Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

BIOLOGY **0610/32**

Paper 3 Theory (Core) **October/November 2017**

1 hour 15 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

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 **16** printed pages.

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1 The boxes on the left contain possible effects of using some drugs.

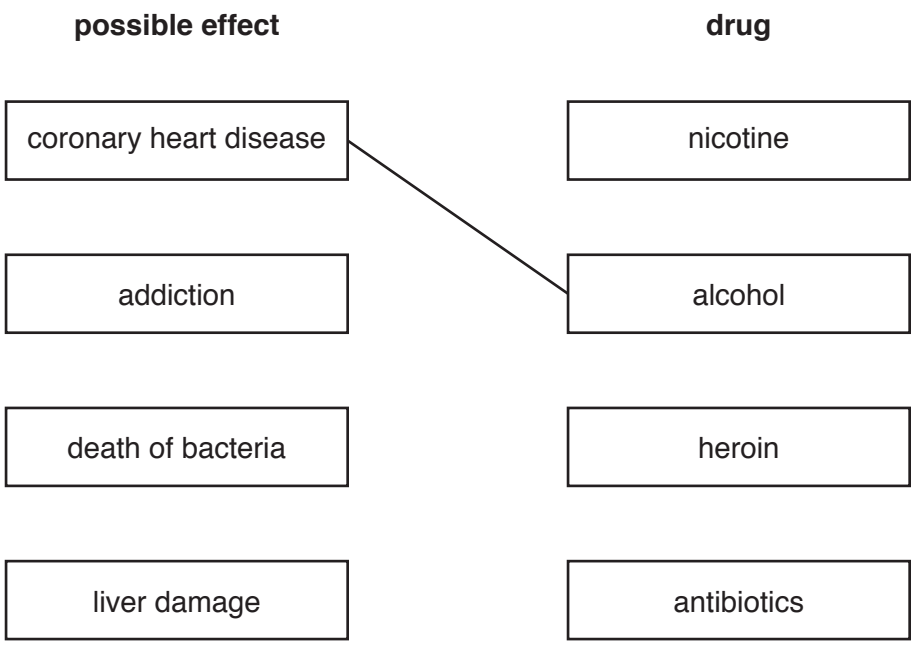
The boxes on the right contain the names of some drugs.

Draw straight lines to link the effect with the drug **or** drugs responsible.

An example has been done for you.

Draw **five** lines.

View solution



[5]

[Total: 5]

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2 Fig. 2.1 shows a section through a flower.

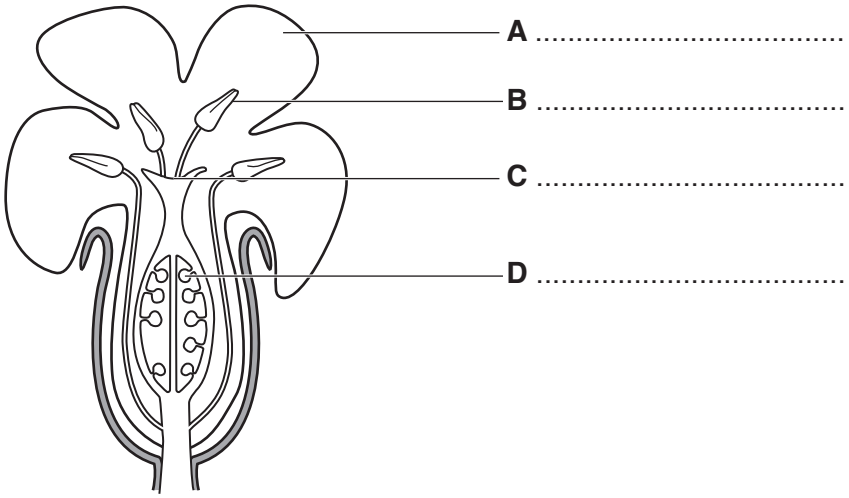

Fig. 2.1

View solution

(a) State the names of structures **A**, **B**, **C** and **D** on Fig. 2.1.

Write your answers on Fig. 2.1. [4]

(b) The flower in Fig. 2.1 is pollinated by insects.

Complete Table 2.1 by describing **three** ways in which a wind-pollinated flower is different to the flower in Fig. 2.1.

Give a reason for each difference.

An example has been done for you.

View solution

Table 2.1

structure	how a wind-pollinated flower differs from the flower in Fig. 2.1	reason for difference
anther	loosely attached	easily shaken by wind to release pollen
petals		
stigma		
pollen		

[6]

[Total: 10]

3 Choose a word or a phrase from the list to complete the sentences about birth control.

View solution

Each word or phrase may be used once, more than once or not at all.

chemical	**cervix**	**femidom**	**IUD**
mechanical	**mucus**	**sperm**	**sperm ducts**
surgical	**ureter**	**uterus**	**vagina**

One barrier method of birth control uses a diaphragm.

Another barrier method uses a ..... . This is placed inside the

..... of the female to catch the ..... .

A vasectomy is a ..... method of sterilising a man. It involves cutting

the ..... .

Taking a contraceptive pill is an example of a ..... method of birth control.
[6]

[Total: 6]

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4 **(a)** Students investigated the effect of "*Flower Food*" on cut flowers.

View solution

Ten flowers of the same species were placed into a container of water.

Ten flowers of the same species were placed into a container of water and *Flower Food*.

The students recorded the number of days until the first petal fell off each flower.

The results are shown in Fig. 4.1.

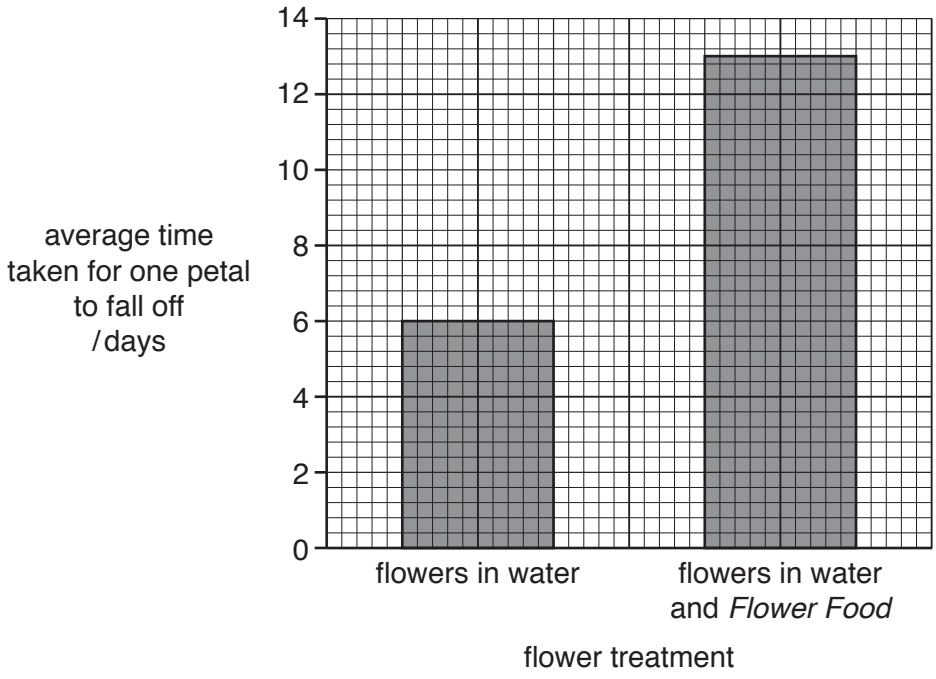

Fig. 4.1

(i) Use Fig. 4.1 to state the average time taken for one petal to fall off the flowers placed in water and *Flower Food*.

..... days [1]

(ii) State **one** conclusion for the results shown in Fig. 4.1.

View solution

.....

..... [1]

(b) *Flower Food* contains the following chemicals:

View solution

malic acid
glucose
fungicide
bactericide

(i) Malic acid helps water to pass up the stem to the flower.

State the name of the tissue in the stem that transports water.

..... [1]

(ii) Explain how the glucose in the *Flower Food* is used by the flower.

View solution

.....

.....

.....

..... [2]

(iii) Bactericides and fungicides kill decomposers.

View solution

Define the term *decomposer.*

.....

.....

.....

..... [2]

[Total: 7]

5 Fig. 5.1 shows a section through a leaf.

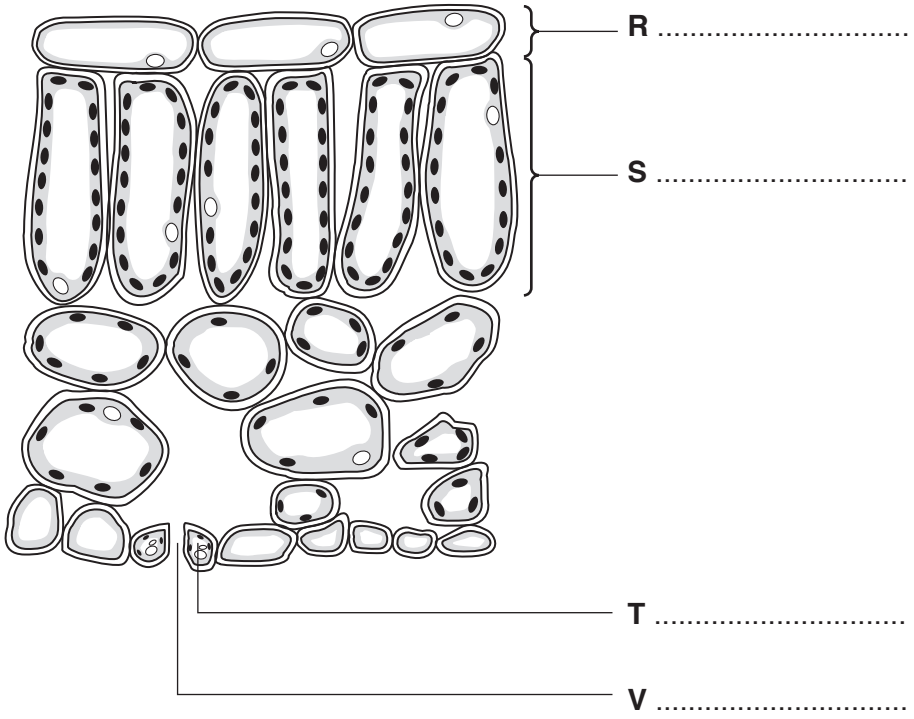

Fig. 5.1

(a) State the names of **R**, **S**, **T** and **V** on Fig. 5.1.

View solution

Write your answers on Fig. 5.1. [4]

(b) The main function of leaves is to produce carbohydrates.

View solution

Describe how plants produce carbohydrates.

.....

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 8]

6 **(a)** Fig. 6.1 shows six insects.

View solution

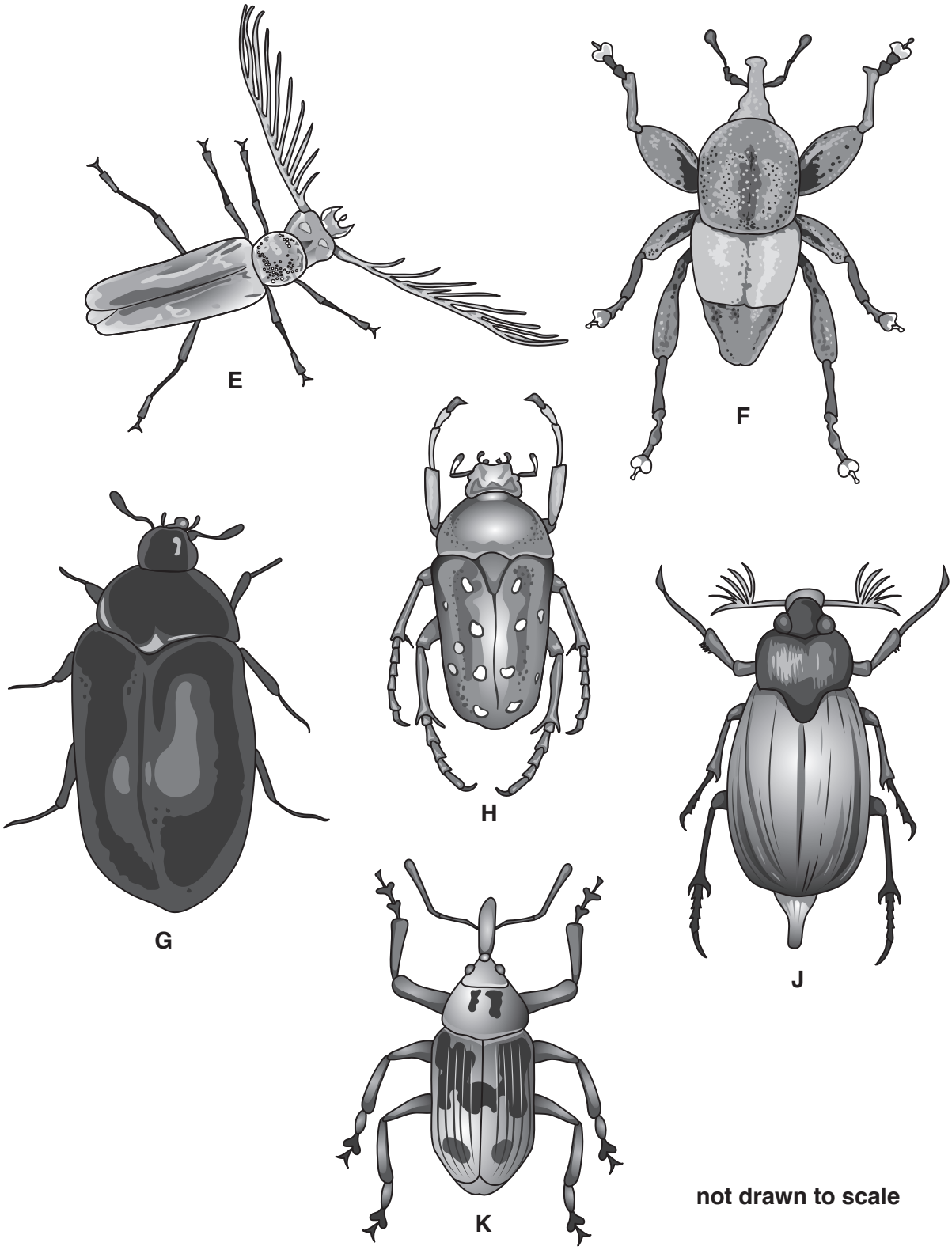

Fig. 6.1

Use the key to identify the insects in Fig. 6.1.

Write the letter for each insect in the key.

Key

description		name of insect	letter on Fig. 6.1
1	(a) has branched antenna	go to 2	
	(b) antenna not branched	go to 3	
2	(a) antenna branched at the end	*Melolontha*	
	(b) antenna branched all the way along	*Cyriopalus*	
3	(a) head has long thin projection	go to 4	
	(b) head does not have long thin projection	go to 5	
4	(a) abdomen has no spots	*Trigonopterus*	
	(b) abdomen with spots	*Ceutorhyncus*	
5	(a) front legs extend beyond the head	*Stephanorrhina*	
	(b) front legs do not extend beyond the head	*Attagenus*	

[5]

View solution

(b) Insects are arthropods.

(i) State **one** feature of **all** arthropods.

..... [1]

View solution

(ii) State the names of **two** other groups of arthropods.

1 .....

2 .....

[2]

[Total: 8]

7 Fig. 7.1 shows part of a food web in a river.

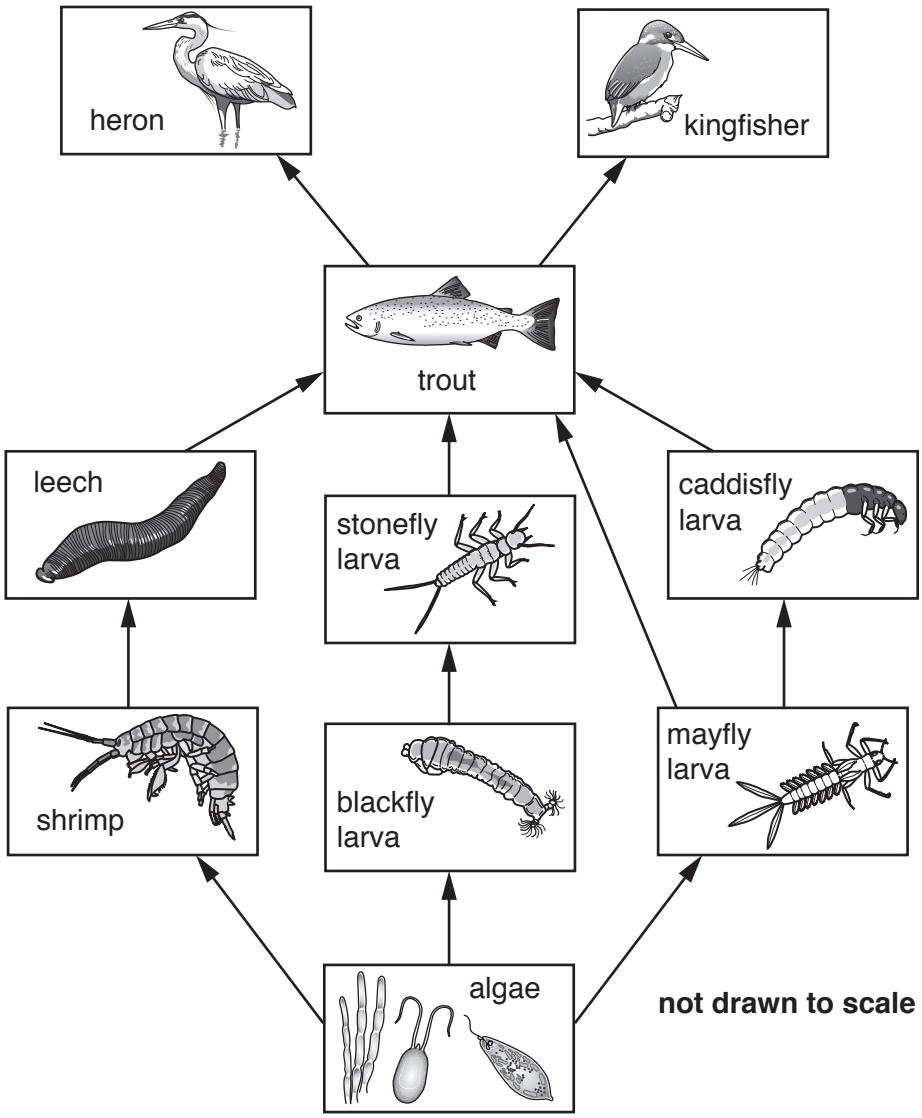

Fig. 7.1

(a) (i) Use the information from Fig. 7.1 to complete Table 7.1.

View solution

Table 7.1

role in the food web	name of the organism
a producer	
a primary consumer	
an organism that is both a secondary and a tertiary consumer	

[3]

(ii) State the number of carnivores present in Fig. 7.1.

..... [1]

(iii) State the name of the principal source of energy for the food web shown in Fig. 7.1.

..... [1]

(b) A disease killed all the trout.

View solution

Predict **and** explain how the death of the trout will affect the populations of kingfishers and shrimps.

kingfishers .....

.....

.....

.....

shrimps .....

.....

.....

.....

[4]

(c) Ducks eat aquatic plants and caddisfly larvae.

View solution

Add this information to Fig. 7.1 by drawing **two** new boxes and **two** arrows.

Do **not** draw the organisms.

[2]

[Total: 11]

8 **(a)** **(i)** State the name of the organ that produces urea.

..... [1]

(ii) Urea is formed from an excess of one particular component of food.

State the name of this component.

..... [1]

(b) Fig. 8.1 shows the system that excretes urea.

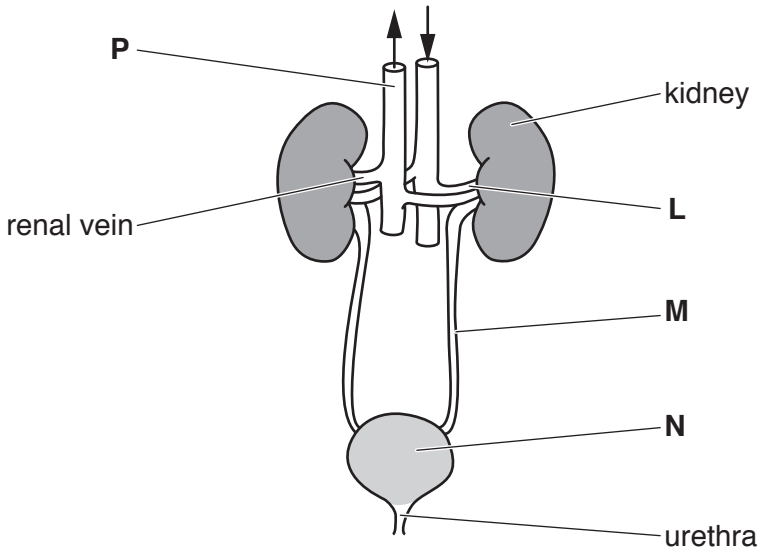

Fig. 8.1

Identify the structures **M**, **N** and **P** on Fig. 8.1.

State a function for each structure.

Write your answers in Table 8.1.

An example has been done for you.

Table 8.1

letter on Fig. 8.1	name of structure	function of structure
L	renal artery	transports blood to the kidney
M		
N		
P		

[6]

(c) Urea is a component of urine.

View solution

State the name of **two** other components of urine.

1 .....

2 .....

[2]

(d) Kidney cells produce carbon dioxide.

View solution

(i) State the name of the organ which excretes carbon dioxide.

..... [1]

(ii) State how carbon dioxide is transported around the body.

..... [1]

[Total: 12]

View solution

9 Alcohol is a drug.

(a) Excessive consumption of alcohol increases the risk of having an accident.

View solution

State **two** effects of alcohol on the body that increase the risk of having an accident.

1 .....

.....

2 .....

.....

[2]

Fig. 9.1 shows the number of alcohol-related deaths in a city between 1994 and 2012.

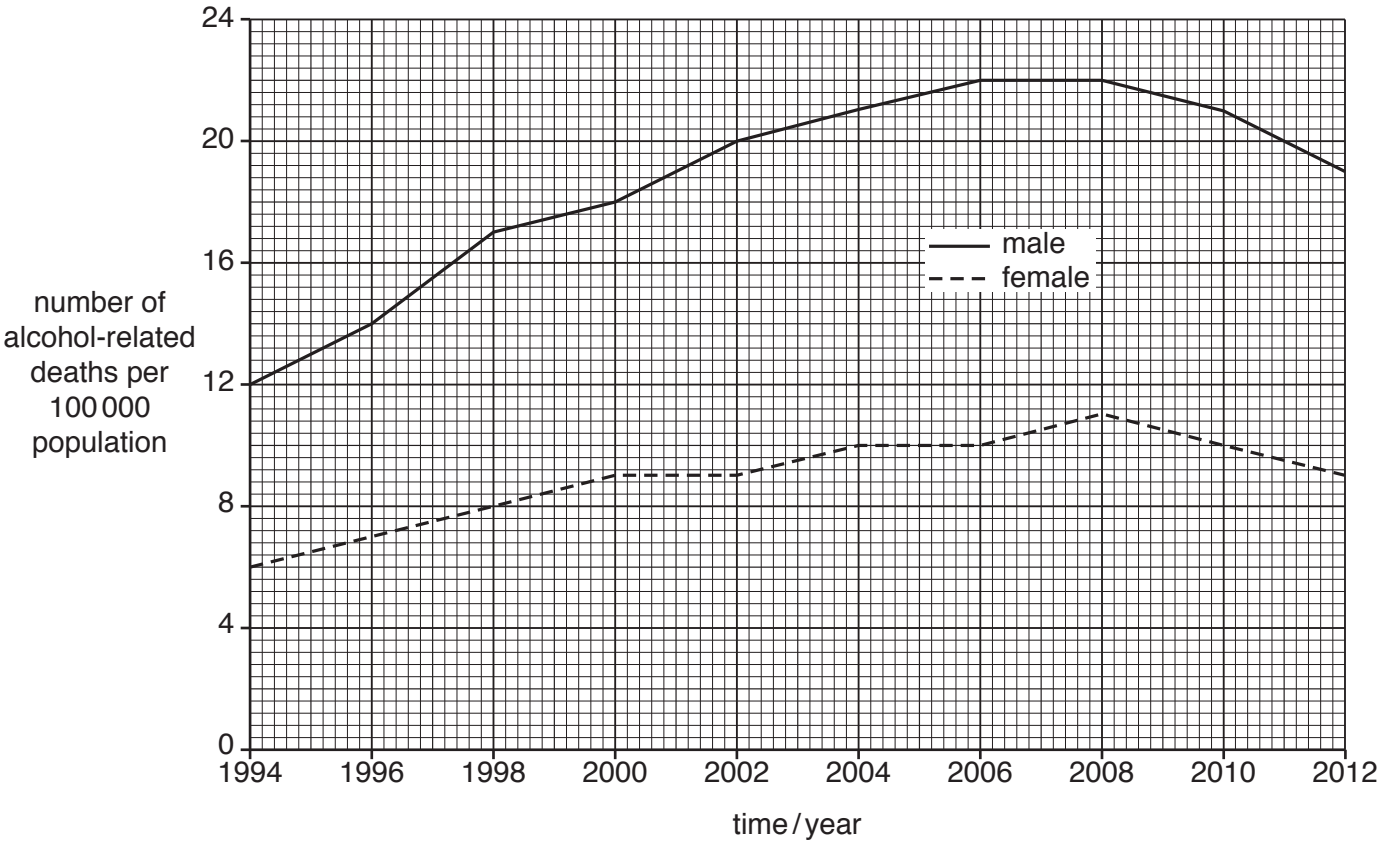

Fig. 9.1

(b) Describe **three** trends shown in Fig. 9.1.

View solution

.....

.....

.....

.....

.....

.....

..... [3]

(c) **(i)** State the number of male alcohol-related deaths in 1998.

View solution

..... per 100 000 population [1]

(ii) The city has a population of 700 000.

There were 9 female per 100 000 population alcohol-related deaths in 2012.

Calculate the total number of female alcohol-related deaths in the city in 2012.

Show your working.

View solution

..... females

[2]

(iii) Predict what may have happened to the number of alcohol-related deaths after 2012.

Give **two** reasons for your answer.

View solution

.....

.....

.....

.....

..... [2]

[Total: 10]

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10 (a) (i) State the name of the hormone that is released into the blood stream in a frightening situation.

..... [1]

(ii) State **two** effects that this hormone will have on the body.

View solution

1 .....

.....

2 .....

.....

[2]

[Total: 3]

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