
  - B increasing the use of phosphate fertiliser
  - C spraying the crop with systemic fungicide
  - D spraying the crop with systemic insecticide
- 16 What describes biological control?
- A destroying pests
  - B introducing an organism to eat the crop
  - C introducing a predator to eat the pests
  - D removing the pests by hand
- 17 A growing cereal crop is infested with broad-leaved weeds.
- Which type of herbicide can be used to kill these weeds?
- A contact
  - B pre-emergent
  - C selective
  - D systemic
- 18 Which structures are **all** part of the reproductive system of a male farm animal?

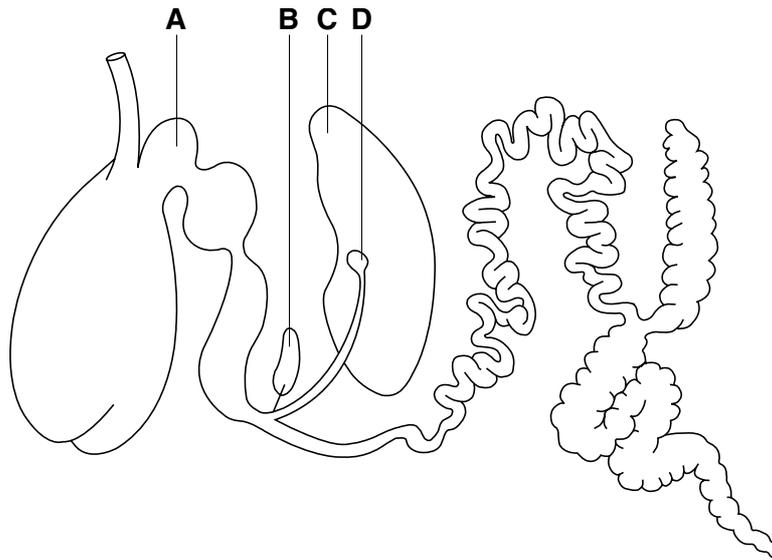
- |   |            |                 |                 |
|---|------------|-----------------|-----------------|
| A | cervix     | epididymis      | vulva           |
| B | cervix     | scrotum         | seminal vesicle |
| C | epididymis | scrotum         | seminal vesicle |
| D | epididymis | seminal vesicle | vulva           |

19 Which part of the digestive system is present **only** in ruminants?

- A colon
- B oesophagus
- C reticulum
- D small intestine

20 The diagram shows the digestive system of a ruminant.

In which structure are digestive enzymes produced?



21 What describes the length of the oestrus cycle?

- A the duration of pregnancy
- B the duration of the heat period
- C the interval between birth and mating
- D the interval between the start of heat periods

22 One chicken in a flock shows signs of ill health.

Which action should be taken first?

- A clean the housing
- B dust the animal for parasites
- C increase ventilation in the housing
- D isolate the animal

23 What should be looked at in a routine health check for ruminants?

- A comb
- B dung
- C horns
- D shape

24 What is used in the formation of bones and teeth in animals?

- A calcium
- B iron
- C magnesium
- D potassium

25 A balanced diet for farm livestock includes carbohydrates, fats, minerals, vitamins, roughage and water.

What is also needed?

- A calcium
- B protein
- C starch
- D sugar

26 For what is a production ration needed?

- A gut movements
- B keeping warm
- C muscle growth
- D replacing tissues

27 In cattle, a white face is dominant to all other face colours. A heterozygous, white-faced bull mates with a herd of heterozygous, white-faced cows.

Which percentage of the offspring would be expected to have white faces?

- A 25%
- B 50%
- C 75%
- D 100%

28 What will result in improved **varieties** of livestock?

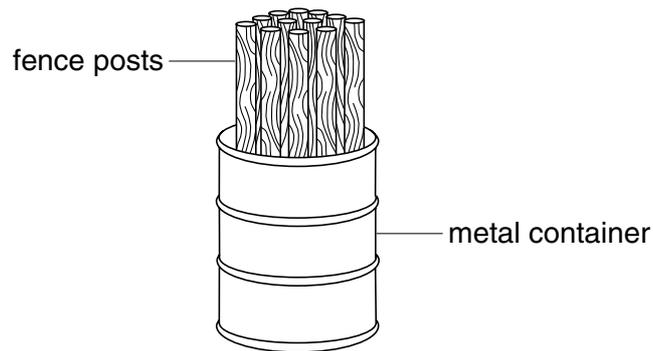
- A better housing
- B cross-breeding
- C improved nutrition
- D disease control

29 The carrying capacity of a 200-hectare extensive pasture is 120 animals.

What is the maximum number of animals that should be kept on 25 hectares?

- A 8
- B 12
- C 15
- D 25

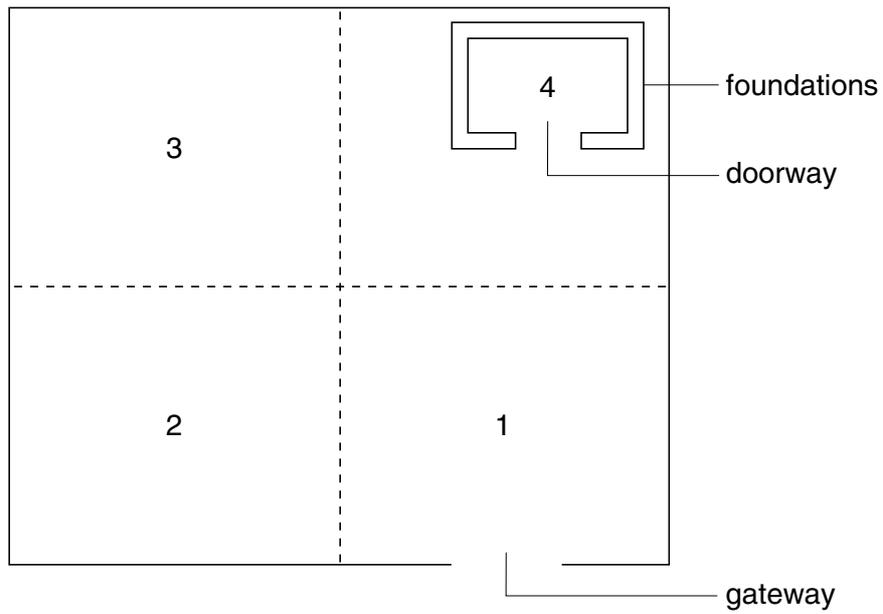
30 The diagram shows the preparation of wooden fence posts.



Which liquid is poured into the container to preserve the fence posts?

- A creosote
- B disinfectant
- C herbicide
- D water

- 31 The diagram shows an enclosure and foundations for a livestock house.



The surface of the enclosure is to be covered with concrete.

In which order should the four areas of concrete be laid?

|          | start |   |   |   | finish |
|----------|-------|---|---|---|--------|
| <b>A</b> | 1     | → | 2 | → | 3 → 4  |
| <b>B</b> | 1     | → | 4 | → | 3 → 2  |
| <b>C</b> | 3     | → | 4 | → | 1 → 2  |
| <b>D</b> | 4     | → | 3 | → | 2 → 1  |

- 32 Which livestock building is easiest to clean and disinfect?

| building | walls | roof            | floor    |
|----------|-------|-----------------|----------|
| <b>A</b> | brick | corrugated iron | concrete |
| <b>B</b> | brick | corrugated iron | earth    |
| <b>C</b> | wood  | thatch          | concrete |
| <b>D</b> | wood  | thatch          | earth    |

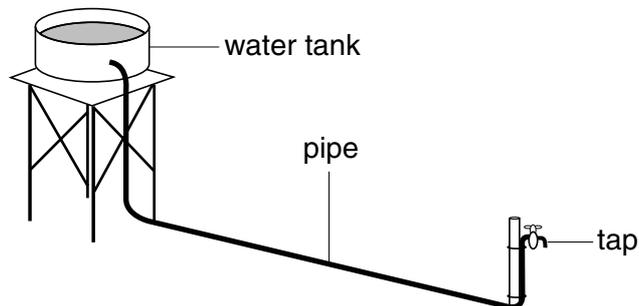
33 What is the best mix for making concrete blocks?

| parts by volume |        |      |        |
|-----------------|--------|------|--------|
|                 | cement | sand | gravel |
| <b>A</b>        | 1      | 2    | 3      |
| <b>B</b>        | 1      | 3    | 2      |
| <b>C</b>        | 2      | 1    | 3      |
| <b>D</b>        | 3      | 2    | 1      |

34 Which source provides the cleanest water for human consumption?

- A borehole
- B rain
- C river
- D well

35 Water flows from the tank to the tap through a pipe.



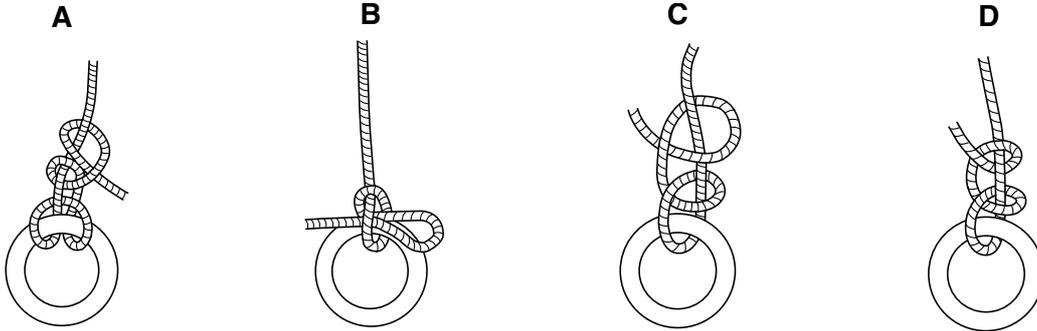
(Rate of flow through pipe = speed of flow  $\times$  cross-sectional area of pipe.)

What will increase the rate of flow through the pipe?

- A a larger water tank
- B a lower water tank
- C a shorter pipe
- D a wider pipe

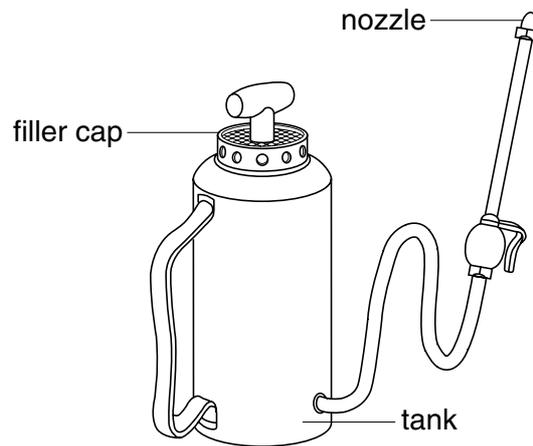
36 The diagram shows four knots which can be used for tying down a load.

Which knot can be released quickly?



37 The diagram shows a sprayer.

What should be done after using the sprayer?



- A clear the nozzle by blowing through it
- B oil the filler cap
- C rinse out the sprayer tank in a stream
- D wash your hands thoroughly

38 How does **lubricating** oil help mechanical devices to work efficiently?

- A by keeping joints strong
- B by preventing rust forming
- C by preventing wood rotting
- D by reducing friction

- 39 Which conditions of supply and demand for a farm product are likely to result in the at the market?

|          | supply    | demand |
|----------|-----------|--------|
| <b>A</b> | plentiful | high   |
| <b>B</b> | plentiful | low    |
| <b>C</b> | short     | high   |
| <b>D</b> | short     | low    |

- 40 Why is the export of food essential for the national economy?

- A** to dispose of surplus produce
- B** to obtain foreign exchange
- C** to provide employment
- D** to support the local shipping company



