Excretion in humans – 2023 June IGCSE Biology 0610

1. June/2023/Paper_0610/11/No.25

Which part of the body excretes urea, excess water and excess ions?

A gall bladder

B heart

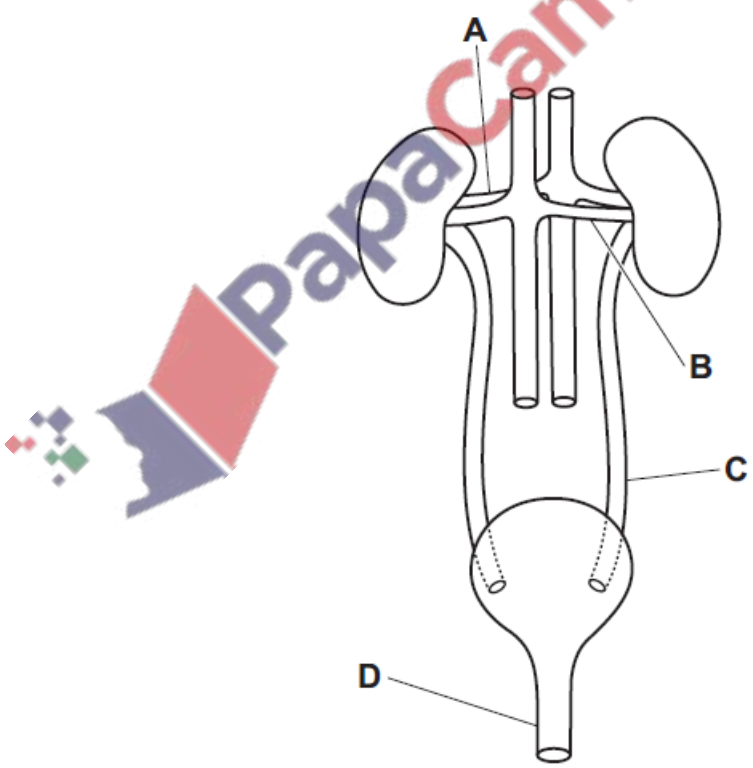
C kidney

D lungs

2. June/2023/Paper_0610/11/No.26

The diagram shows the kidneys and associated organs.

Which label is the ureter?



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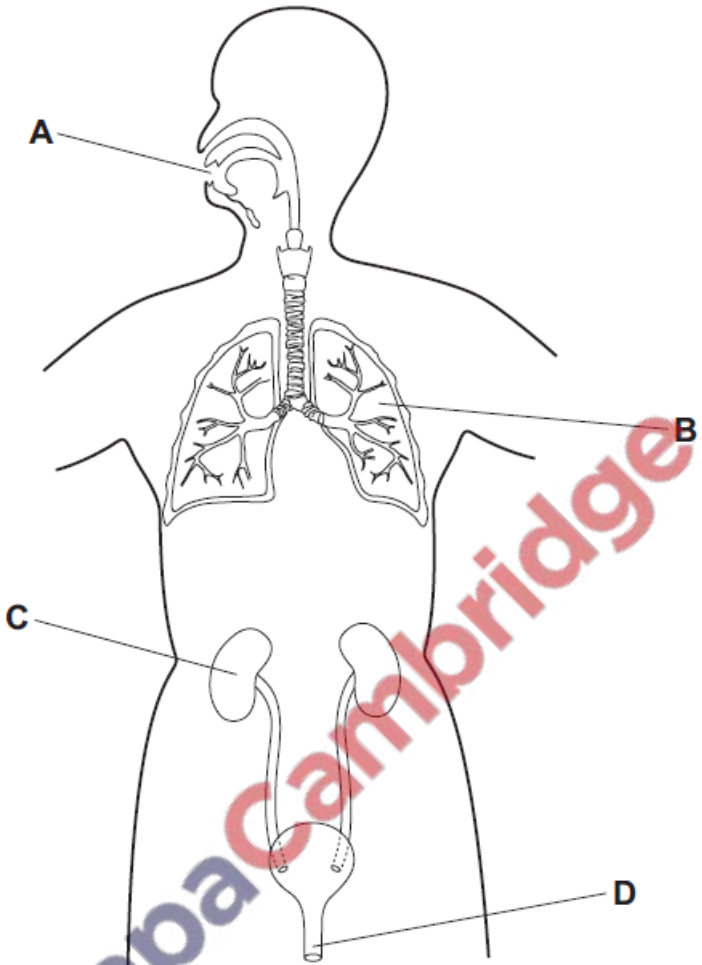
3. June/2023/Paper_0610/12/No.25

The diagram shows the human body and some of its organs.

Which structure removes urea from the blood?



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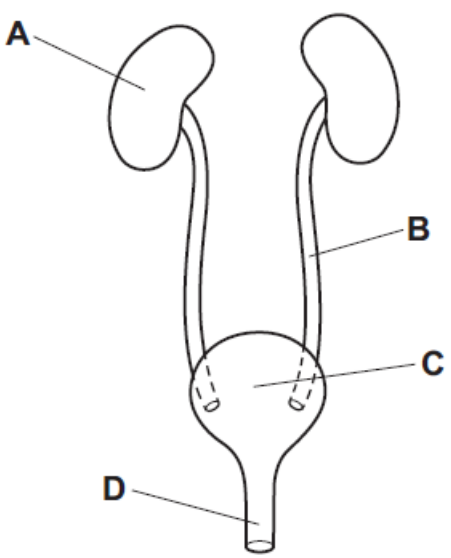
4. June/2023/Paper_0610/13/No.25

Which part of the diagram of the excretory system is the urethra?



5. June/2023/Paper_0610/21/No.23

Which row shows where glucose will be found in the body of a healthy human after eating a meal?

	renal artery	renal vein	glomerulus	nephron	ureter
A	yes	no	yes	yes	yes
B	yes	yes	no	no	no
C	yes	yes	yes	yes	no
D	no	yes	no	no	yes

6. June/2023/Paper_0610/22/No.23

The diagram shows a cross-section of a kidney.

What are the correct names for structures P, Q and R?

	P	Q	R
A	urethra	cortex	medulla
B	ureter	medulla	cortex
C	urethra	medulla	cortex
D	ureter	cortex	medulla

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7. June/2023/Paper_0610/23/No.23

What is the name of the process that produces urea and the organ where urea is formed?

	process producing urea	organ where urea is formed
A	deamination	kidney
B	denitrification	kidney
C	deamination	liver
D	denitrification	liver

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8. June/2023/Paper_0610/32/No.8

(a) Explain the importance of the acrosome and the mitochondria for the function of sperm cells.

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(b) Table 8.1 shows some features of egg cells and sperm cells in humans.

Complete Table 8.1 by stating the differences between egg cell and sperm cell size, motility and numbers produced.

Table 8.1

feature	egg cell	sperm cell
relative size		
motility		
numbers produced		

[3]

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(c) At birth, a human female has approximately 1.5 million eggs in her ovaries.

By puberty only about 350 000 remain in the ovaries.

Calculate the percentage decrease in the number of eggs between birth and puberty.

Give your answer to **one** decimal place.

Space for working.

..... %
[3]

(d) Fig. 8.1 is a diagram of a fetus developing in a uterus.

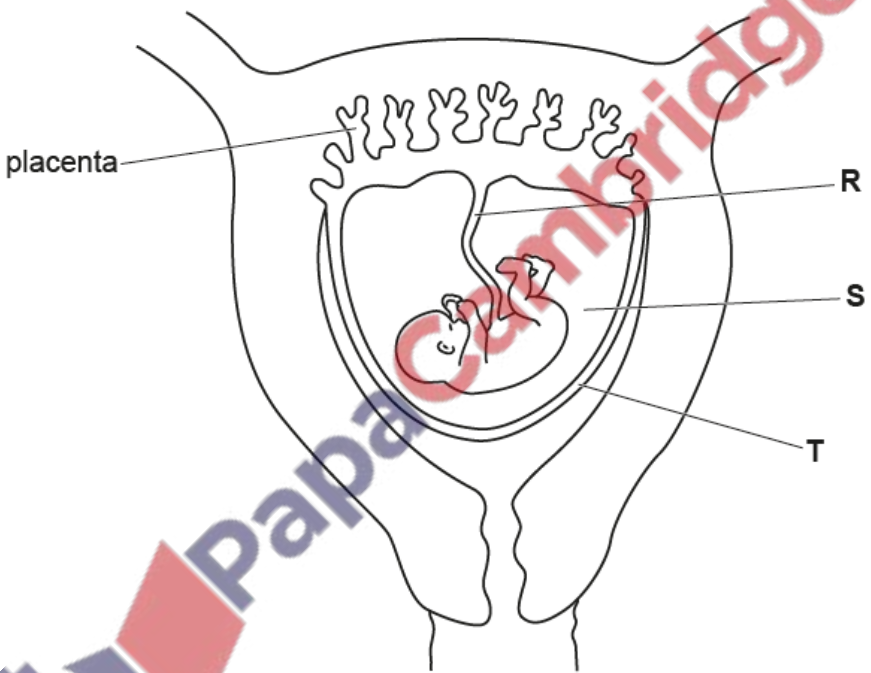

Fig. 8.1

(i) State the name of the part labelled **T** in Fig. 8.1.

..... [1]

(ii) State the functions of the parts labelled **R** and **S** in Fig. 8.1.

R .....

.....

S .....

.....
[2]

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(iii) Describe the functions of the placenta.

.....

.....

.....

.....

..... [2]

[Total: 15]

9. June/2023/Paper_0610/43/No.4

(a) Urea is a waste product.

(i) Describe how urea is formed.

.....

.....

.....

.....

..... [3]

(ii) State the component of blood that transports urea.

..... [1]

(iii) State why urea must be excreted.

.....

..... [1]

(iv) State the name of the blood vessel that carries blood away from the kidney.

..... [1]

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(b) Fig. 4.1 shows a drawing of a nephron in the human kidney and associated blood vessels.

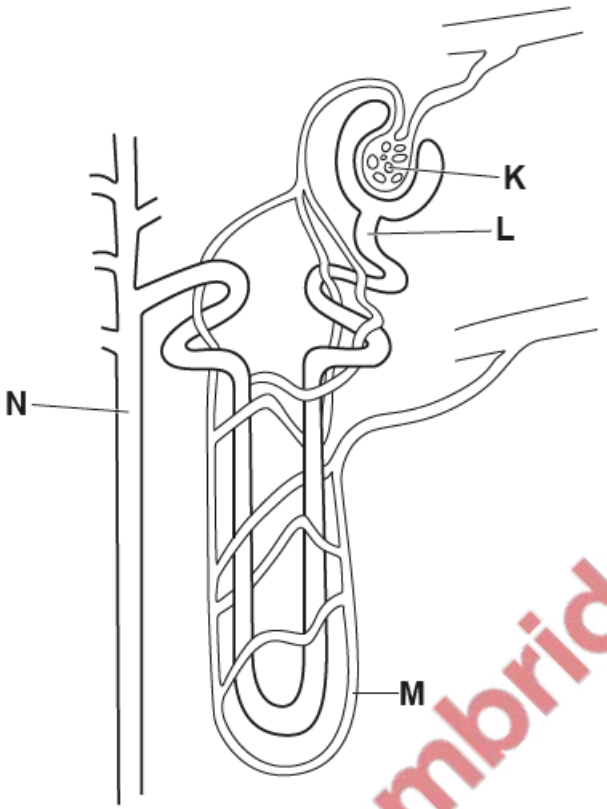

Fig. 4.1

Describe how the structures labelled in Fig. 4.1 produce urine.

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

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(c) Urea can be used as a fertiliser as it is a source of nitrogen.

Explain the importance of nitrate ions to plants.

.....

.....

..... [1]

(d) A farmer applied fertiliser to a field next to a lake.

Suggest **two** precautions the farmer should take when applying fertiliser to reduce the risk of eutrophication occurring in the lake.

1 .....

2 .....

[2]

[Total: 13]

10. March/2023/Paper_ 0610/12/No.1

Which row shows substances removed by excretion?

	substances in excess of requirements	undigested food	waste products of metabolism
A	✓	✓	✓
B	✓	✓	✗
C	✓	✗	✓
D	✗	✓	✓

key

✓ = yes

✗ = no

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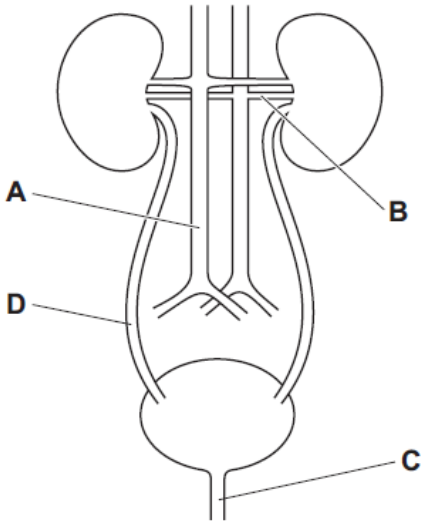
11. March/2023/Paper_ 0610/12,22/No.25,23

In the diagram, which label identifies the urethra?



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12. March/2023/Paper_ 0610/32/No.5

Fig. 5.1 is a diagram of the breathing system in humans.

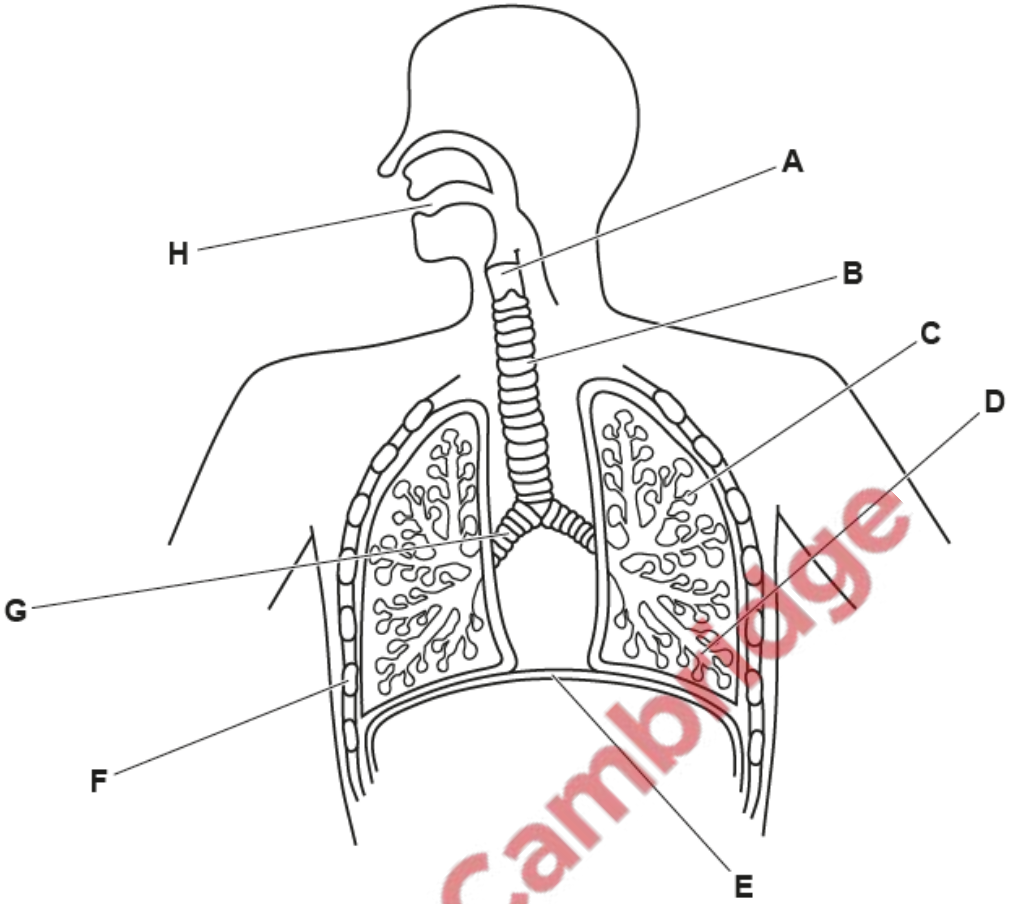

Fig. 5.1

(a) State the names of the parts labelled **A**, **D** and **E** in Fig. 5.1.

A .....

D .....

E .....

[3]

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(b) Part **B** in Fig. 5.1 contains specialised cells that move mucus.

State the name of these specialised cells.

..... [1]

(c) State the letter of a part shown in Fig. 5.1 that also has a role in digestion and name **one** type of digestion that occurs here.

letter .....

type of digestion .....
[2]

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(d) The alveoli are the gas exchange surface.

Scientists estimated the total alveolar surface area in seven different species.

The results are shown in Fig. 5.2.

Species **A** to **G** are placed in order of body size from smallest (**A**) to largest (**G**).

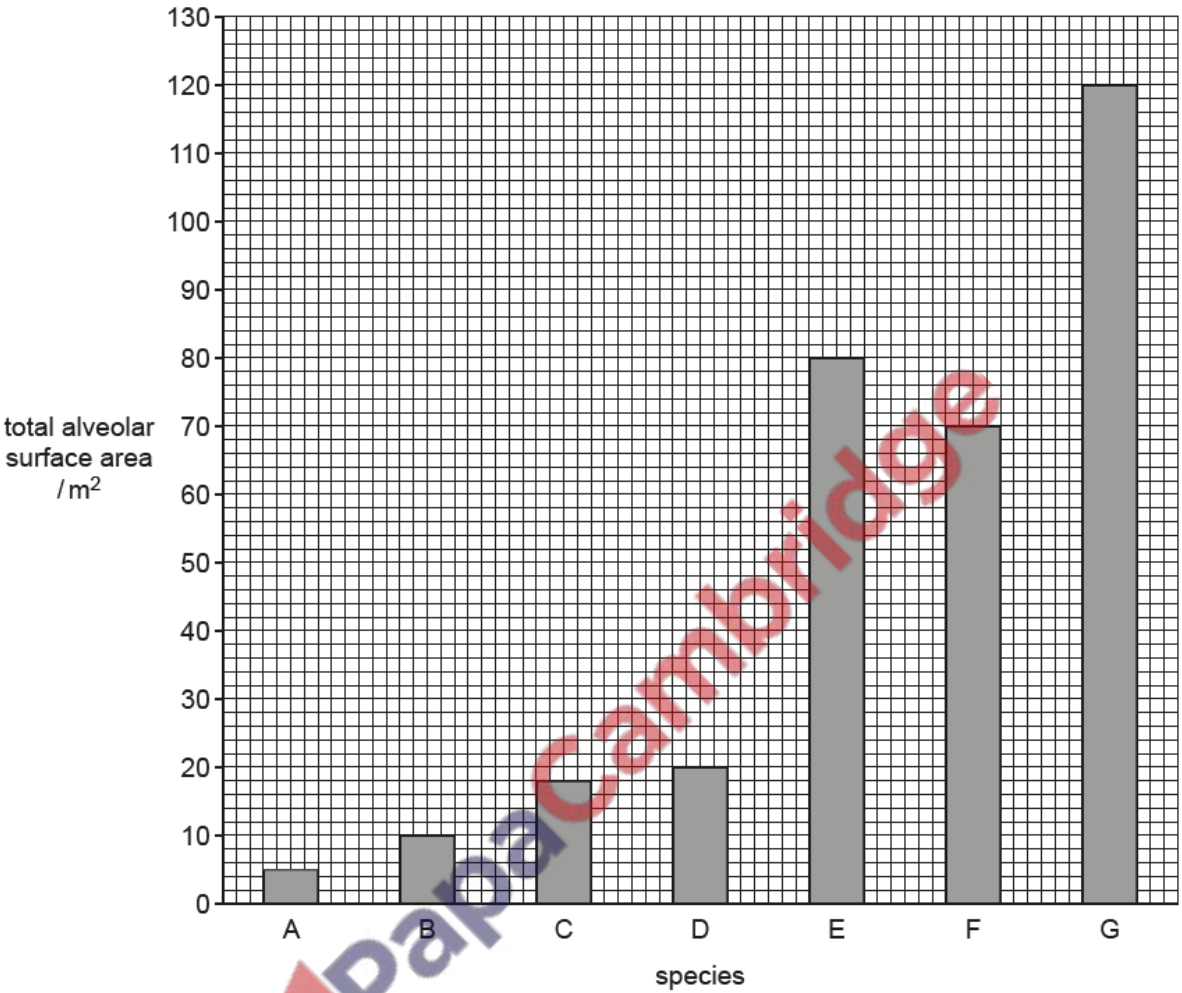

Fig. 5.2

A student made this statement:

'The larger the species, the larger the total alveolar surface area.'

(i) State **one** piece of evidence from Fig. 5.2 that supports this statement **and one** piece of evidence that does **not** support this statement.

supports .....

.....

does **not** support .....

.....

[2]

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(ii) Calculate the difference in total alveolar surface area between species **D** and **G** shown in Fig. 5.2.

..... m^2 [1]

(e) A large surface area is one feature of gas exchange surfaces in humans.

State **two** other features.

1 .....

2 .....

[2]

[Total: 11]

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