Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

BIOLOGY **0610/11**

Paper 1 Multiple Choice (Core) **May/June 2018**

45 minutes

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

* 9 4 4 9 4 3 7 1 7 7 *

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 **14** printed pages and **2** blank pages.

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1 Which organisms carry out respiration, growth, movement and excretion?

A all animals and all plants

B animals only

C arthropods and flowering plants only

D plants only

2 The diagram shows an animal whose scientific name is *Falco peregrinus*.



To which species does it belong?

A bird

B *F. peregrinus*

C *Falco*

D vertebrate

3 What kind of skin do amphibians have?

A dry without scales

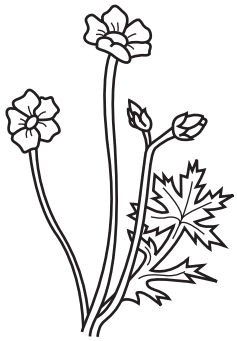
B dry with scales

C moist without scales

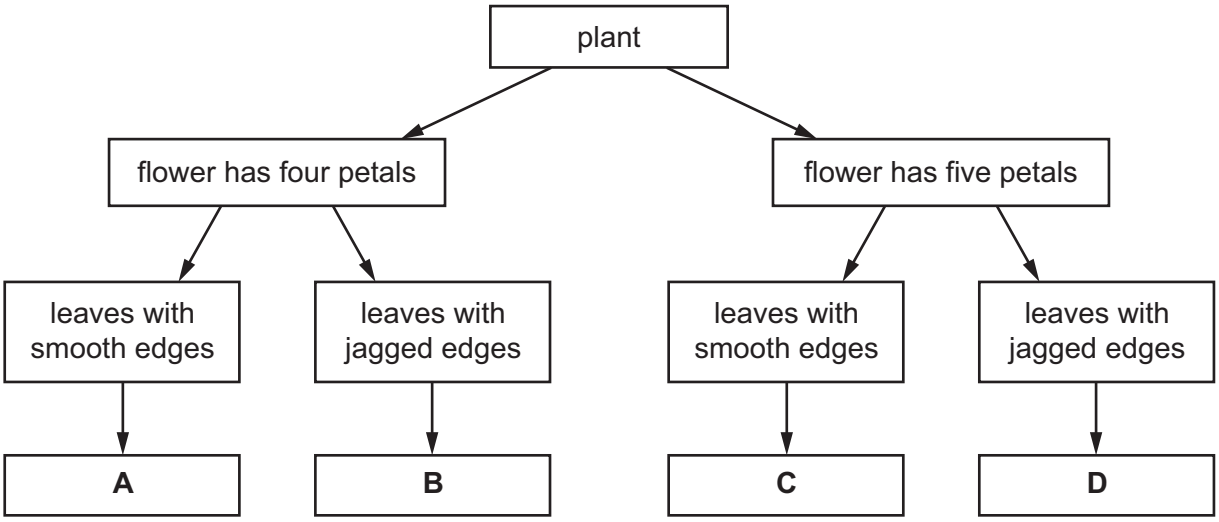
D moist with scales

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4 The diagram shows a flowering plant.

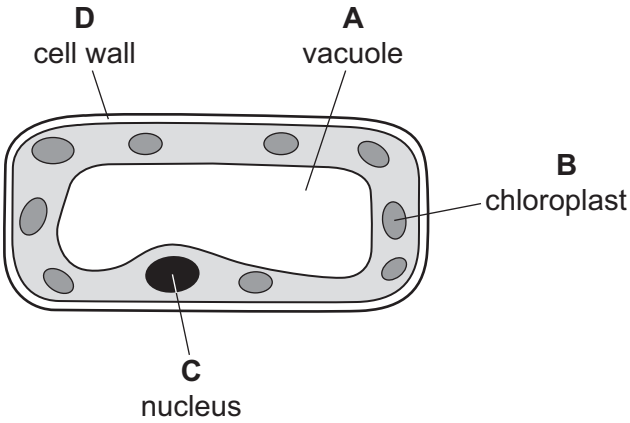


Use the key to identify the plant.



5 The diagram shows a plant cell.

In which labelled part of the cell is sugar made?



6 Why do some root cells have root hairs?

A for the maintenance of the temperature of the cell sap

B to increase the surface area of the cells

C to increase the volume of the cell sap

D to provide a place for cell nuclei

7 Which words correctly complete the paragraph?

Diffusion may be defined as the net movement of particles from a region of their ……1…… concentration, to a region of their ……2…… concentration, where movement is ……3…… a concentration gradient.

	1	2	3
A	higher	lower	down
B	higher	lower	up
C	lower	higher	down
D	lower	higher	up

8 Which part of a plant root hair is partially permeable?

A the cell sap

B the cell surface membrane

C the cell vacuole

D the cell wall

9 The table shows the results of food tests carried out on a fruit.

test	Benedict's	biuret	ethanol	iodine
result	positive	positive	negative	negative

What did the fruit contain?

A fat and reducing sugar

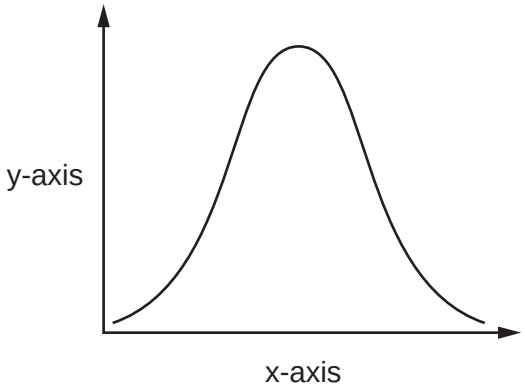
B fat and starch

C protein and reducing sugar

D protein and starch

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10 An experiment was carried out to investigate the effect of pH on enzyme action. The graph shows the results.



What are the labels for the x-axis and the y-axis?

	x-axis	y-axis
A	pH	rate of reaction
B	pH	time
C	rate of reaction	pH
D	time	pH

11 The equation for photosynthesis is shown.

.....1..... + ...2..... → glucose + ...3.....

Which words correctly complete gaps 1, 2 and 3?

	1	2	3
A	carbon dioxide	light	oxygen
B	carbon dioxide	water	oxygen
C	oxygen	light	carbon dioxide
D	oxygen	water	carbon dioxide

12 What is the best source of vitamin C in a balanced diet?

A fish

B fruit

C meat

D rice

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[Turn over

13 A young, active woman requires more of which constituent in her diet than a young, active man?

A fat

B iron

C protein

D vitamin C

14 Which condition could be caused by a lack of iron?

A anaemia

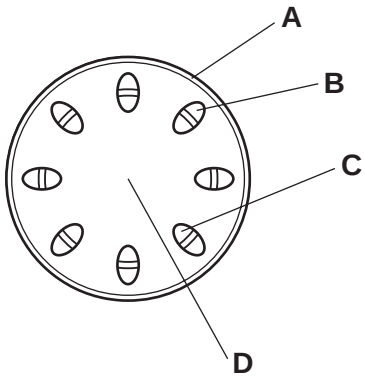
B cholera

C scurvy

D diabetes

15 The diagram shows part of a section through a plant stem.

Which tissue transports water from the roots to the leaves?



16 Petroleum jelly is waterproof and transparent.

Covering the underside of the leaves of a plant with a thin layer of petroleum jelly will slow down the rate of water loss from the plant.

Which statement explains this?

A Plants absorb nutrients from the petroleum jelly.

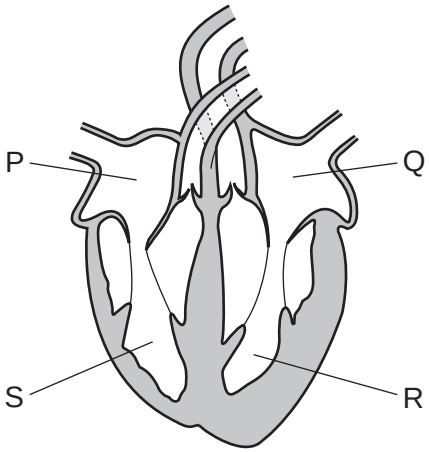
B Plants absorb water from the petroleum jelly.

C Stomata are blocked by the petroleum jelly.

D The petroleum jelly stops photosynthesis.

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17 The diagram shows the human heart.



In which order does blood pass through the chambers during a complete circuit of the body after it returns from the lungs?

A Q → R → S → P

B Q → R → P → S

C P → S → Q → R

D P → S → R → Q

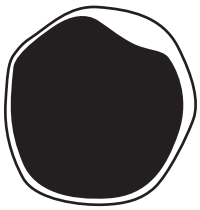
18 The diagrams show some components of the blood of a mammal.

Which component causes the blood to start clotting?

A



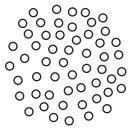
B



C



D



19 Which statement describes a transmissible disease?

A a disease caused when a pathogen passes from one host to another

B a disease caused when a pathogen passes through a host's body

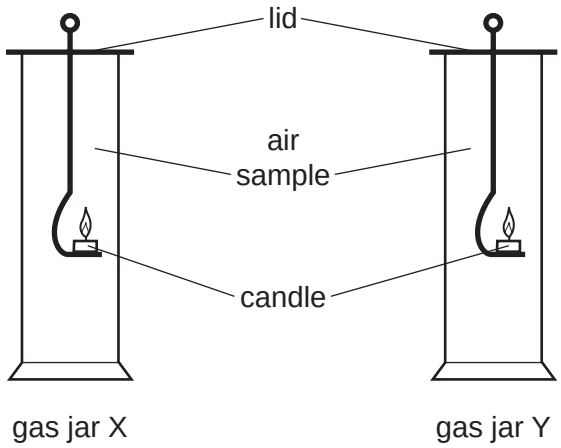
C a disease caused when a pathogen passes to the host's body only by direct contact

D a disease caused when a pathogen passes to the host's body only by indirect contact

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20 A sample of expired air is collected in a gas jar. Another gas jar contains normal atmospheric air.

A lighted candle is placed inside each gas jar as shown. The time taken for each flame to go out is measured. As the candles burn they use up the oxygen available in the jar.



The table shows the results of this experiment.

gas jar	time for candle flame to go out / s
X	15
Y	9

What is an explanation of the difference between the results in jars X and Y?

A Jar X contains atmospheric air which has more carbon dioxide.

B Jar X contains expired air which has more carbon dioxide.

C Jar Y contains atmospheric air which has less oxygen.

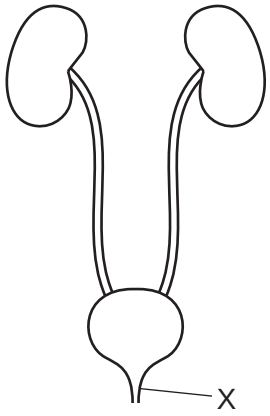
D Jar Y contains expired air which has less oxygen.

21 Which row describes anaerobic respiration?

	energy released	oxygen required	waste products
A	a little	no	lactic acid
B	a little	yes	carbon dioxide and water
C	a lot	no	lactic acid
D	a lot	yes	carbon dioxide and water

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22 The diagram shows the excretory system.



What is structure X?

A bladder

B kidney

C ureter

D urethra

23 Which are effectors?

A brain and spinal cord

B muscles and glands

C receptors

D sensory neurones and motor neurones

24 Which hormone is involved in the conversion of glucose to glycogen?

A adrenaline

B insulin

C oestrogen

D testosterone

25 Which mechanism for maintaining body temperature involves the action of muscles?

A detection of temperature

B insulation with fatty tissue

C shivering

D sweating

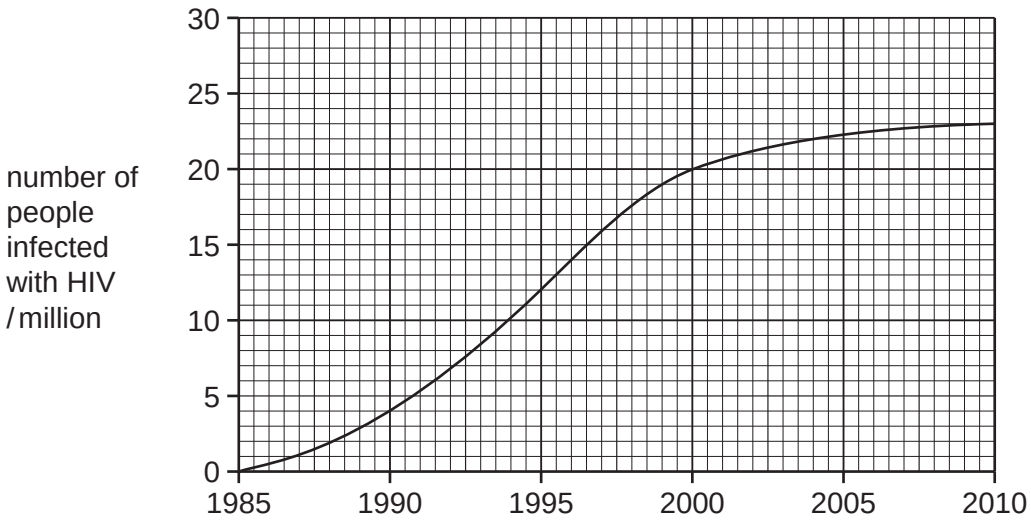
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26 Antibiotics are used to treat some diseases.

Which diseases could they be effective against?

	bacterial infection	HIV	scurvy
A	✓	✓	✓
B	✓	✗	✓
C	✓	✗	✗
D	✗	✓	✗

27 The graph shows the number of people infected with HIV, in one part of the world, between 1985 and 2010.



Using data from the graph, which statement is correct?

A Between 1995 and 2000 the number of people infected with HIV increased by 67%.

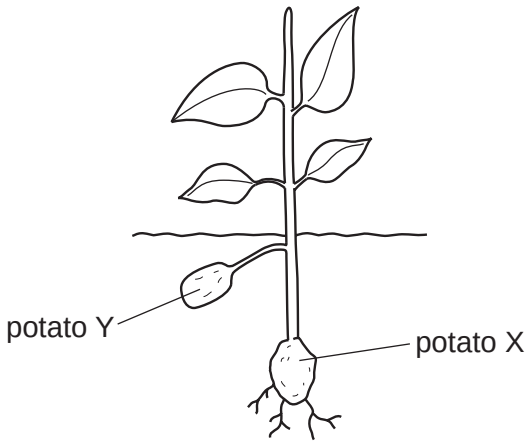
B Between 1995 and 2000 the number of people infected with HIV increased by 20%.

C Between 1990 and 1995 the number of people infected with HIV doubled.

D Between 1995 and 2000 the number of people infected with HIV doubled.

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28 The diagram shows reproduction in a potato plant. Potato X was planted into the ground and a plant grew from it. The plant then produced potato Y.



Which statement is correct?

A X and Y are genetically different.

B Y was produced by asexual reproduction.

C Y was produced by sexual reproduction.

D Y was produced by the fusion of gametes.

29 Which row correctly links the named process with its description?

	process	description
A	menstruation	release of an egg
B	menstruation	shedding of the lining of the uterus
C	ovulation	fusion of nuclei
D	ovulation	start of puberty

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[Turn over

30 The human immunodeficiency virus (HIV) can be transmitted in body fluid.

Some examples of body fluids are listed.

1 blood

2 saliva

3 semen

4 tear fluid

Which body fluids could transmit HIV?

A 1, 2, 3 and 4

B 1, 2 and 3 only

C 1 and 3 only

D 3 only

31 Which method of birth control involves a surgical procedure?

A condom

B contraceptive pill

C monitoring body temperature and cervical mucus

D vasectomy

32 The diagram shows the inheritance of sex in humans.

		male gametes	
		X	Y
female gametes	X	XX	XY
	X	XX	XY

What is the chance of the couple's next child being male?

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

33 Which type of cell is produced by meiosis?

A fertilised egg cell

B leaf cell

C red blood cell

D sperm cell

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34 What will cause the rate of mutation to increase?

A increase in exposure to ionising radiation

B increase in genetic variation in a population

C increase in phenotypic variation in a population

D increase in the rate of reproduction

35 A feature of some plants that live in dry places is that the leaves are reduced to spines.

What is an advantage of the leaves being reduced to spines?

A decrease in photosynthesis

B decrease in transpiration

C increase in photosynthesis

D increase in transpiration

36 Black truffle is a fungus that obtains nutrients from the roots of hazel trees. Female pigs find and eat the fungi.

What is the principal source of the energy for this food chain?

A female pigs

B hazel trees

C soil

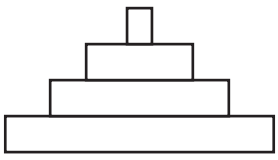
D the Sun

37 The diagram shows a food chain.

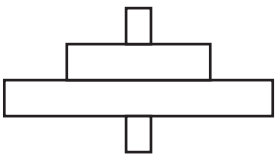
apple tree → herbivorous insects → carnivorous insects → bird

Which pyramid of numbers represents the food chain?

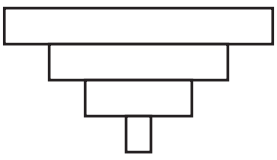
A



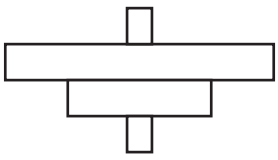
B



C



D



38 Some washing powders are called biological washing powders.

What is the reason for this?

A They contain bacteria.

B They contain enzymes.

C They contain myriapods.

D They contain viruses.

39 What is an example of genetic engineering?

A inserting a gene for human insulin production into bacteria

B selective breeding to produce cattle with high milk yields

C using herbicides to kill unwanted plants

D using insecticides to kill insect pests

40 What is a negative impact to an ecosystem of large-scale monoculture?

A Crops need harvesting at the same time.

B Monocultures produce less food.

C Monocultures produce more food.

D The genetic variation of organisms is reduced.

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