

# 14. Coordination and response

## 14.3 Hormones

### Paper 1 and 2

Question Paper

# Paper 1

Questions are applicable for both core and extended candidates

1 Which statements about hormones are correct?

- 1 The ovaries secrete oestrogen.
- 2 The pancreas secretes adrenaline.
- 3 The pancreas secretes insulin.

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

2 What is an effect of adrenaline secretion?

- A** decreased breathing rate
- B** decreased pupil diameter
- C** development of secondary sexual characteristics
- D** increased heart rate

3 Where is insulin secreted, and what is its effect on blood glucose concentration?

	secreted by	effect on blood glucose concentration
<b>A</b>	liver	increases
<b>B</b>	liver	decreases
<b>C</b>	pancreas	increases
<b>D</b>	pancreas	decreases

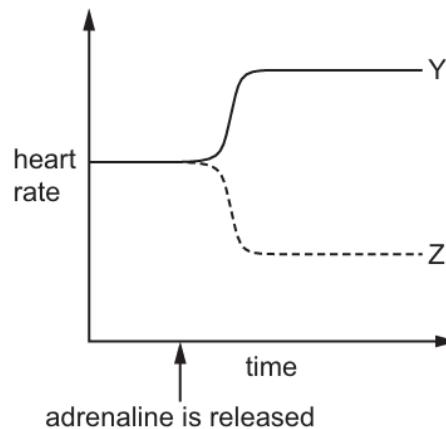
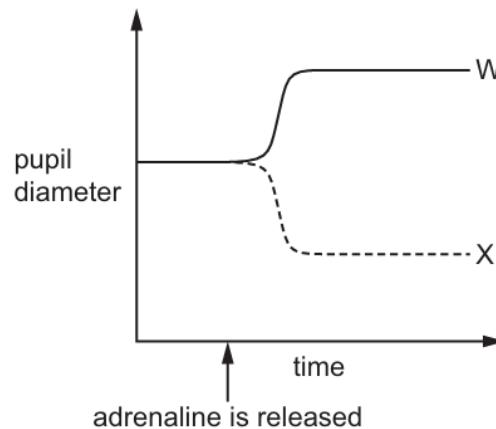
4 Which row shows the effects of adrenaline secretion?

	pupil diameter	heart rate
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

5 Which organ produces insulin?

- A adrenal gland
- B liver
- C ovary
- D pancreas

6 Which lines on the graphs show the effects of adrenaline on pupil diameter and heart rate?



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

7 Which statement about adrenaline is correct?

- A** It decreases the heart rate.
- B** It decreases the diameter of the pupil.
- C** It increases the breathing rate.
- D** It is made in the pancreas.

8 A hormone is injected into a person to reduce their blood glucose concentration.

Which endocrine gland is **not** functioning properly in a person who needs to have this injection?

- A** adrenal gland
- B** ovary
- C** pancreas
- D** testis

9 Which hormone causes an increase in breathing rate, an increase in heart rate and the widening of pupils?

- A** insulin
- B** adrenaline
- C** oestrogen
- D** testosterone

10 Which endocrine gland produces insulin?

- A** adrenal gland
- B** ovary
- C** pancreas
- D** testes

11 Which row matches each hormone to its function?

	causes the growth of facial hair	reduces blood glucose concentration	repairs the lining of the uterus	widens the pupils
<b>A</b>	oestrogen	insulin	testosterone	adrenaline
<b>B</b>	oestrogen	insulin	insulin	testosterone
<b>C</b>	testosterone	adrenaline	insulin	oestrogen
<b>D</b>	testosterone	insulin	oestrogen	adrenaline

12 Which hormone is secreted by the pancreas?

- A** adrenaline
- B** insulin
- C** oestrogen
- D** testosterone

13 Which hormone stimulates the development of male gametes?

- A** adrenaline
- B** insulin
- C** oestrogen
- D** testosterone

14 What are the effects of adrenaline on the human body?

	breathing rate	pulse rate	size of pupils
<b>A</b>	decreased	decreased	decreased
<b>B</b>	decreased	decreased	increased
<b>C</b>	increased	increased	decreased
<b>D</b>	increased	increased	increased

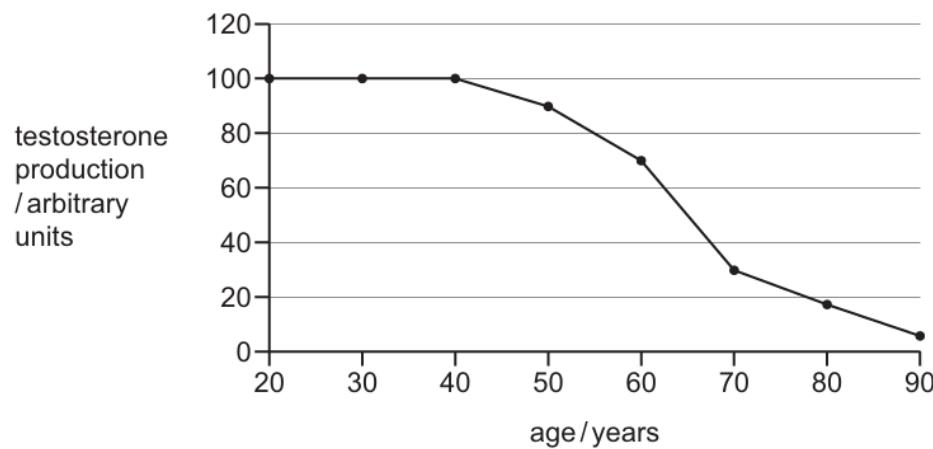
15 Examples of responses to hormones are listed.

- 1 increased breathing rate
- 2 increased pulse rate
- 3 growth of body hair
- 4 widened pupils

Which responses are caused by the hormone adrenaline?

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

16 The graph shows the decline in testosterone production as men get older.



Which age range shows the greatest decline in testosterone production?

- A** 40 to 50 years
- B** 50 to 60 years
- C** 60 to 70 years
- D** 70 to 80 years

## Paper 2

**Questions are applicable for both core and extended candidates unless indicated in the question**

17 Which statements about hormones are correct?

- 1 Adrenaline decreases pupil diameter.
- 2 Adrenaline increases pupil diameter.
- 3 Insulin decreases blood glucose concentration.
- 4 Insulin increases blood glucose concentration.

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

18 Which hormones can increase blood glucose concentration? **(extended only)**

**A** adrenaline and insulin  
**B** adrenaline and glucagon  
**C** adrenaline only  
**D** glucagon only

19 What is the effect of adrenaline on pulse rate and blood glucose concentration? **(extended only)**

	pulse rate	blood glucose
<b>A</b>	decreases	decreases
<b>B</b>	decreases	increases
<b>C</b>	increases	decreases
<b>D</b>	increases	increases

20 Which hormones can cause the feminisation of male fish?

- A adrenaline and progesterone
- B adrenaline and testosterone
- C oestrogen and progesterone
- D oestrogen and testosterone

21 What is the result of the release of adrenaline? (extended only)

	blood glucose concentration	breathing rate
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

22 When hormones are secreted, they affect different parts of the body.

The table shows some features that are affected by four different hormones.

Which hormone is adrenaline? (extended only)

	feature				
	pulse rate	blood glucose concentration	pupil size	menstrual cycle	sperm production
A	✓	✓	✗	✗	✗
B	✗	✗	✗	✗	✓
C	✓	✓	✓	✗	✗
D	✗	✗	✗	✓	✗

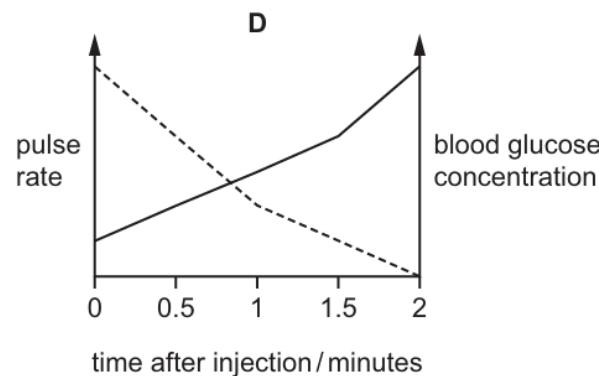
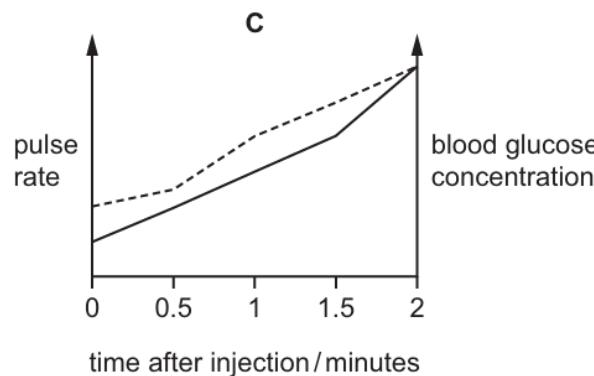
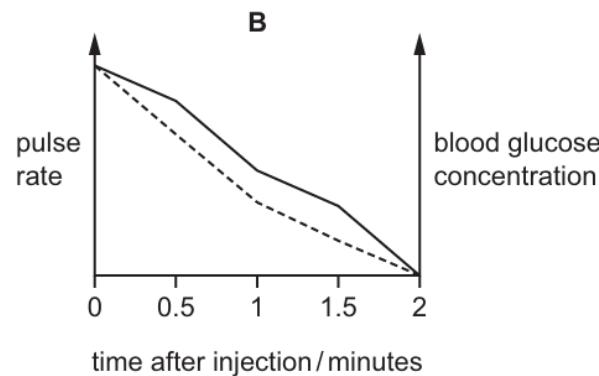
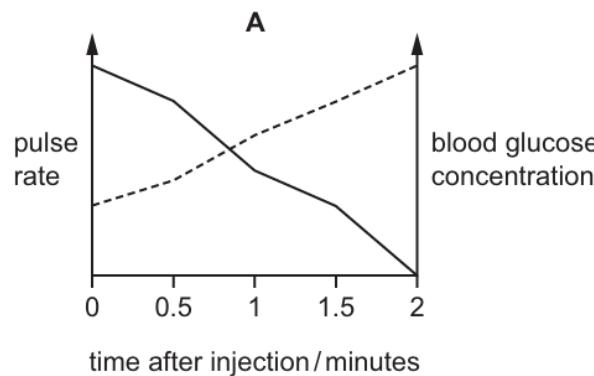
key  
 ✓ = affected by hormone  
 ✗ = not affected by hormone

23 Which glands are endocrine glands?

- A adrenal, pancreas, testes
- B adrenal, ovaries, salivary
- C ovaries, sweat, testes
- D pancreas, salivary, sweat

24 A patient is injected with adrenaline.

Which graph shows the expected changes to pulse rate and blood glucose concentration? (extended only)



key  
---- pulse rate  
— blood glucose concentration

25 Which hormone is involved in the conversion of glucose to glycogen?

- A** adrenaline
- B** insulin
- C** oestrogen
- D** testosterone

26 Hormones and the nervous system both control our bodies.

Which statement about the control provided by our hormones is correct?

- A** fast response and long lasting
- B** fast response and short lived
- C** slow response and long lasting
- D** slow response and short lived