

NAMIBIA SENIOR SECONDARY CERTIFICATE

BIOLOGY ORDINARY LEVEL

4322/1

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.
- Answer **all** questions.
- Make sure that you receive the multiple choice answer sheet with **your Candidate Number** on it.
- There are **forty** questions on this paper.
- 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.
- All questions in this paper carry equal marks.
- Any rough working should be done in this booklet.
- You may use a non-programmable calculator.

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



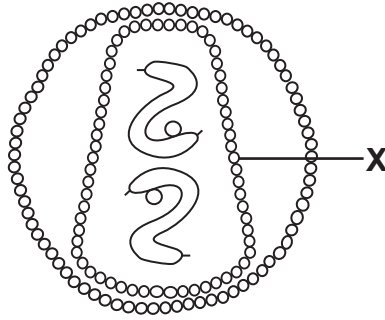
Republic of Namibia

MINISTRY OF EDUCATION, ARTS AND CULTURE

1 What do a bacteria and a virus have in common?

- A both are capable of excretion
- B both are capable of nutrition
- C both can reproduce
- D both can respire

2 The diagram shows a virus.



Which basic units make up X?

- A amino acids
 - B fatty acids
 - C glucose
 - D glycerol
- 3 Which structures are found in both prokaryotic and eukaryotic cells?
- A capsules
 - B endoplasmic reticulum
 - C mitochondria
 - D ribosomes
- 4 Which of the following is made up of a group of different tissues working together to perform a particular function?
- A epidermis
 - B mesophyll
 - C retina
 - D skin
- 5 Which substance is absorbed from the soil by plants to make chlorophyll?
- A calcium ions
 - B magnesium ions
 - C nitrate ions
 - D phosphate ions

6 A shortage of which nutrient will result in the deficiency disease goitre?

- A iodine
- B iron
- C vitamin A
- D vitamin C

7 A list of the types of micro-organisms is given below.

- 1 bacteria
- 2 fungi
- 3 protoctists
- 4 viruses

Which two types are essential in the production of single-cell protein?

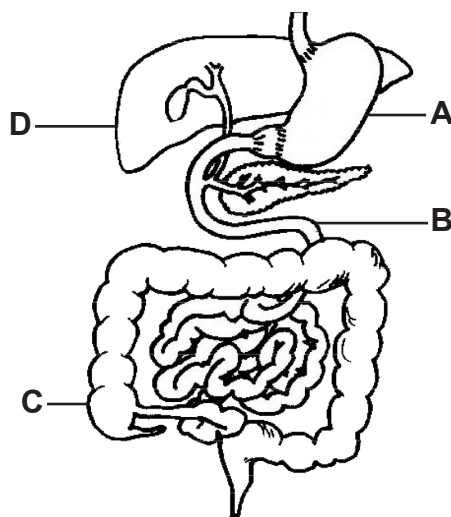
- A 1 and 2
- B 1 and 4
- C 2 and 3
- D 3 and 4

8 Famine is a cause for increasing concern worldwide.

Which factor may contribute to famine?

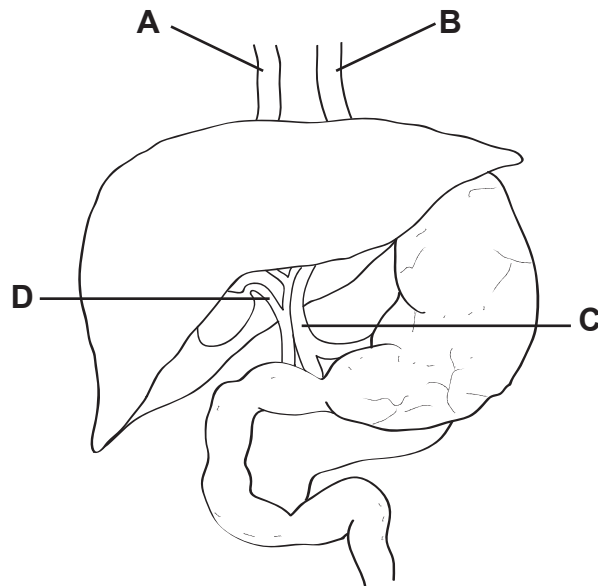
- A flooding
- B food being distributed equally
- C plenty of cultivated land being available
- D the population decreasing

9 The diagram shows part of the human alimentary canal.



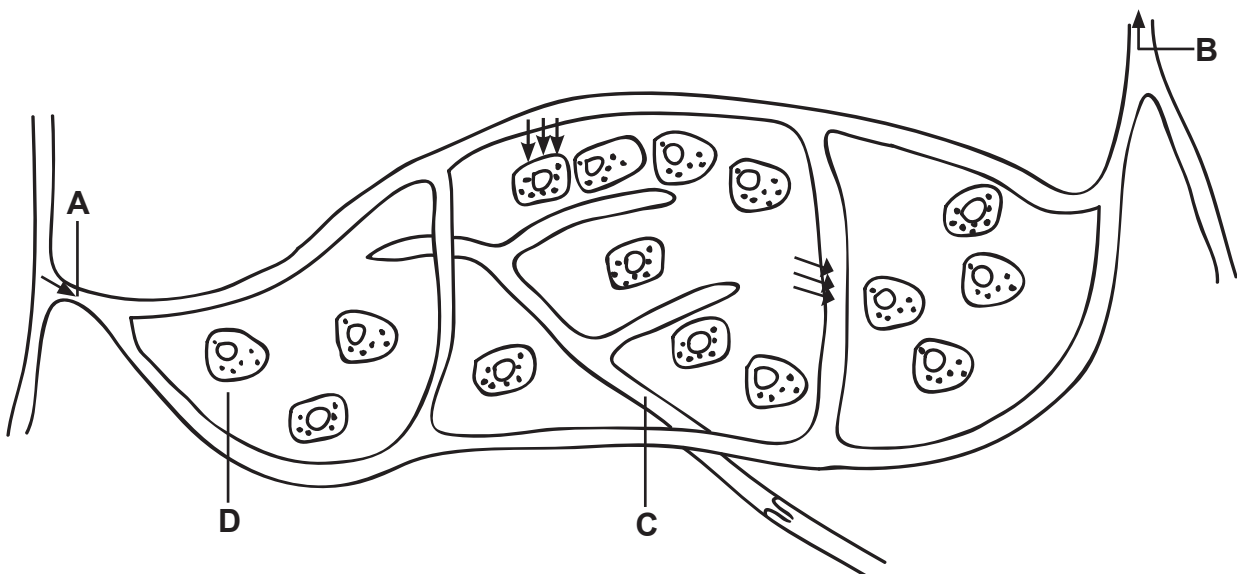
In which part does emulsification take place?

10 The diagram shows the liver and some related organs.



Which tube transports a substance which plays a role in fat digestion?

11 The diagram shows the relationship between capillaries, cells and lymph vessels.



→ direction of flow

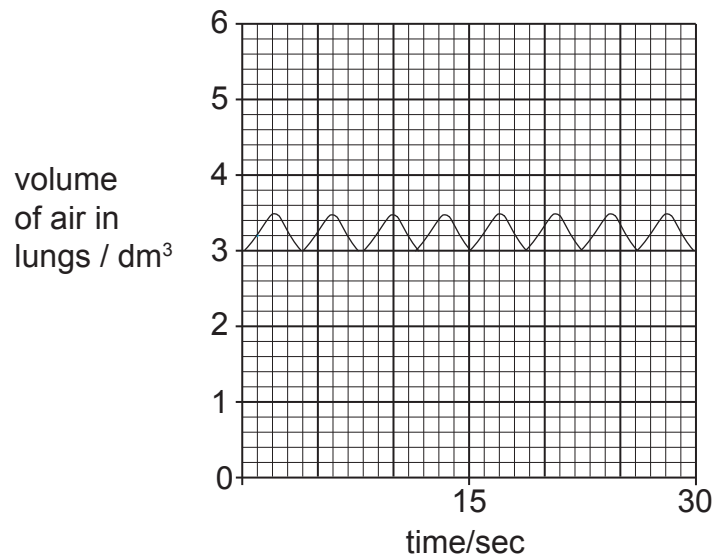
Where will tissue fluid be found?

- 12 Which is an example of artificial immunity?
- A antibodies produced by exposure to a disease
 - B antibodies produced by vaccination
 - C antibodies transferred through breast milk
 - D antibodies transferred through the placenta

13 What does the following equation represent?



- A aerobic respiration
 - B anaerobic respiration
 - C fermentation
 - D photosynthesis
- 14 During strenuous exercise, stiffness in the muscles is often caused by
- A amino acids.
 - B fatty acids.
 - C hydrochloric acid.
 - D lactic acid.
- 15 Which change happens during exhalation?
- A the diaphragm contracts
 - B the internal intercostal muscles contract
 - C the pressure decreases
 - D the thoracic volume decreases
- 16 The graph shows the volume of air exchanged during each breath at rest.



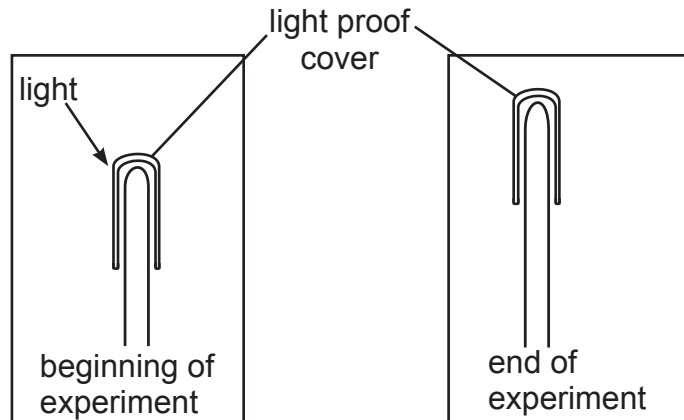
The volume of air inhaled during each breath is

- A 0.5 dm³.
 - B 3.0 dm³.
 - C 3.5 dm³.
 - D 5.0 dm³.
- 17 Which term refers to the removal of metabolic waste from the body?
- A assimilation
 - B egestion
 - C excretion
 - D ingestion

18 Which of these substances is **not** a waste product of metabolism?

- A carbon dioxide
- B gastric juice
- C urea
- D water

19 The diagram shows the tip of a plant stem at the beginning of an experiment and, after a few days, at the end of an experiment.



What is the name given to the response shown?

- A negative geotropism
- B negative phototropism
- C positive geotropism
- D positive phototropism

20 Which hormones are involved in blood sugar regulation?

- A adrenaline and oestrogen
- B progesterone and insulin
- C glucagon and testosterone
- D insulin and glucagon

- 21 Which part of the human eye prevents light being reflected in the eye?
- A choroid
 - B iris
 - C retina
 - D sclera
- 22 On a hot day, mammals regulate their body temperature through
- A increasing respiration.
 - B sweating less.
 - C vasoconstriction.
 - D vasodilation.
- 23 Which process is **not** a function of mitosis?
- A binary fission
 - B cell repair
 - C gamete formation
 - D growth
- 24 How many daughter cells are formed when a cell undergoes mitosis?
- A 1
 - B 2
 - C 3
 - D 4
- 25 Which term is an example of sexual reproduction?
- A binary fission in bacteria
 - B seed formation in apples
 - C spore formation in fungi
 - D tuber formation in potatoes

26 Which row correctly describes asexual reproduction?

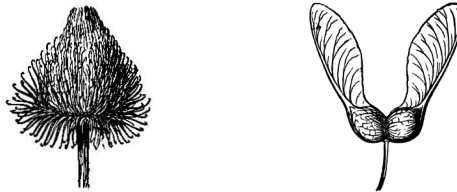
	number of parents	the offspring produced are identical	gametes are produced
A	1	no	yes
B	1	yes	no
C	2	no	yes
D	2	yes	no

27 In a non-endospermic seed, the radicle will develop into the

- A leaves.
- B root.
- C shoot.
- D stem.

28 The burdock and sycamore seeds use different methods of dispersal.

Identify the correct methods from the list below.



	burdock	sycamore
A	wind	animal
B	water	self
C	self	water
D	animal	wind

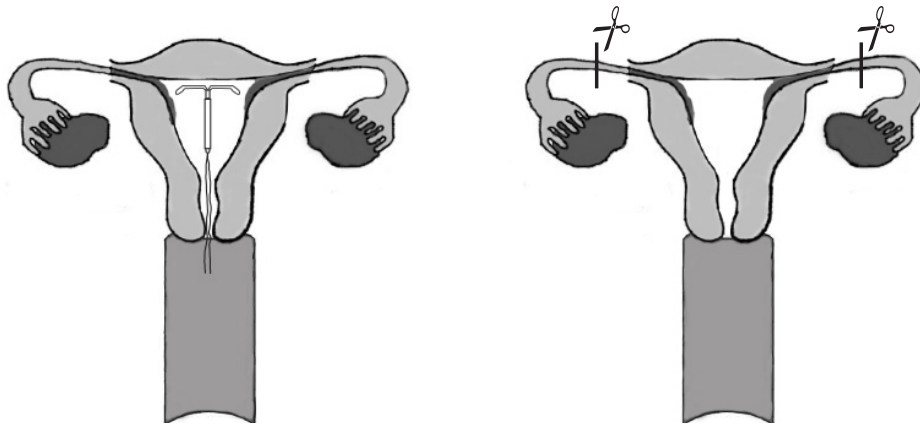
29 Cross-pollination is defined as the transfer of pollen from

- A an anther to a stigma on a different plant of a different species.
- B an anther to a stigma on a different plant of the same species.
- C a stigma to the anther on a different plant of a different species.
- D a stigma to an anther on a different plant of the same species.

30 Which of the lists below is the correct sequence leading to pregnancy?

- A fertilisation, implantation, menstruation
- B implantation, ovulation, menstruation
- C menstruation, fertilisation, ovulation
- D ovulation, fertilisation, implantation

31 The diagram shows two methods of birth control.



Which methods are shown?

- A chemical and natural
 - B chemical and surgical
 - C mechanical and natural
 - D mechanical and surgical
- 32 Which is a symptom of gonorrhoea in men?
- A damage to the liver
 - B fever in the body
 - C a rash on parts of the body
 - D discharge from the tip of the penis
- 33 What are the ideal environmental conditions for germination?
- A cold, dry, no oxygen present
 - B cold, moist, oxygen present
 - C warm, dry, no oxygen present
 - D warm, moist, oxygen present
- 34 What name is given to the length of DNA which codes for a specific protein?
- A allele
 - B chromosome
 - C gene
 - D phenotype
- 35 Which feature of a human is controlled by genes only?
- A blood group
 - B height
 - C onset of puberty
 - D skin cancer

- 36** The development of antibiotic resistant bacteria is an example of
- A** artificial selection.
 - B** natural selection.
 - C** selective breeding.
 - D** vaccination.
- 37** Which micro-organisms play a major role in the nitrogen cycle?
- A** bacteria
 - B** fungi
 - C** protoctist
 - D** viruses
- 38** What is an effect of deforestation?
- A** more erosion
 - B** more species
 - C** more transpiration
 - D** more variety of habitats
- 39** In which phase is human population growth currently?
- A** lag phase
 - B** log phase
 - C** stabilising phase
 - D** stationary phase
- 40** The environmental principle behind the recycling of paper is that
- A** it is a good way of earning money.
 - B** littering contributes to ozone depletion.
 - C** paper production is expensive.
 - D** we wish to avoid felling too many trees.

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