

**NAMIBIA SENIOR SECONDARY CERTIFICATE**

**AGRICULTURE ORDINARY LEVEL**

**4321/1**

PAPER 1 Multiple Choice

1 hour

Marks 40

**2017**

Additional Materials: Multiple choice answer sheet  
Soft clean eraser  
Soft pencil (type B or HB is recommended)

**INSTRUCTIONS AND INFORMATION TO CANDIDATES**

- Write in soft pencil.
- Make sure that you receive the multiple choice answer sheet with **your Candidate Number** on it.
- 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.
- If you want to change an answer, thoroughly erase the one you wish to delete.
- **Read the instructions on the answer sheet carefully.**
- Each correct answer will score one mark.
- Any rough working should be done in this question paper.
- All questions in this paper carry equal marks.
- You may use a non-programmable calculator.

This document consists of **10** printed pages and **2** blank pages.



**Republic of Namibia**

**MINISTRY OF EDUCATION, ARTS AND CULTURE**

- 1 The photographs, **X** and **Y**, show activities on a farm.

**X****Y**

Identify the tools in the two photographs, **X** and **Y**?

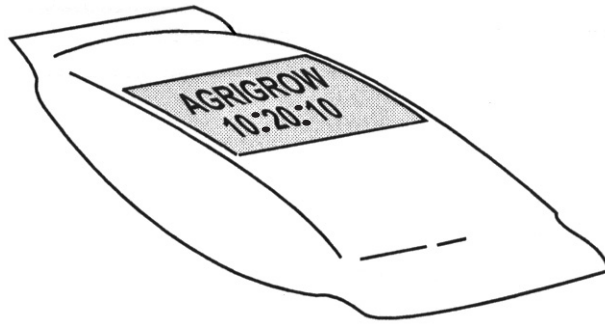
	photograph <b>X</b>	photograph <b>Y</b>
<b>A</b>	cultivator	hoe
<b>B</b>	cultivator	plough
<b>C</b>	plough	cultivator
<b>D</b>	plough	hoe

- 2 Which farm animals make the best use of poor grassland with many bushes for browsing?
- A** cattle  
**B** goats  
**C** horses  
**D** sheep
- 3 Which makes a soil have a very dark colour?
- A** high clay content  
**B** high organic matter content  
**C** high loam content  
**D** high sand content
- 4 **X**, **Y** and **Z** represent three soil types.  
**X** holds the right amount of water.  
**Y** holds a small amount of water.  
**Z** holds too much water.

Which row describes soils **X**, **Y** and **Z** correctly?

	<b>X</b>	<b>Y</b>	<b>Z</b>
<b>A</b>	clay	loam	sand
<b>B</b>	loam	clay	sand
<b>C</b>	loam	sand	clay
<b>D</b>	sand	clay	loam

- 5 A bag of compound fertiliser has a ratio of 10:20:10.



Which nutrient element is represented by 20 in the ratio?

- A magnesium
  - B nitrogen
  - C phosphorus
  - D potassium
- 6 A farmer uses two draught animals, such as oxen, to plough his arable land.  
Which soil type is likely to need the greatest number of draught animals for ploughing?
- A clay
  - B loam
  - C sand
  - D sandy loam
- 7 The table shows a colour chart for use with a liquid pH indicator.

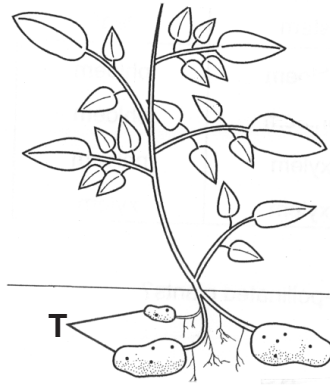
<b>indicator colour</b>	red	yellow	green	blue
<b>pH value</b>	5	6	7	8

A soil sample is tested with the indicator.

Which colour will the indicator be if the soil is neutral?

- A blue
- B green
- C red
- D yellow

- 8 The diagram shows an Irish potato plant.

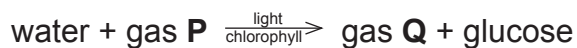


Which is the main food nutrient stored in the parts labelled T?

- A glucose
  - B mineral salts
  - C proteins
  - D starch
- 9 Which tissue transports sugar through each part of a plant?

	part of plant		
	root	stem	leaf
A	phloem	phloem	phloem
B	xylem	phloem	phloem
C	xylem	xylem	phloem
D	xylem	xylem	xylem

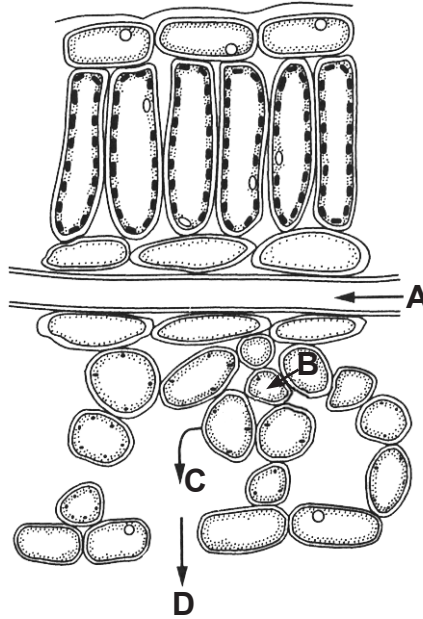
- 10 Which feature is found in wind-pollinated flowers?
- A brightly coloured petals
  - B enclosed stigmas
  - C large amounts of nectar
  - D large numbers of pollen grains
- 11 An equation for photosynthesis is shown.



Name the two gases P and Q.

	P	Q
A	carbon dioxide	nitrogen
B	carbon dioxide	oxygen
C	oxygen	carbon dioxide
D	oxygen	nitrogen

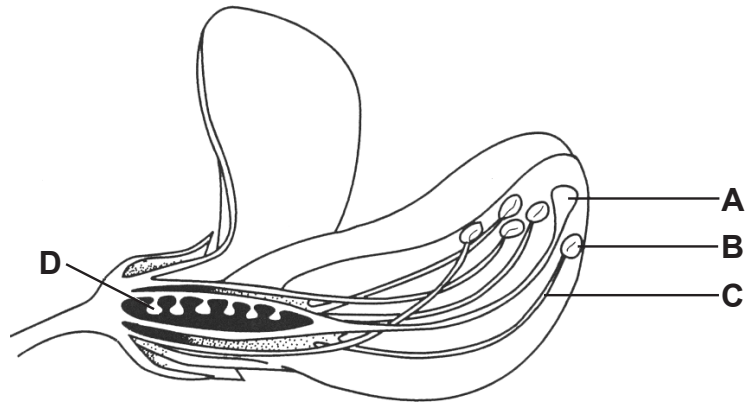
- 12 The diagram shows a simplified cross-section through a leaf. The arrows show the passage of water through a leaf.



Which arrow represents osmosis?

- 13 How do plants transport mineral salts into the xylem?
- A by active transport
  - B by osmosis
  - C by suction force
  - D by translocation
- 14 Which process improves the air content in the soil?
- A compaction
  - B drainage
  - C irrigation
  - D terracing

15 Which part of the flower produces female gametes?



16 What is meant by seed rate?

- A the amount of seed that germinates
- B the depth at which seeds are planted
- C the quantity of seeds to be sown in a given area
- D the time which the seeds take to germinate

17 Which of the following should be applied after the emergence of a cereal crop?

- A animal manure
- B inorganic nitrogen fertiliser
- C inorganic phosphate fertiliser
- D organic phosphate fertiliser

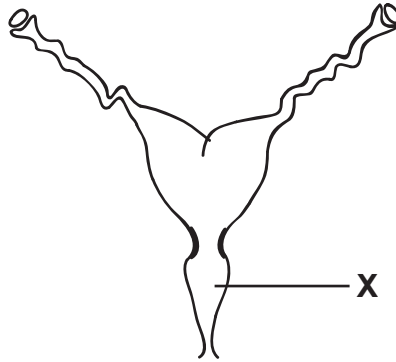
18 The photograph shows leaves damaged by a pest.



Which pest type could have caused such crop damage?

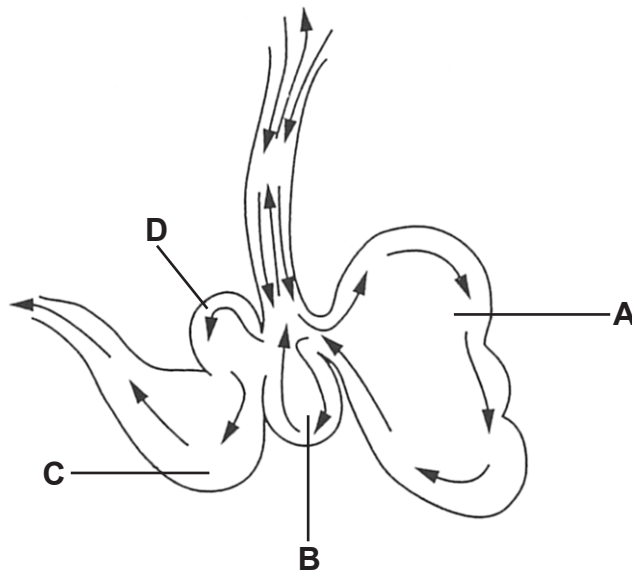
- A biting and chewing
- B boring and biting
- C chewing and sucking
- D piercing and sucking

- 19 The diagram shows the reproductive system of a female farm animal.



What is structure **X**?

- A cervix
  - B uterus
  - C vagina
  - D vulva
- 20 The diagram shows the digestive system of a ruminant animal.  
Which chamber is the abomasum?



- 21 What is the first thing to be done when an animal becomes sick in a kraal?
- A buy another animal to replace it
  - B disinfect the kraal
  - C isolate the sick animal
  - D vaccinate the animal immediately
- 22 Which statement best describes lactation?
- A starting to feed on milk
  - B the end of milk production
  - C the production of colostrum
  - D the production of milk



- 23** What is the function of the uterus in the female reproductive system?
- A** to allow sperm to enter for fertilisation to take place
  - B** to prevent the entry of disease-causing organisms
  - C** to provide space for implantation of the fetus
  - D** to secrete hormones necessary for conception
- 24** What is the main function of calcium in ruminant animals?
- A** to help build strong bones and teeth
  - B** to help in the absorption of other nutrients
  - C** to provide warmth and energy
  - D** to repair worn out tissues
- 25** Which method is used to control internal parasites in livestock?
- A** dipping
  - B** dosing
  - C** immunisation
  - D** vaccination
- 26** Which type of ration will allow a non-breeding animal to stay healthy and keep its body weight constant?
- A** a high-energy ration
  - B** a high-protein ration
  - C** a maintenance ration
  - D** a production ration
- 27** Which mineral is needed in large amounts by laying poultry?
- A** calcium
  - B** copper
  - C** iron
  - D** zinc
- 28** Which hormone is responsible for the body shape in bulls?
- A** luteinising hormone
  - B** oestrogen
  - C** progesterone
  - D** testosterone
- 29** The allele B, which gives brown coat colour in cattle, is dominant to allele b, for a white coat colour.

Which parental genotypes would be expected to give a 3:1 ratio of offspring with brown coats to white coats?

	<b>brown bull</b>	<b>brown cow</b>
<b>A</b>	Bb	Bb
<b>B</b>	Bb	BB
<b>C</b>	BB	BB
<b>D</b>	bb	Bb



- 30 A pasture is divided into four paddocks and has a carrying capacity of one goat per two hectares.

Which paddock is overstocked?

paddock	number of goats	area of paddock / ha
A	65	125
B	75	150
C	85	175
D	95	200

- 31 Which is the basic unit of inheritance?

- A cell
- B chromosome
- C gene
- D nucleus

- 32 What is the function of roughage in an animal's diet?

- A avoiding constipation
- B keeping the animal warm
- C muscle growth
- D replacement of tissues

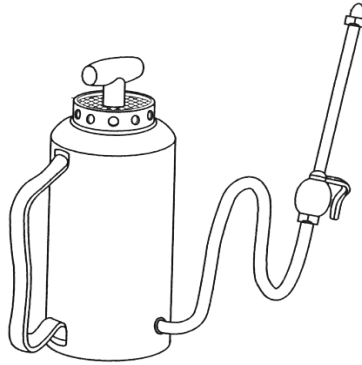
- 33 Which is the chemical liquid used to treat and preserve fencing posts?

- A creosote
- B herbicides
- C insecticides
- D paint

- 34 What is the best ratio for mixing cement, sand and gravel for making concrete blocks?

	volume of parts		
	cement	sand	gravel
A	1	2	3
B	2	3	1
C	2	1	3
D	3	1	2

35 The diagram shows a knapsack sprayer.



What should be done immediately after using the sprayer?

- A check the nozzle for blockage and clean it
  - B release the controlling trigger
  - C rinse the sprayer tank with warm water
  - D wash one's hands thoroughly with water
- 36 Which is the best tool for digging gravel soil?
- A a hand trowel
  - B a hoe
  - C a garden fork
  - D a spade
- 37 What is the function of droppers in fence construction?
- A to allow movement of the fence
  - B to control movement of small animals
  - C to maintain the spacing of the wires
  - D to reduce the amount of wire to be used
- 38 How does lubricating grease help mechanical devices to work efficiently in the short term?
- A by keeping moving joints strong
  - B by preventing the inner side from rusting
  - C by preventing them from moving fast
  - D by reducing friction
- 39 Why is the concrete floor in a livestock building finished off with a rough surface?
- A to make it easy to clean
  - B to prevent animals from slipping
  - C to prevent animals from lying down
  - D to reduce accumulation of pathogens
- 40 When will the prices for products be highest?
- A when the demand is greater than the supply
  - B when the demand is lower and the quality is high
  - C when the quality is low and the supply is high
  - D when the supply is greater than the demand

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