AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 4.5.3.3

Hormones in human reproduction

Past-paper questions

Tier	**Foundation**
Question groups	**3**
Available paper years	**2018–2021**

Using this booklet

1. Answer the questions in order and show your working.
2. Original question numbers and marks are retained.
3. Print at actual size (100%) for measuring questions.
4. Use the companion answer booklet to check your work.

Name: _____ **Date:** _____

Whole questions are retained for context, so some parts assess other specification points. Current and legacy sources are labelled. Continue on extra paper if needed.

4.5.3.3 Hormones in human reproduction

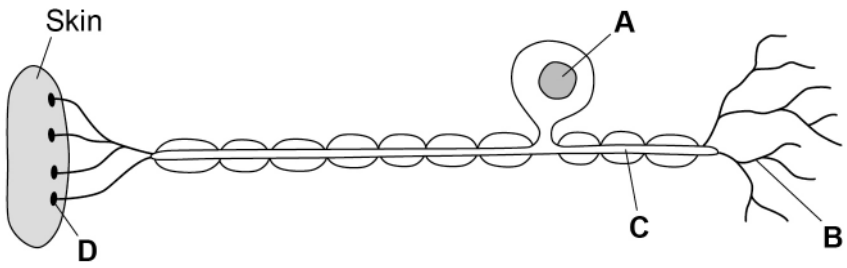
Question 01

June 2018 | 8464/B/2F | Original Q3

0 3 This question is about coordination in the human body.

Figure 2 shows a sensory neurone (nerve cell).

Figure 2



0 3 . 1 Which label is the cell nucleus?

[1 mark]

Tick **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 3 . 2 Which label is the receptor?

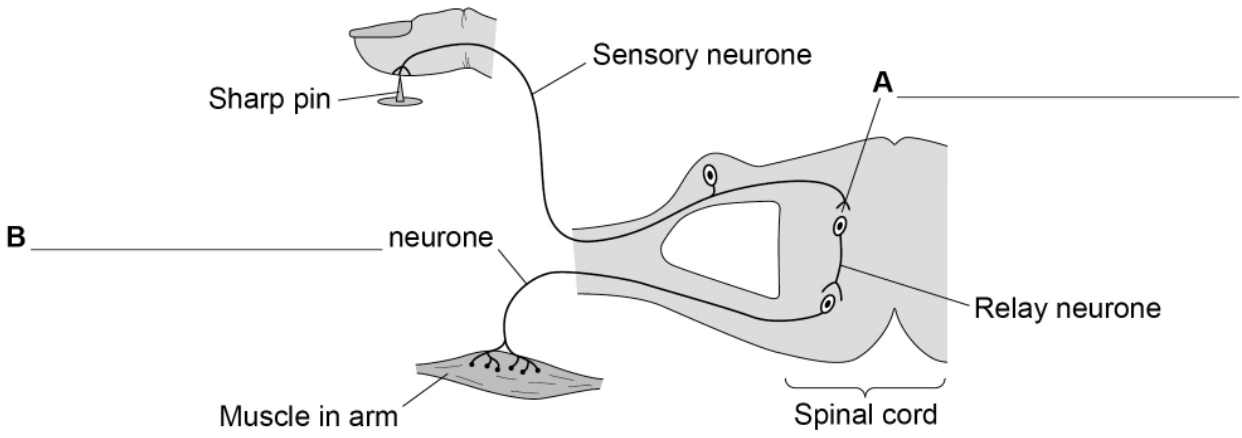
[1 mark]

Tick **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 3 . 3 **Figure 3** shows the nerve pathway when a person touches a sharp pin.

Figure 3



Name structures **A** and **B** on **Figure 3**

[2 marks]

4.5.3.3 Hormones in human reproduction

Question 01 · continued

0 3 . 4 When the finger touches the sharp pin, the muscle in the arm contracts to pull the arm away.

What type of action is this?

[1 mark]

Tick **one** box.

A conscious action ☐

A delayed action ☐

A reflex action ☐

0 3 . 5 Doctors tested people of different ages to time how long it took between touching a sharp pin and the arm muscle contracting.

At each age they tested five men and calculated a mean value for the time.

Table 1 shows the results.

Table 1

Age in years	Mean time for muscle to contract in milliseconds
20	18
40	20
60	23
80	30

How much longer does it take for the muscle to contract at 80 years of age compared to at 20 years of age?

Give your answer in seconds.

[2 marks]

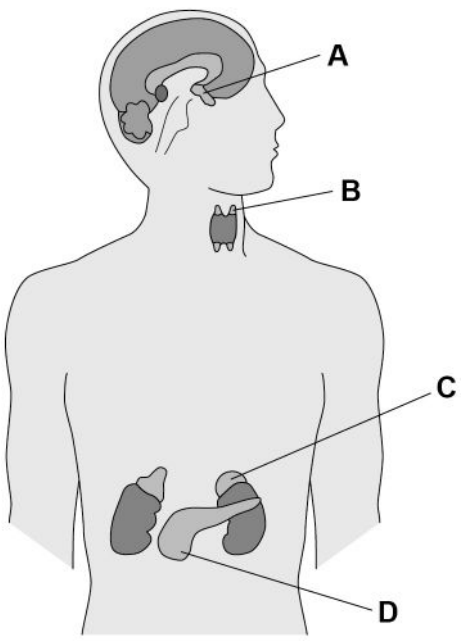
Time = _____ s

4.5.3.3 Hormones in human reproduction

Question 01 · continued

0 3 . 6 **Figure 4** shows the position of some of the glands which release hormones.

Figure 4



Which label on **Figure 4** shows the position of the pituitary gland?

[1 mark]

Tick **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 3 . 7 Luteinising hormone (LH) is a hormone released by the pituitary gland.

What is the function of LH?

[1 mark]

Tick **one** box.

Controls blood glucose concentration ☐

Controls the formation of sperm ☐

Controls the growth of muscles ☐

Controls the release of an egg ☐

4.5.3.3 Hormones in human reproduction

Question 01 · continued

0 3 . 8 How does LH travel from the pituitary gland to its target organ?

[1 mark]

_____

0 3 . 9 **Figure 5** shows the relative levels of sex hormones of three young people over 30 days.

One person is an 8-year-old girl, one is an 18-year-old boy and the other is an 18-year-old girl.

Figure 5



Which person is the 18-year-old boy?

Give **one** reason for your answer.

[2 marks]

Person _____

Reason _____

_____

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4.5.3.3 Hormones in human reproduction

Question 02

November 2020 | 8464/B/2F | Original Q1

0 1 This question is about reproduction.

0 1 . 1 Which **two** statements are true for sexual reproduction in humans?

[2 marks]

Tick (✓) **two** boxes.

- Gametes are formed. ☐
- Offspring are clones. ☐
- Offspring are genetically identical to parents. ☐
- Only one parent is involved. ☐
- Sperm and egg fuse. ☐

0 1 . 2 Humans reproduce by sexual reproduction.

Complete **Figure 1** to show the inheritance of sex.

[3 marks]

Figure 1

		Mother	
		X	**X**
Father	**X**	XX	

4.5.3.3 Hormones in human reproduction

Question 02 · continued

0 1 . 3 Draw a ring around the genotype of all male children in **Figure 1**.

[1 mark]

0 1 . 4 When children reach puberty, reproductive hormones cause changes in their bodies.

Draw **one** line from each hormone to the change the hormone causes at puberty.

[2 marks]

Hormone	Change the hormone causes at puberty
	Breasts develop
Oestrogen	
	Skin turns lighter
	Voice becomes deeper
Testosterone	
	Wisdom teeth appear

Question 1 continues on the next page

4.5.3.3 Hormones in human reproduction

Question 02 · continued

A woman does **not** want to become pregnant.

She considers two methods of contraception.

0 1 . 5 Draw **one** line from each method of contraception to how the method prevents pregnancy.

[2 marks]

Method of contraception	How the method prevents pregnancy
Condom	Embryos do not implant in the uterus
Oral contraceptive (the pill)	Hormones stop eggs maturing
	Sperm are killed
	Sperm do not reach the egg

4.5.3.3 Hormones in human reproduction

Question 02 · continued

0 1 . 6 Give **one** advantage and **one** disadvantage of taking oral contraceptives to prevent pregnancy.

[2 marks]

Advantage _____

_____

Disadvantage _____

_____

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Turn over for the next question

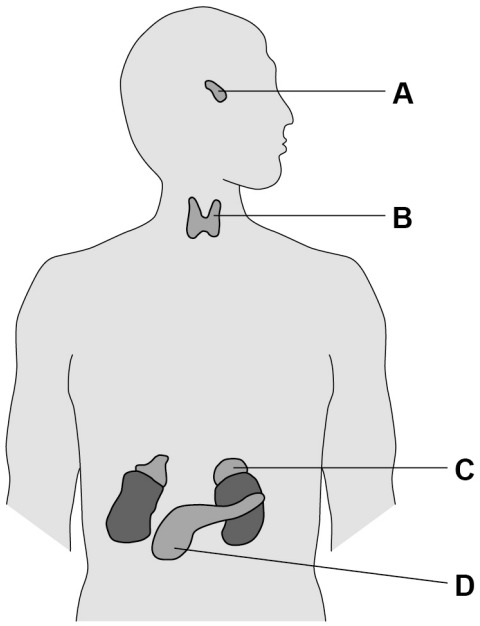
4.5.3.3 Hormones in human reproduction

Question 03

November 2021 | 8464/B/2F | Original Q6

0 6 **Figure 5** shows glands in the human body.

Figure 5



0 6 . 1 Which organ system includes the glands shown in **Figure 5**?

[1 mark]

0 6 . 2 Which gland produces insulin?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 6 . 3 Which gland produces hormones that stimulate the other glands to produce hormones?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

4.5.3.3 Hormones in human reproduction

Question 03 · continued

0 6 . 4 How do hormones travel from one gland to another gland?

[1 mark]

0 6 . 5 Name **two** glands involved in human reproduction.

Do **not** refer to glands shown on **Figure 5** in your answer.

[2 marks]

1 _____

2 _____

0 6 . 6 Ovulation test kits can help women know when they are most fertile.

Ovulation test kits detect the increase in the hormone that stimulates ovulation.

Which hormone is detected by ovulation test kits?

[1 mark]

Tick (✓) **one** box.

- Follicle stimulating hormone (FSH) ☐
- Luteinising hormone (LH) ☐
- Oestrogen ☐
- Progesterone ☐

4.5.3.3 Hormones in human reproduction

Question 03 · continued

0 6 . 7 A new contraceptive drug for men is being tested.

The drug:

- is given in one injection
- stops sperm being able to fertilise eggs
- is effective for up to 13 years.

Evaluate the use of the new drug compared with existing contraceptive methods.

[6 marks]

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