Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

BIOLOGY **0610/11**

Paper 1 Multiple Choice (Core) **October/November 2018**

45 minutes

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

* 1 6 2 9 5 9 5 1 1 2 *

READ THESE INSTRUCTIONS FIRST

Write in soft pencil.
Do not use staples, paper clips, glue or correction fluid.
Write your name, Centre number and candidate number on the Answer Sheet in the spaces provided unless this has been done for you.
DO **NOT** WRITE IN ANY BARCODES.

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.
Electronic calculators may be used.

This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **18** printed pages and **2** blank pages.

© UCLES 2018

1 Which characteristic of living organisms is represented by gas exchange in the alveoli?

A excretion

B growth

C nutrition

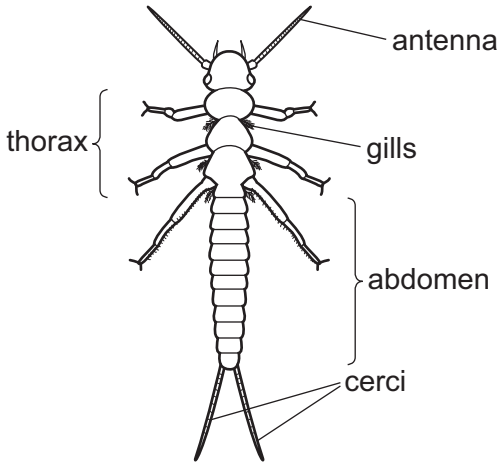
D reproduction

2 The binomial name for humans is *Homo sapiens*.

Which row is correct?

	Homo	*sapiens*
A	genus	kingdom
B	genus	species
C	species	genus
D	species	kingdom

3 The diagram shows a stonefly larva.



Use the key to identify the stonefly larva.

1 has two cerci at the end of the abdomen ..... go to 2

has three cerci at the end of the abdomen ..... go to 3

2 abdomen longer than thorax ..... **A**

thorax longer than abdomen ..... **B**

3 gills visible on the thorax ..... **C**

gills not visible ..... **D**

© UCLES 2018

4 Which part of a plant cell controls the movement of substances into and out of the cell?

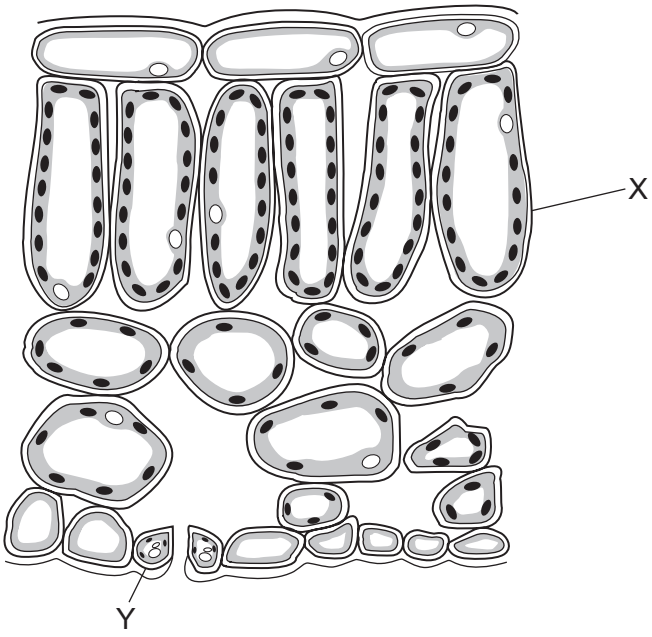
A cell membrane

B cell wall

C cytoplasm

D vacuole

5 The diagram shows part of a leaf in cross-section.



Structures X and Y are both part of the same

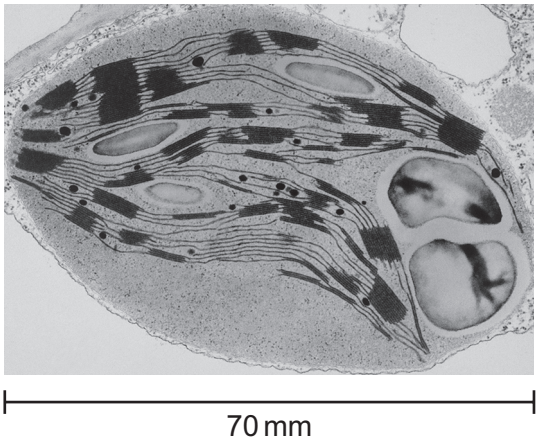
A cell.

B organ.

C tissue.

D vessel.

6 The photograph shows a chloroplast magnified ×7000.



What is the actual size of the chloroplast?

A 0.0001 mm **B** 0.001 mm **C** 0.01 mm **D** 100 mm

7 How do carbon dioxide and oxygen move into and out of a mesophyll cell?

A active transport

B diffusion

C respiration

D transpiration

8 What are the features of active transport?

	occurs through a cell membrane	particles move from a higher to a lower concentration	uses energy from respiration
A	✓	✓	✓
B	✓	✓	✗
C	✓	✗	✓
D	✗	✓	✓

© UCLES 2018

9 The data show the concentrations of sugar and starch in an onion.

total sugar including reducing sugar / g per 100g	starch / g per 100g
3.7	0.0

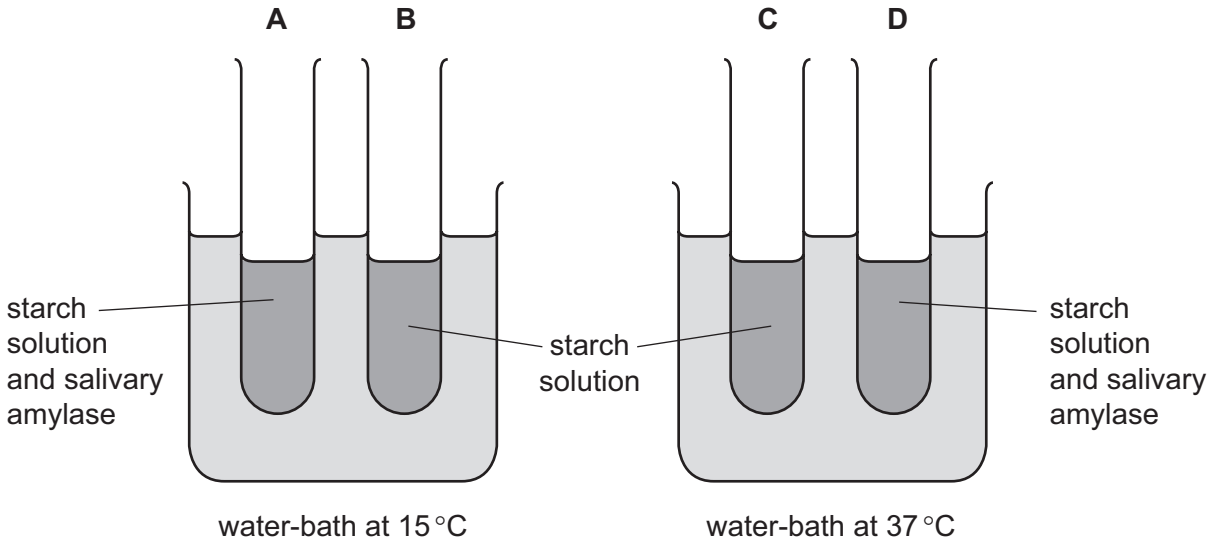
The onion is tested with Benedict's solution and iodine solution.

Which set of results is correct?

	Benedict's solution	iodine solution
A	blue	blue-black
B	blue	brown
C	brick red	blue-black
D	brick red	brown

10 The apparatus shown is used for an experiment on starch digestion.

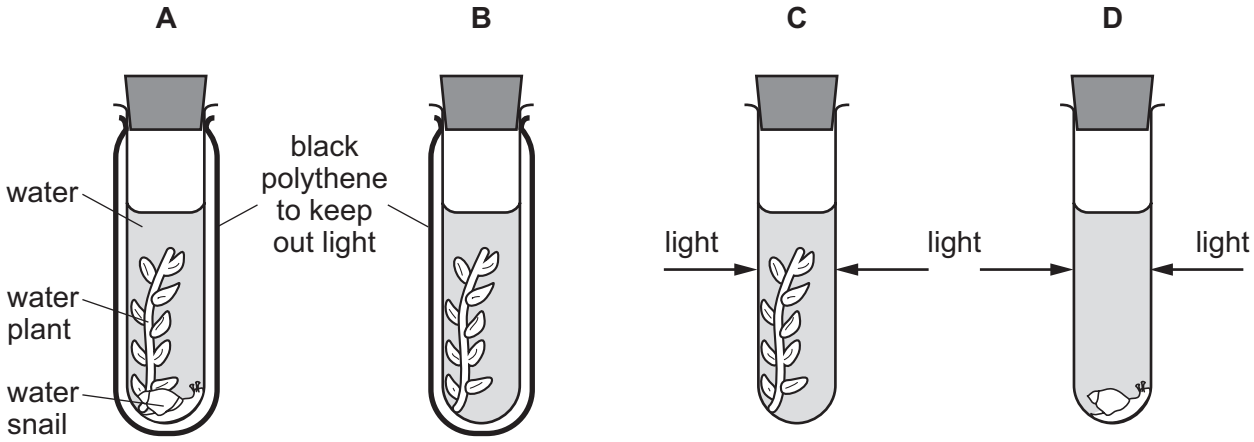
Which test-tube contains the most sugar after 20 minutes?



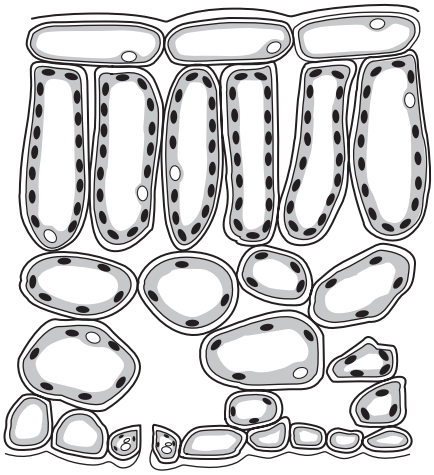
11 An experiment was carried out using the apparatus shown.

The carbon dioxide content of the water in each test-tube was measured at the start and again three hours later.

In which test-tube would there be a decrease in carbon dioxide content?



12 The diagram shows a cross-section of a leaf.



Which tissue is immediately below the upper epidermis?

A cuticle

B guard cells

C palisade mesophyll

D spongy mesophyll

© UCLES 2018

13 What is the result of a diet lacking iron?

A bleeding gums

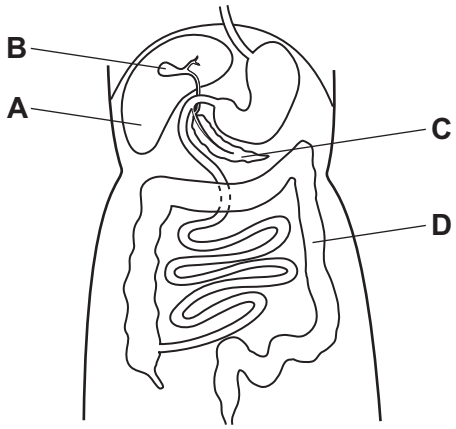
B poor wound healing

C reduced number of red blood cells

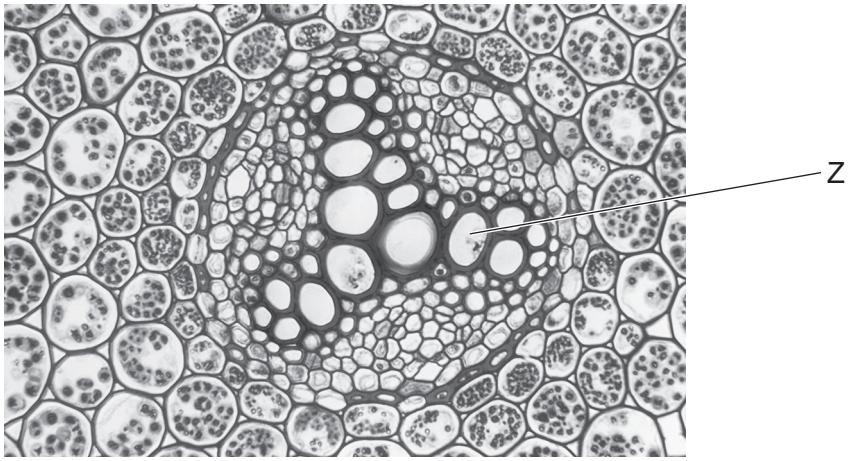
D weak bones and teeth

14 The diagram shows part of the alimentary canal.

Which structure produces lipase?



15 The photomicrograph shows a cross-section through a buttercup root.



What is the function of the tissue labelled Z?

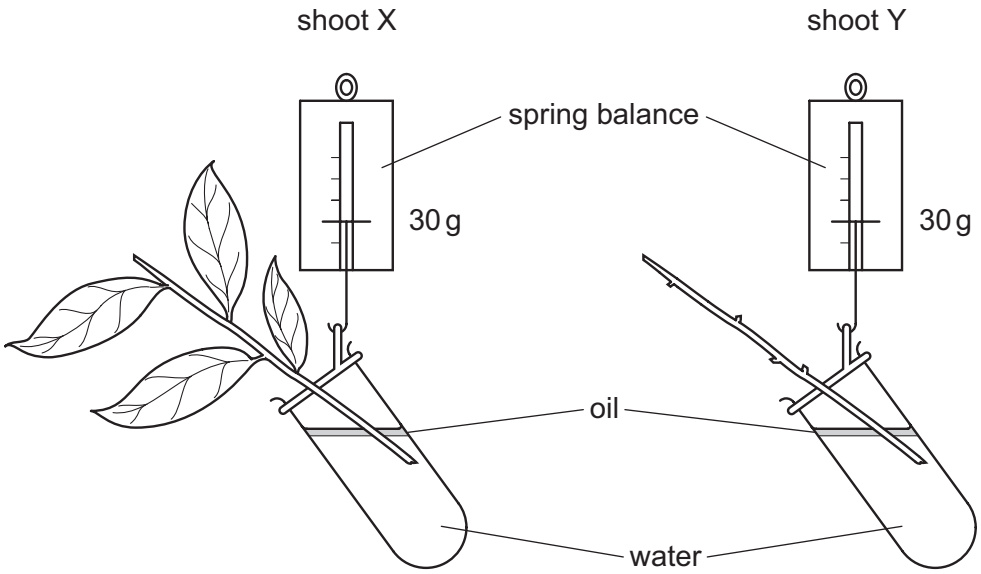
A site of photosynthesis

B site of respiration

C transport of sugars

D transport of water

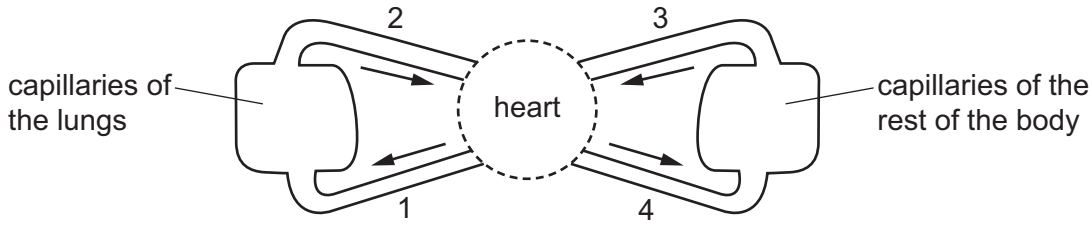
16 The diagram shows two shoots at the start of an experiment on transpiration.



What are the likely readings on the spring balances after three days?

	shoot X / g	shoot Y / g
A	25	25
B	25	30
C	30	25
D	30	30

17 The diagram shows a circulatory system.



Which vessels carry oxygenated blood?

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

18 Some features that help to defend the body against pathogens are listed.

1 mucus

2 skin

3 stomach acid

4 phagocytosis

Which features can prevent pathogens entering body tissues?

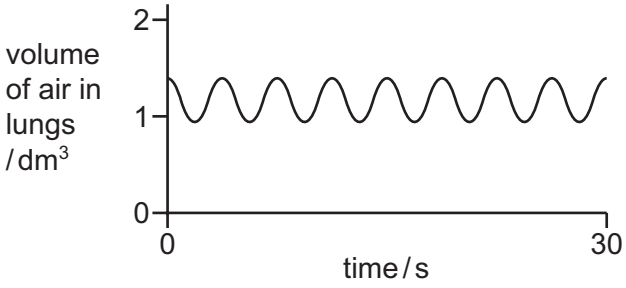
A 1, 2, 3 and 4

B 1, 2 and 3 only

C 2 and 3 only

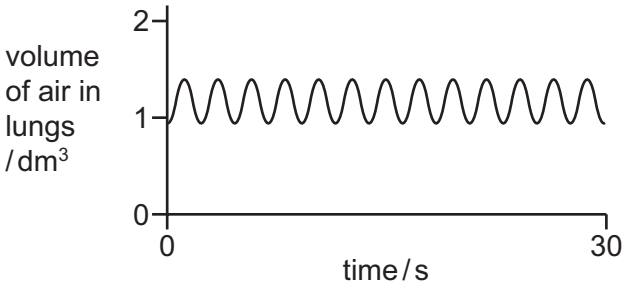
D 4 only

19 The graph shows changes in the volume of air in the lungs of a person at rest, over a period of 30 seconds.

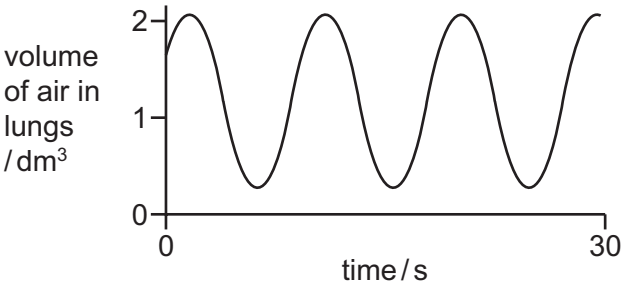


Which graph shows changes in the volume of air in the lungs of the same person immediately after they have done five minutes of vigorous exercise?

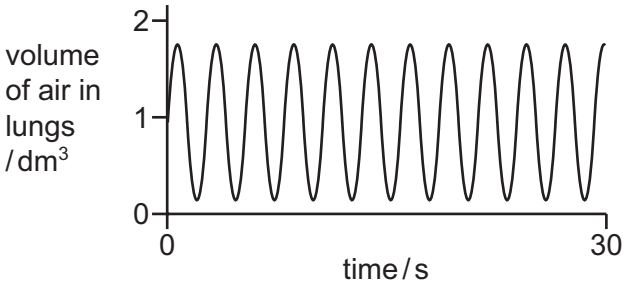
A



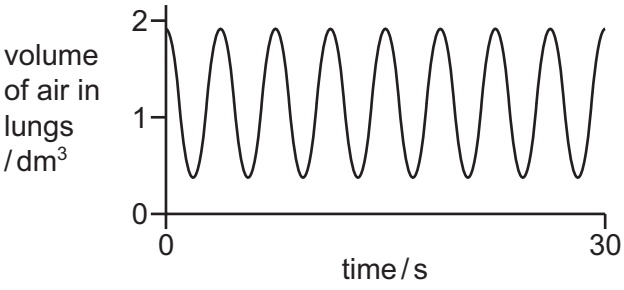
B



C



D



20 What is produced by anaerobic respiration in mammals?

A alcohol + carbon dioxide

B alcohol + oxygen

C lactic acid + carbon dioxide

D lactic acid

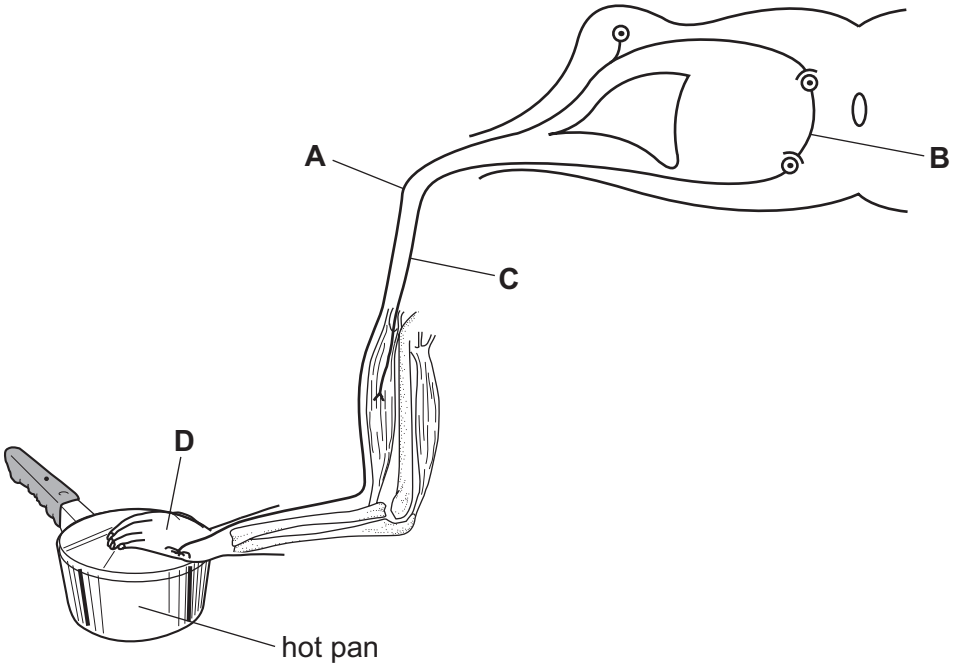
© UCLES 2018

21 Which row describes the functions of the bladder, kidneys and liver?

	production of urea	excretion of urea	storage of urine
A	liver	bladder	kidneys
B	bladder	kidneys	liver
C	liver	kidneys	bladder
D	kidneys	liver	bladder

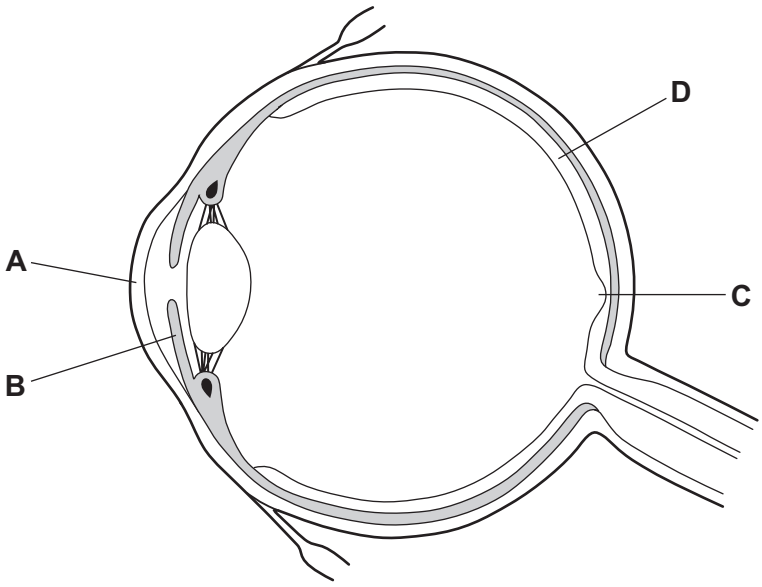
22 The diagram shows a reflex arc.

Which label points to the sensory neurone?



23 The diagram shows the structure of the eye.

Which structure refracts light?



24 Which disease can be caused by tobacco smoking?

A cholera

B COPD

C HIV

D scurvy

25 What is formed when the nucleus of a sperm fuses with the nucleus of an egg?

A gamete

B ovule

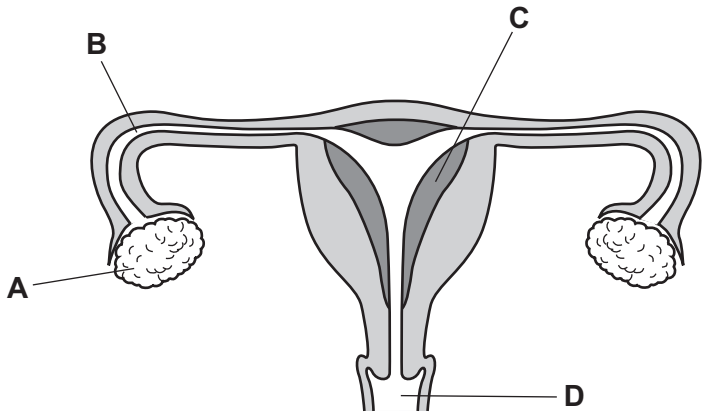
C stamen

D zygote

© UCLES 2018

26 The diagram shows the female reproductive system.

Where does implantation normally occur?



27 Which precautions could help to prevent the spread of AIDS?

1 avoiding the mixing of blood

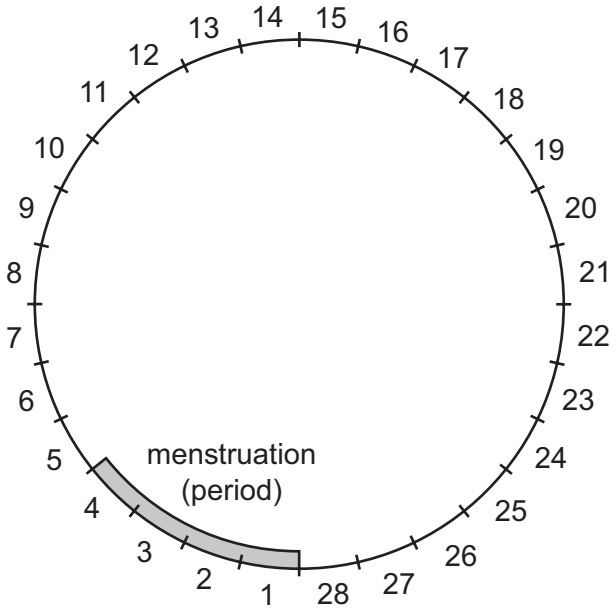
2 using a femidom

3 using the contraceptive pill

4 using a condom

A 1 and 3 **B** 1, 2 and 4 **C** 2, 3 and 4 **D** 2 and 4 only

28 The diagram shows a timeline of a woman's menstrual cycle, which lasts for 28 days.



On which days of the menstrual cycle is a woman most likely to become pregnant?

A days 1–4

B days 7–10

C days 13–16

D days 20–23

29 The diagram shows what happens during fertilisation.

egg + sperm → fertilised egg → male embryo

Which sex chromosomes are present in the egg, sperm and fertilised egg shown?

	egg	sperm	fertilised egg
A	X	X	XX
B	X	Y	XY
C	Y	X	XY
D	Y	Y	YY

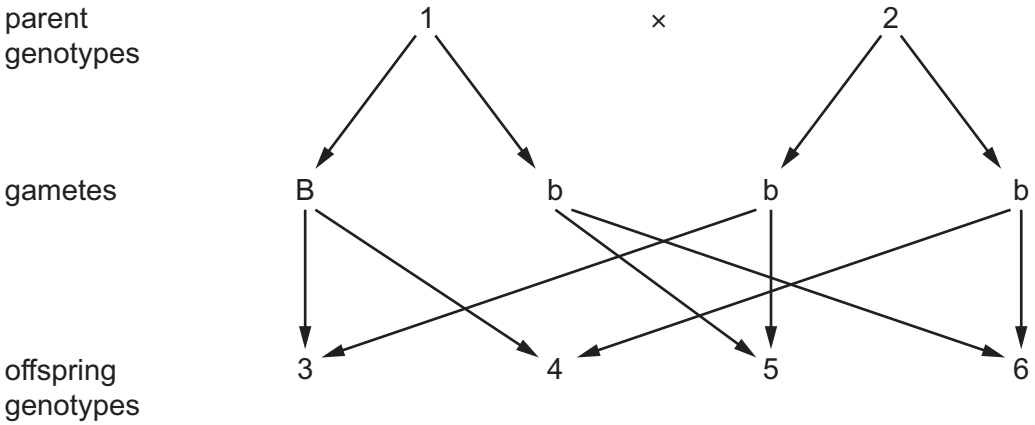
© UCLES 2018

30 Many of the varieties of apple in the world evolved from a single wild species, *Malus sieversii*.

Which processes were involved in creating thousands of genetically different varieties of apple?

	fertilisation	meiosis	mitosis
A	✓	✓	✓
B	✓	✓	✗
C	✓	✗	✓
D	✗	✓	✓

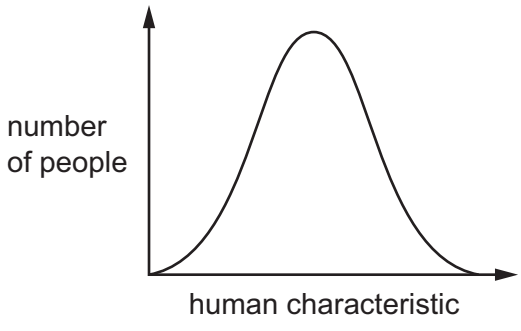
31 The genetic diagram shows a monohybrid cross. B is the dominant allele and b is the recessive allele.



Which of the parents and offspring are heterozygous?

A 1, 3 and 4 **B** 1, 5 and 6 **C** 2, 3 and 4 **D** 2, 5 and 6

32 The curve shows the distribution of a human characteristic.



Which characteristic is shown by the curve?

A blood groups

B height

C sex

D tongue rolling

33 A farmer grows different varieties of dates, which are a type of fruit.

The table shows some features of the dates he grows.

variety	colour	texture	yield	size
Barhee	amber	soft	high	small to medium
Dayri	dark reddish brown	semi dry	variable	medium to large
Hayany	purplish black	soft	medium	large
Maktoom	amber	soft	medium	medium to large
Thoory	straw coloured	dry	medium	medium to large

The farmer would like to produce a new variety of date using selective breeding.

He wants a medium sized date that is straw coloured and soft, with a high yield.

Which two varieties could the farmer breed together to get the variety he wants?

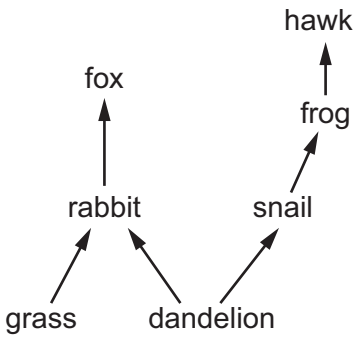
A Barhee and Dayri

B Barhee and Thoory

C Dayri and Maktoom

D Maktoom and Thoory

34 The diagram shows a woodland food web.



Which statement is correct?

A Dandelions and grass are both primary consumers.

B The fox and the hawk are both secondary consumers.

C The frog is a tertiary consumer.

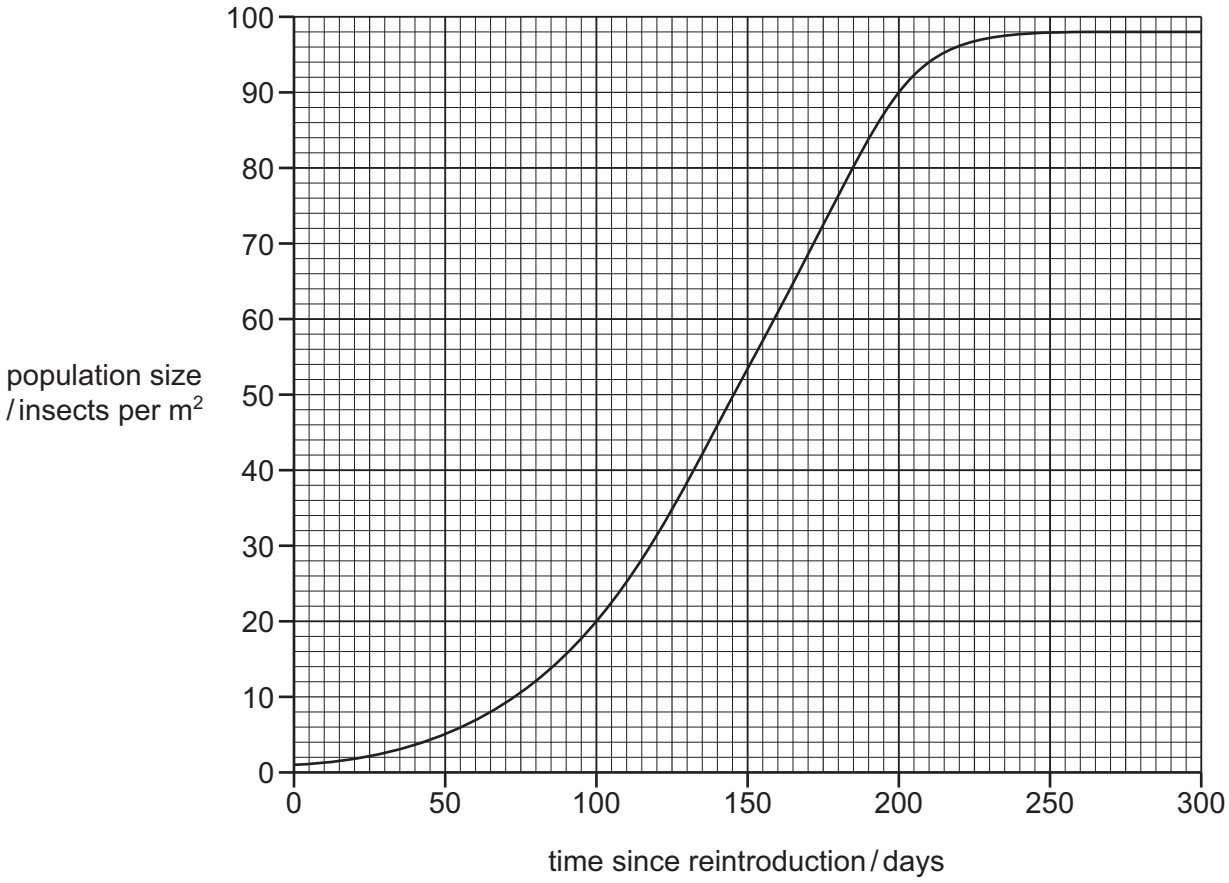
D The rabbit and the snail are both primary consumers.

© UCLES 2018

35 Which process releases carbon dioxide into the air and which process removes carbon dioxide from the air?

	releases carbon dioxide into the air	removes carbon dioxide from the air
A	decay	photosynthesis
B	decay	respiration
C	photosynthesis	combustion
D	photosynthesis	decay

36 The graph shows a population growth curve for a species of insect which has been reintroduced to an island from where it had previously become extinct.



How long after reintroduction does the insect population size start to become limited by resources such as food?

A 50 days **B** 100 days **C** 150 days **D** 200 days

37 Biotechnology is used to produce ethanol for biofuels.

Which type of organism can be used to produce the ethanol?

A fish

B myriapods

C viruses

D yeast

38 What is an example of genetic engineering?

A using enzymes to make washing powders

B using pectinase to make fruit juice

C producing plants that have been given genes for resistance to insect pests

D using yeast to make bread

39 What is **least** likely to result from deforestation?

A increase in flooding

B increase in species

C loss of habitats

D loss of soil

40 What could prevent a species from becoming endangered?

A captive breeding programme

B climate change

C introduction of other species

D pollution

© UCLES 2018

BLANK PAGE

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.