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Cambridge Assessment International Education

# Cambridge IGCSE™

**BIOLOGY** **0610/11**

Paper 1 Multiple Choice (Core) **October/November 2025**

**45 minutes**

You must answer on the multiple choice answer sheet.

You will need: Multiple choice answer sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

**INSTRUCTIONS**

- 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 multiple choice answer sheet.
- Follow the instructions on the multiple choice answer sheet.
- Write in soft pencil.
- Write your name, centre number and candidate number on the multiple choice answer sheet in the spaces provided unless this has been done for you.
- Do **not** use correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.

**INFORMATION**

- The total mark for this paper is 40.
- Each correct answer will score one mark.
- Any rough working should be done on this question paper.



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**1** Which three characteristics apply to all organisms?

**A** egestion, movement and photosynthesis

**B** egestion, movement and respiration

**C** excretion, movement and respiration

**D** excretion, photosynthesis and respiration

**2** The song thrush, *Turdus philomelos*, is a bird.

What is the genus of this bird?

**A** *philomelos*

**B** song

**C** thrush

**D** *Turdus*

**3** How many pairs of jointed legs does an arachnid have?

**A** two pairs only

**B** three pairs only

**C** four pairs only

**D** more than four pairs

**4** Which structure is found in bacterial cytoplasm but **not** in the cytoplasm of animal cells?

**A** cell membrane

**B** cell wall

**C** nucleus

**D** plasmid

**5** Which row correctly matches a type of specialised cell with its function?

| | type of cell | function |
|---|---|---|
| **A** | ciliated cell | absorption of nutrients |
| **B** | palisade mesophyll cell | production of starch |
| **C** | root cortex cell | absorption of mineral ions from the soil |
| **D** | white blood cell | transport of oxygen |

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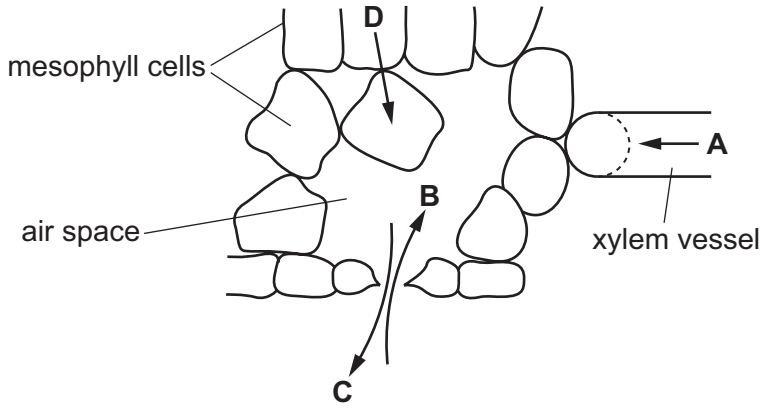
**6** Different factors affect the rate of diffusion of molecules across a membrane.

Which row shows the changes that will result in the greatest increase in the rate of diffusion?

| | concentration gradient across a membrane | thickness of the membrane | surface area of the membrane | temperature |
|---|---|---|---|---|
| **A** | decrease | decrease | decrease | increase |
| **B** | decrease | increase | increase | decrease |
| **C** | increase | decrease | increase | increase |
| **D** | increase | increase | decrease | decrease |

**7** The diagram shows part of a cross-section of a leaf.

Which arrow shows the movement of water by osmosis in the leaf?




**8** The table shows the results of some food tests.

Which row shows a food that contains carbohydrates only?

| | Benedict's solution test | biuret test | ethanol emulsion test | iodine solution test |
|---|---|---|---|---|
| **A** | blue | purple | clear | blue-black |
| **B** | blue | blue | cloudy | yellow-brown |
| **C** | red | blue | clear | blue-black |
| **D** | red | purple | cloudy | yellow-brown |

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**9** What catalyses the chemical reactions needed to sustain life in organisms?

**A** enzymes

**B** hormones

**C** mitochondria

**D** ribosomes

**10** Which process in plant cells requires chlorophyll?

**A** fertilisation

**B** nutrition

**C** movement

**D** respiration

**11** Which molecule contains nitrogen?

**A** fat

**B** glucose

**C** protein

**D** starch

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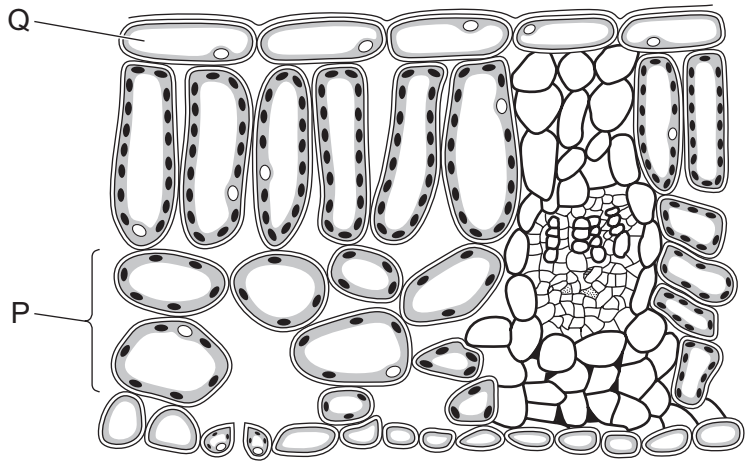
**12** The diagram shows part of a cross-section of a leaf.




Which row correctly identifies tissue P and the tissue that contains cell Q?

| | P | Q |
|---|---|---|
| **A** | palisade mesophyll | cuticle |
| **B** | palisade mesophyll | upper epidermis |
| **C** | spongy mesophyll | cuticle |
| **D** | spongy mesophyll | upper epidermis |

**13** Which nutrients in the diet prevent rickets?

**A** calcium and vitamin C

**B** calcium and vitamin D

**C** iron and vitamin C

**D** iron and vitamin D

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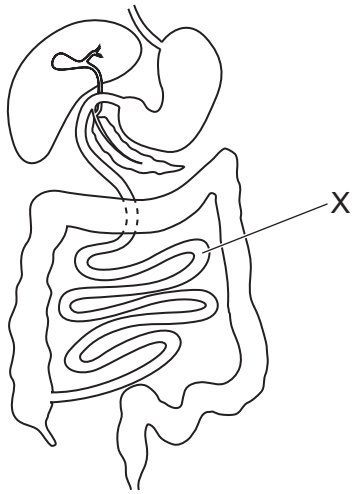
**14** The diagram shows part of the human digestive system.




What is a function of the part labelled X?

**A** absorption

**B** egestion

**C** excretion

**D** ingestion

**15** What increases the surface area of food for the action of enzymes?

**A** absorption

**B** active transport

**C** respiration

**D** physical digestion

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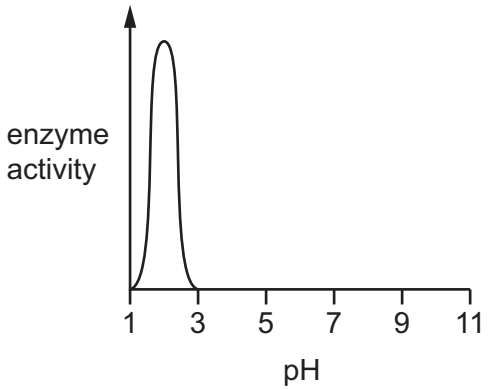
**16** The graph shows the effect of pH on the activity of an enzyme.




In which part of the alimentary canal would this enzyme be **most** active?

**A** large intestine

**B** mouth

**C** small intestine

**D** stomach

**17** Which processes occur during transpiration?

1 Water diffuses from the air spaces into the mesophyll cells.

2 Water evaporates from surfaces of mesophyll cells into air spaces.

3 Water from air spaces evaporates through stomata.

4 Water vapour from air spaces diffuses through stomata.

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

**18** What is the sequence in which blood flows through the circulatory system?

**A** arteries → veins → capillaries → heart

**B** capillaries → arteries → heart → veins

**C** capillaries → veins → heart → arteries

**D** heart → veins → arteries → capillaries

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**19** Which row identifies methods that will reduce the spread of disease?

| | treating sewage | washing hands regularly | providing clean drinking water |
|---|---|---|---|
| **A** | ✓ | ✓ | ✓ |
| **B** | ✓ | ✓ | ✗ |
| **C** | ✓ | ✗ | ✓ |
| **D** | ✗ | ✓ | ✓ |

key

✓ = a method that will reduce the spread of disease

✗ = a method that will **not** reduce the spread of disease

**20** Which chemical can be used to show the presence of carbon dioxide?

**A** Benedict's solution

**B** biuret reagent

**C** DCPIP

**D** limewater

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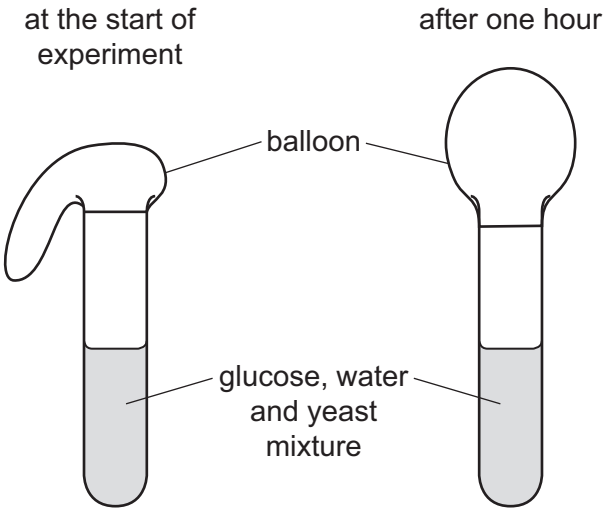
**21** A mixture of glucose, yeast and water was placed in a test-tube. A balloon was attached to the open end of the test-tube. The apparatus was kept at 30 °C for one hour.

The diagram shows the apparatus.




Which word equation can be used to explain what happened to the balloon after one hour?

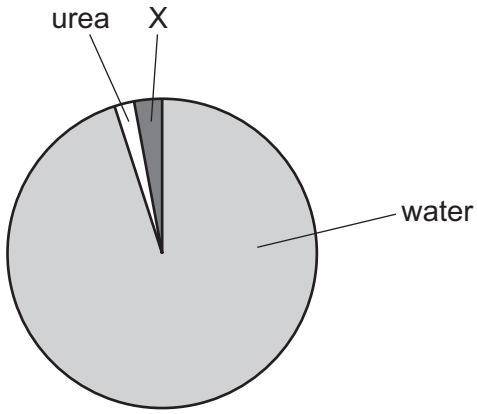
**A** carbon dioxide + water → glucose + oxygen

**B** glucose → alcohol + carbon dioxide

**C** glucose → carbon dioxide + water

**D** glucose → lactic acid

**22** Urine is formed from the substances excreted by the kidneys. The pie chart shows the composition of urine in a healthy person.




What is label X?

**A** ions

**B** platelets

**C** starch

**D** sucrose

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**23** Which hormone increases pupil diameter and is secreted in 'fight or flight' situations?

**A** adrenaline

**B** insulin

**C** oestrogen

**D** testosterone

**24** Which responses are usually shown by the root of a plant?

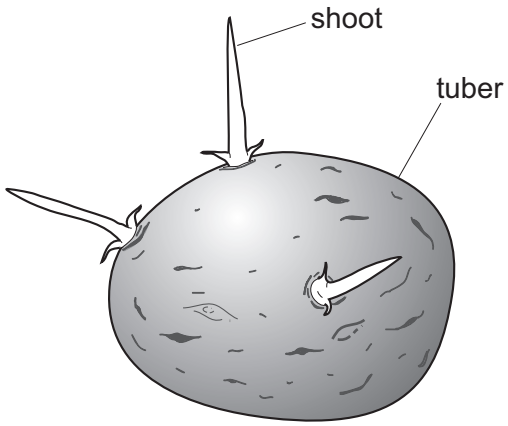
| | gravitropism | phototropism |
|---|---|---|
| **A** | – | – |
| **B** | – | + |
| **C** | + | – |
| **D** | + | + |

key

+ = grows towards the stimulus

– = grows away from the stimulus

**25** The diagram shows a potato tuber that developed from the stem of a parent potato plant. Three shoots are starting to grow from the tuber.




How do the genotypes of the shoots compare with the genotypes of the tuber and of the parent?

| | genotype of tuber | genotype of parent |
|---|---|---|
| **A** | is different to the shoots | is different to the shoots |
| **B** | is different to the shoots | is identical to the shoots |
| **C** | is identical to the shoots | is different to the shoots |
| **D** | is identical to the shoots | is identical to the shoots |

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**26** What is a feature of wind-pollinated flowers?

**A** anthers inside the flower

**B** large, brightly coloured petals

**C** long, feathery stigmas

**D** production of nectar

**27** Which parts of the gametes fuse during fertilisation?

**A** cell membranes

**B** cell walls

**C** cytoplasm

**D** nuclei

**28** The statements are about some hormones in the human body.

V promotes the development of breast tissue.

W promotes the development of stronger muscles.

X causes the voice to deepen at puberty.

Y is produced by the pancreas.

Which statements are correct for testosterone?

**A** V and W **B** V and Y **C** W and X **D** X and Y

**29** Which type of organism causes an infection that may lead to AIDS?

**A** amphibian

**B** bacterium

**C** myriapod

**D** virus

**30** What does a gene code for?

**A** an amino acid

**B** a carbohydrate

**C** a fat

**D** a protein

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**31** Which row shows the sex chromosomes present in human body cells?

| | sex | sex chromosomes present |
|---|---|---|
| **A** | female | XX |
| **B** | female | XY |
| **C** | male | XX |
| **D** | male | YY |

**32** An individual who is homozygous dominant for a characteristic has the genotype TT. Another individual is heterozygous for this characteristic.

What is the correct percentage of genotypes for the offspring resulting from a genetic cross between these two individuals?

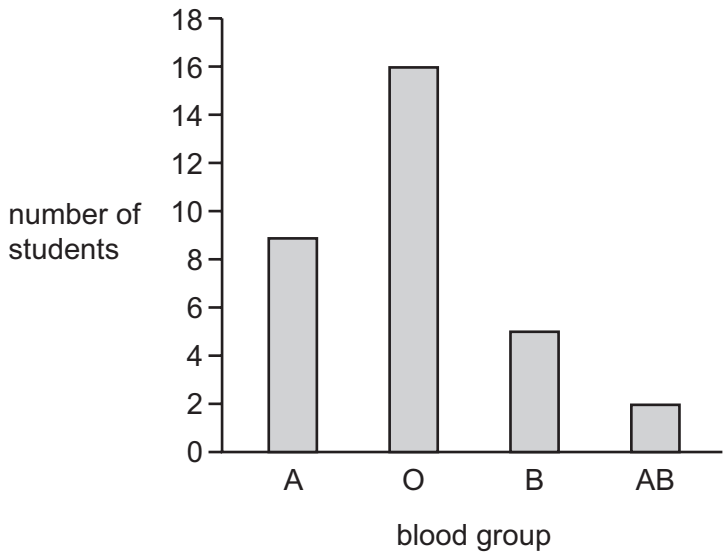
**A** 100% Tt

**B** 50% TT, 50% tt

**C** 50% TT, 50%Tt

**D** 25%TT, 50% Tt, 25% tt

**33** The graph shows the number of students with each blood group in a class.




What can be concluded about blood groups from the graph?

**A** Blood groups are an example of continuous variation caused by genes and the environment.

**B** Blood groups are an example of continuous variation caused by genes only.

**C** Blood groups are an example of discontinuous variation caused by genes and the environment.

**D** Blood groups are an example of discontinuous variation caused by genes only.

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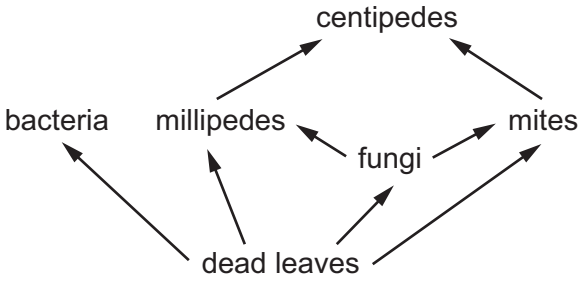
**34** The diagram shows part of a food web in a pile of dead leaves.

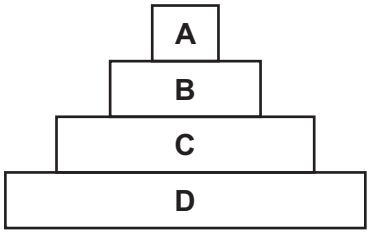



Which row describes the organisms?

| | bacteria | centipedes | leaves |
|---|---|---|---|
| **A** | consumers | herbivores | producers |
| **B** | decomposers | carnivores | decomposers |
| **C** | decomposers | consumers | producers |
| **D** | producers | carnivores | producers |

**35** The diagram shows an ecological pyramid.

Which letter represents the producers?




**36** The diagrams show the movement of two gases during the day and during the night.




Which letters represent carbon dioxide?

**A** W and Y **B** W and Z **C** X and Y **D** X and Z

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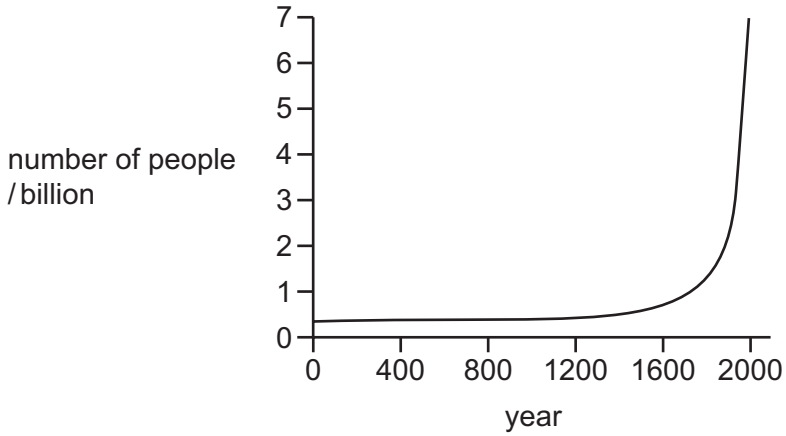
**37** The graph shows the estimated growth of the human population.




Which phase of population growth is occurring between the years 1600 and 2000?

**A** death phase

**B** exponential (log) phase

**C** lag phase

**D** stationary phase

**38** Which statement describes a sustainable resource?

**A** a resource that does **not** require conserving

**B** a resource that is produced as rapidly as it is removed from the environment

**C** a resource that is produced using genetic modification

**D** a resource that results in habitat destruction when extracted from the environment

**39** What increases the chance of conserving endangered species?

**A** climate change

**B** education

**C** hunting

**D** introducing new species

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**40** Four statements about genetic modification in crop plants are listed.

1 They can reduce the amount of herbicide used.

2 They can reduce the amount of insecticide used.

3 They can reduce the damage by pests to crop plants.

4 They can reduce the nutritional quality of crop plants.

Which statements give reasons why genetic modification is used in crop production?

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

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