

22 Which actions can prevent a mammal's internal body temperature falling too low?

- A** shivering and vasoconstriction
- B** shivering and vasodilation
- C** sweating and vasoconstriction
- D** sweating and vasodilation

IGCSE Biology: **s25 21**

24 What is a response of the human body to overheating?

- A** vasoconstriction of arterioles
- B** vasoconstriction of veins
- C** vasodilation of arterioles
- D** vasodilation of veins

IGCSE Biology: **s25 43**

3 (a) Complete the sentences about the control of blood glucose concentration.

Blood glucose concentration increases after a person eats a meal containing carbohydrates.

This causes the to release insulin. Insulin causes the to remove glucose from the blood and convert it into

The control of blood glucose concentration is an example of [4]

(b) Outline the treatment of type 1 diabetes.

.....
.....
.....
.....
..... [2]

- (c) A scientist investigated the effect of an injection of glucose solution on blood glucose concentration in healthy people. The injection was given at 0 minutes.

Fig. 3.1 shows the results.

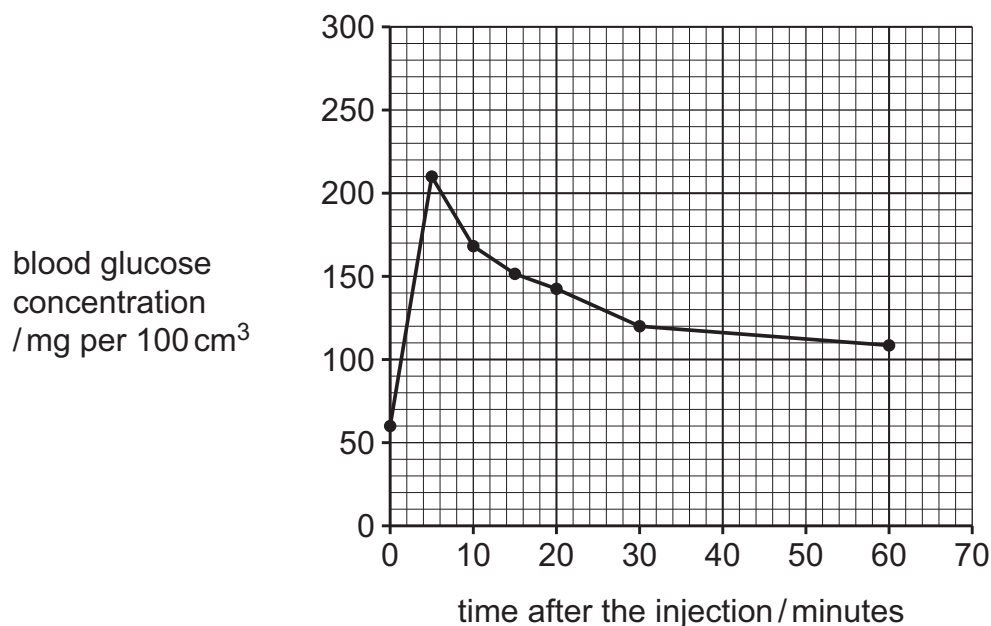


Fig. 3.1

Calculate the percentage change in the blood glucose concentration from 5 minutes after the injection to 30 minutes after the injection.

Give your answer to **two** significant figures.

Space for working.

..... % [3]

- (d) Adrenaline also affects blood glucose concentration.

Suggest how this is an advantage for the “fight or flight” response.

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.....
.....
.....
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.....
.....

[3]

22 The liver and the pancreas work together to control the concentration of glucose in the blood.

Which statement is correct?

- A** The liver converts the small molecule glucose into the large molecule glucagon.
- B** The liver releases the hormone insulin when blood glucose concentration is too high.
- C** The pancreas does **not** respond to an increase in blood glucose concentration.
- D** The pancreas responds to a fall in the blood glucose concentration by increasing the release of the hormone glucagon.

2 (a) The internal body temperature of a person was recorded.

Fig. 2.1 shows the results.

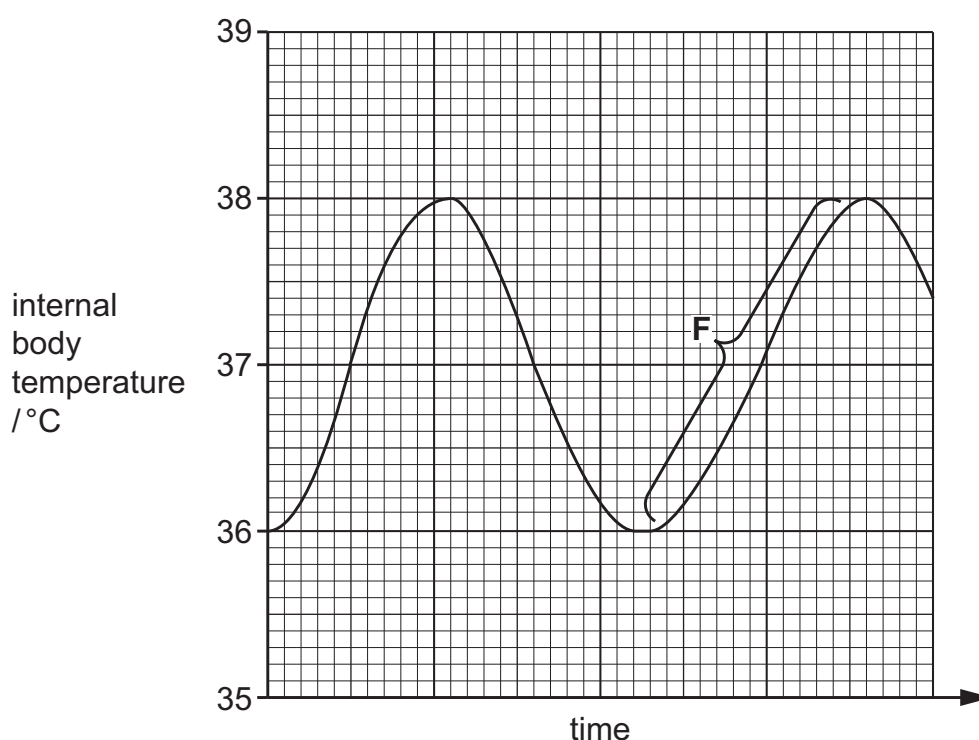


Fig. 2.1

- (i) Using the information in Fig. 2.1, calculate the temperature range for the internal body temperature of the person.

State the units.

..... [1]

- (ii) On Fig. 2.1, draw a line to show the set point for the internal body temperature of the person. [1]

- (iii) The maintenance of internal body temperature is an example of homeostatic control.

State the name of the mechanism for homeostatic control.

..... [1]

(iv) On Fig. 2.1, region **F** shows a change in body temperature.

Explain how the body causes the change in body temperature shown.

[5]

(b) Fig. 2.2 shows a cross-section of human skin.

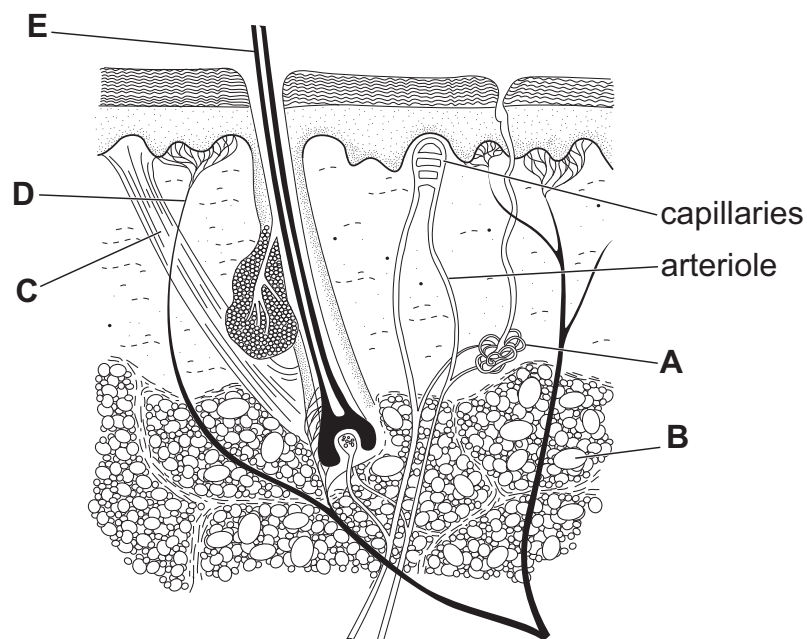


Fig. 2.2

(i) State the letter of the structure shown in Fig. 2.2 that produces sweat.

..... [1]

(ii) State the names of structures **C** and **D** shown in Fig. 2.2.

C

D [2]

[Total: 11]