

Excretion in humans

IGCSE Biology Topical Questions Paper 1

May/June 2003

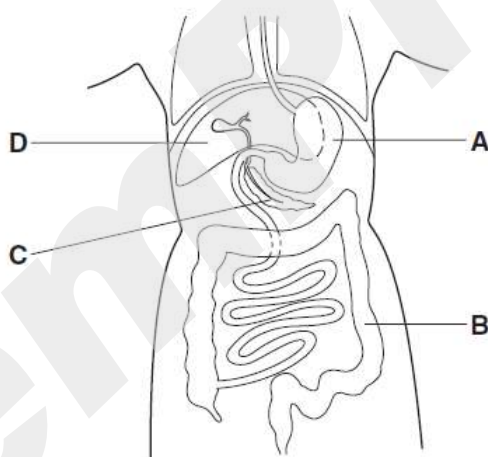
22 In which organ are excess amino acids broken down?

- A bladder
- B brain
- C kidneys
- D liver

Oct/Nov 2003

21 The diagram shows some organs in the human body.

In which part are amino acids broken down to urea?



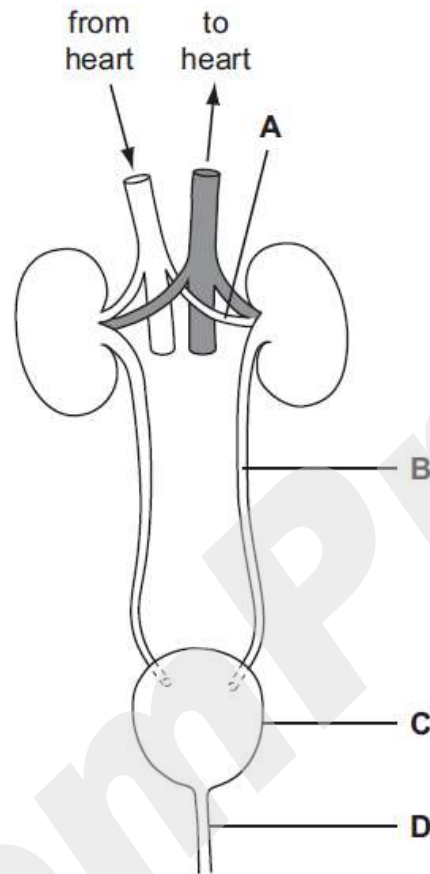
May/June 2004

18 From which organ is most carbon dioxide excreted?

- A kidney
- B liver
- C lung
- D skin

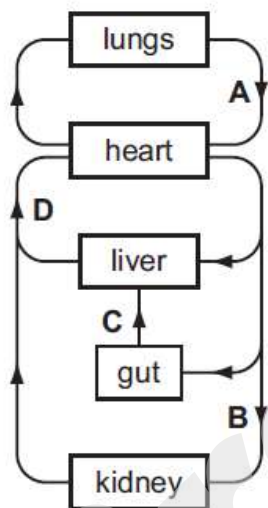
21 The diagram shows structures associated with the human urinary system.

Which structure is the urethra?



22 The diagram shows part of the human circulatory system.

In which vessel will absorbed alcohol first be found?



Oct/Nov 2004

22 A person has a high-protein diet.

What describes the level of urea in the blood leaving the liver and in the urine leaving the kidneys?

	blood leaving liver	urine leaving kidneys
A	high urea	high urea
B	high urea	low urea
C	low urea	high urea
D	low urea	low urea

May/June 2005

23 In which organ is urea formed and through which tube does it leave the body?

	organ	tube
A	kidney	ureter
B	kidney	urethra
C	liver	ureter
D	liver	urethra

24 Which substances are usually found in the urine of a healthy person?

- A** glucose and proteins
- B** salts and amino acids
- C** salts and water
- D** water and proteins

Oct/Nov 2005

- 22** One body process is defined as the removal of toxic materials, the removal of waste products of metabolism and removal of substances in excess.

Of which process is this a definition?

- A** excretion
- B** nutrition
- C** reproduction
- D** respiration

- 24** The table shows the composition of the urine of four people.

Which person is most likely to have been eating a lot of protein on a hot, dry, day?

person	urea content of urine	water content of urine
A	high	high
B	high	low
C	low	high
D	low	low

May/June 2006

- 22** In which organ is urea made and by which organ is it removed from the blood?

	where made	where removed
A	kidney	kidney
B	kidney	liver
C	liver	kidney
D	liver	liver

Oct/Nov 2006

21 What describes the excretion of urea?

	removal of undigested food	removal of metabolic wastes	removal of substances in excess	removal of toxic products
A	x	x	✓	✓
B	x	✓	✓	✓
C	✓	x	x	✓
D	✓	✓	✓	x

key

✓ true

x not true

22 The average percentage of water in human urine is 96 %. This percentage changes when conditions change.

Which set of conditions will make the percentage of water in the urine decrease most?

	conditions		
	temperature of the surroundings	amount of activity	volume of water drunk
A	low	low	high
B	low	high	low
C	high	low	high
D	high	high	low

May/June 2007

23 The table shows an analysis of urine and of blood after filtration in the kidney.

substance	percentage of substance in	
	blood	urine
glucose	0.10	0.00
salts	0.30	0.60
urea	0.03	2.00
water	90.00	97.00

Which substance is completely reabsorbed by the kidney?

- A glucose
- B salts
- C urea
- D water

Oct/Nov 2007

22 Blood is filtered in the kidneys. After this filtration, some substances are reabsorbed into the blood and other substances pass out of the body in the urine.

Which line shows the correct movement of substances in a healthy person?

	substances reabsorbed into the blood	substances passed out of the body in the urine
A	glucose, some salts, urea	glucose, some salts, some water
B	glucose, some salts, some water	some salts, some water, urea
C	some salts, some water, urea	glucose, some water, urea
D	some salts, some water, urea	glucose, some salts, some water

- 23 Four urine samples were collected on different days from a person whose exercise and water intake was the same each day.

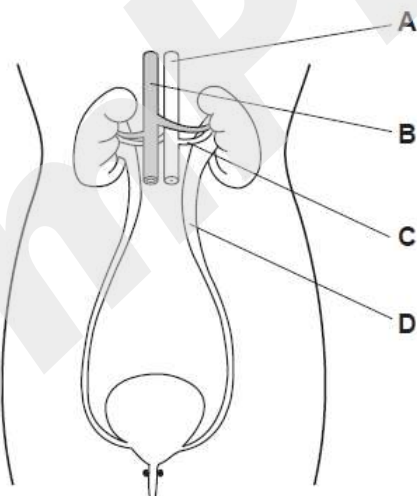
Which sample was collected on a cold day?

	volume of urine produced / dm ³	volume of sweat produced / dm ³
A	1.5	0.8
B	0.8	0.8
C	0.8	1.5
D	0.4	0.8

Oct/Nov 2008

- 22 The diagram shows the human excretory system and its main associated blood vessels.

Which labelled structure contains urine?



- 23** The table shows the amount of water and salt lost from the kidneys and skin on a hot day and on a cold day. Food and drink intake are the same on both days.

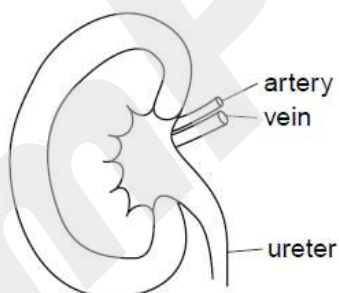
	water lost from kidneys/dm ³	water lost from skin/dm ³	salt lost from kidney/g	salt lost from skin/g
cold day	1.8	0.0	20.2	0.0
hot day	0.4	2.3	14.4	5.8

What do these results show?

- A** Less water is lost from the kidneys on a cold day than on a hot day.
- B** More salt is lost from the kidneys on a hot day than on a cold day.
- C** The total amount of salt lost each day is the same.
- D** Water is not lost from the kidneys on hot days.

May/June 2009

- 22** The diagram shows a kidney and its blood vessels.



In a healthy person, which structures transport glucose?

- A** artery only
- B** artery and ureter
- C** artery and vein
- D** ureter and vein

Oct/Nov 2009

21 In which organ is alcohol broken down?

- A brain
- B kidney
- C liver
- D stomach

22 Blood passes through the kidney and some substances leave the blood as filtered liquid. From this liquid certain substances are reabsorbed back into the blood.

The table shows the percentage of four substances in the blood plasma, the filtered liquid and urine.

substance	percentage of substance		
	in the blood plasma	in the filtered liquid	in the urine
glucose	0.10	0.10	0.00
protein	9.00	0.00	0.00
urea	0.03	0.03	2.00
water	90.0	99.0	97.0

Which substances are reabsorbed from the filtered liquid?

- A glucose and water
- B protein and glucose
- C urea and protein
- D water and urea

22 The table shows the composition of a liquid found in the human body.

component	concentration / arbitrary units
amino acids	0.00
glucose	0.00
proteins	0.00
salts	1.50
urea	2.00

In a healthy person, which structure contains this liquid?

