AQA GCSE Biology | 8461

SPECIFICATION POINT 4.5.3.1

Human endocrine system

Past-paper questions

Tier	**Foundation**
Question groups	**10**
Available paper years	**2007–2024**

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.

4.5.3.1 Human endocrine system

Question 01

June 2007 | BLY1A | Original Q4 | Legacy

QUESTION FOUR

Hormones are involved in the menstrual cycle.

Match words, **A**, **B**, **C** and **D**, with the numbers **1–4** in the sentences.

A eggs

B ovaries

C pituitary gland

D womb

FSH is produced by the . . . **1** . . . .

FSH causes . . . **2** . . . to mature.

Oestrogen is produced by the . . . **3** . . . .

In IVF, embryos are inserted into the mother's . . . **4** . . . .

4.5.3.1 Human endocrine system

Question 02

November 2008 | BLY1AP | Original Q3 | Legacy

QUESTION THREE

Different human organs have different functions.

Match words, **A**, **B**, **C** and **D**, with the organs **1–4** in the table.

A produces cholesterol

B produces sweat

C produces urine

D produces hormones

1	pituitary gland
2	liver
3	skin
4	kidney

4.5.3.1 Human endocrine system

Question 03

June 2010 | BLY1AP | Original Q5 | Legacy

QUESTION FIVE

The menstrual cycle is controlled by hormones.

Match words, **A**, **B**, **C** and **D**, with the statements **1–4** in the table.

A embryo

B ovary

C pituitary gland

D womb

	Information
1	produces eggs
2	produced when a fertilised egg divides
3	produces the hormone FSH
4	its lining is thickened by the action of a hormone

4.5.3.1 Human endocrine system

Question 04

March 2011 | BLY1AP | Original Q5 | Legacy

QUESTION FIVE

We control conditions inside our bodies.

Match organs, **A**, **B**, **C** and **D**, with the statements **1**–**4** in the table.

A liver

B pituitary gland

C kidney

D skin

1	produces the hormone FSH
2	gets rid of excess heat
3	removes excess water from the blood
4	produces cholesterol

4.5.3.1 Human endocrine system

Question 05

June 2011 | BLY1AP | Original Q5 | Legacy

QUESTION FIVE

This question is about human organs.

Match organs, **A**, **B**, **C** and **D**, with the functions **1**–**4** in the table.

A kidney

B liver

C ovary

D pituitary gland

	Function
1	produces cholesterol
2	produces FSH
3	produces oestrogen
4	produces urine

4.5.3.1 Human endocrine system

Question 06

June 2016 | BL1FP | Original Q4 | Legacy

4 Hormones are involved in controlling the menstrual cycle and fertility.

4 (a) (i) Use the correct answer from the box to complete the sentence.

[1 mark]

auxin	**follicle stimulating hormone (FSH)**	**thalidomide**

A hormone produced by the pituitary gland is _____ .

4 (a) (ii) Use the correct answer from the box to complete the sentence.

[1 mark]

luteinising hormone (LH)	**oestrogen**	**statin**

A hormone produced by the ovaries is _____ .

4 (b) (i) Why are fertility drugs given to some women?

[1 mark]

_____

_____

4 (b) (ii) A doctor injects fertility drugs into a woman. After the injection, the hormones travel to the woman's ovaries.

How do the hormones travel to the ovaries?

[1 mark]

Draw a ring around the correct answer.

through the bloodstream **through the neurones** **through the skin**

4 (c) Which **two** hormones are used in contraceptive pills?

[2 marks]

Tick (✓) **two** boxes.

FSH	☐	oestrogen	☐
LH	☐	progesterone	☐

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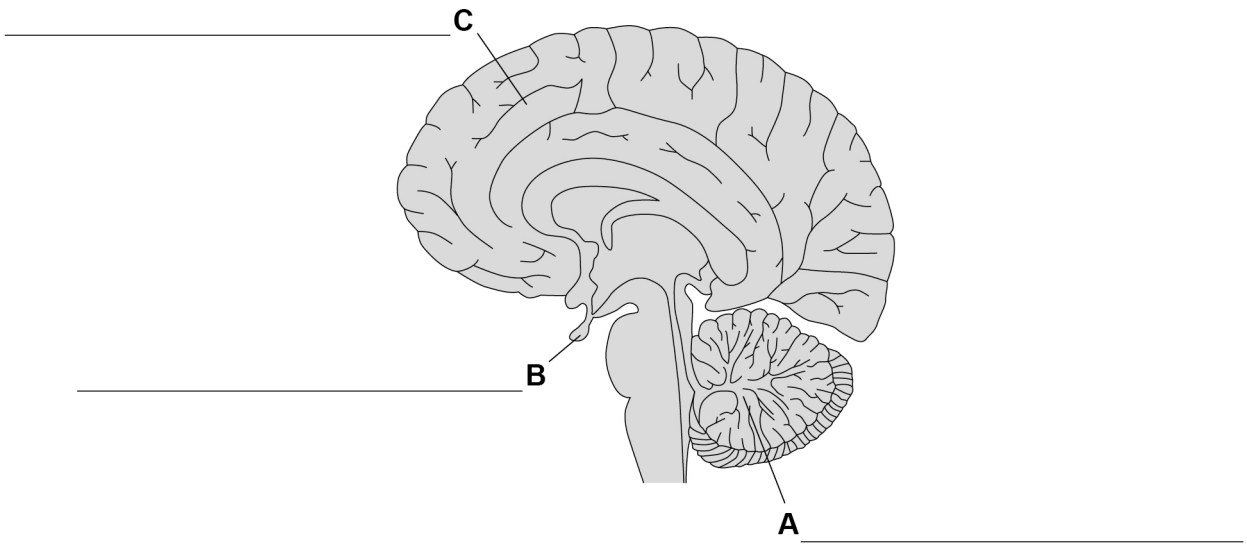
4.5.3.1 Human endocrine system

Question 07

November 2020 | 8461/2F | Original Q5

0 5 **Figure 6** shows the brain.

Figure 6



0 5 . 1 Label **A**, **B** and **C** on **Figure 6**.

[3 marks]

Choose answers from the box.

cerebellum	**cerebral cortex**	**medulla**	**pituitary gland**

0 5 . 2 Which part of the brain controls balance when riding a bicycle?

[1 mark]

Tick (✓) **one** box.

Cerebellum ☐

Medulla ☐

Pituitary gland ☐

Question 5 continues on the next page

4.5.3.1 Human endocrine system

Question 07 · continued

0 5 . 3 The ears send information about sound to the brain.

Which word describes the brain?

[1 mark]

Tick (✓) **one** box.

- Coordinator ☐
- Effector ☐
- Receptor ☐
- Stimulus ☐

0 5 . 4 What type of cell carries impulses from the ears to the brain?

[1 mark]

_____

0 5 . 5 Human eyes detect light.

Which part of the eye has cells that detect light?

[1 mark]

Tick (✓) **one** box.

- Iris ☐
- Lens ☐
- Retina ☐

4.5.3.1 Human endocrine system

Question 07 · continued

0 5 . 6 The eyes of some birds have specialised cells to detect ultraviolet (UV) light.

Some fruits reflect UV light.

Explain why it is an advantage for birds to be able to detect UV light.

[2 marks]

Question 5 continues on the next page

4.5.3.1 Human endocrine system

Question 07 · continued

Figure 7 shows a student reading a book.

Figure 7



There are trees on the far side of the field.

The student looks at the trees instead of looking at the book.

0 5 . 7 What process occurs in the eye when the student looks at the trees instead of looking at the book?

[1 mark]

Tick (✓) **one** box.

Accommodation ☐

Magnification ☐

Reflection ☐

4.5.3.1 Human endocrine system

Question 07 · continued

0 5 . 8 What change happens in the student's eyes when they look up at the trees?

[1 mark]

Tick (✓) **one** box.

Light rays are refracted less ☐

More light is reflected ☐

The optic nerves move ☐

0 5 . 9 The student **cannot** see the trees in focus.

Name the common defect of the eye which causes distant objects to appear out of focus.

[1 mark]

_____

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4.5.3.1 Human endocrine system

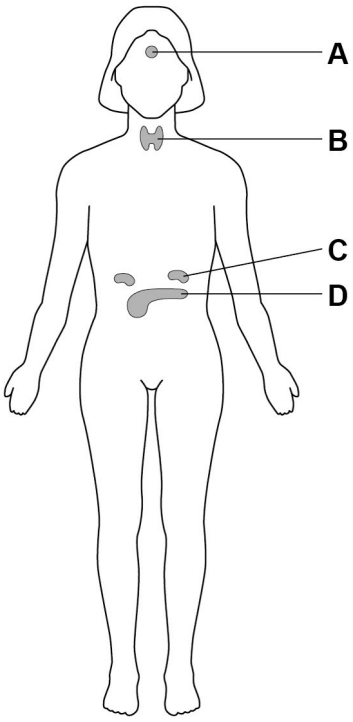
Question 08

0 2 Many internal processes of the human body are controlled by hormones.

Hormones are produced by glands.

Figure 2 shows glands in a woman's body.

Figure 2



0 2 . 1 Which gland is the pituitary gland?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 2 . 2 Which gland is the pancreas?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

4.5.3.1 Human endocrine system

Question 08 · continued

The hormone insulin helps to decrease the blood glucose concentration.

Insulin causes its target organs to take in glucose from the blood.

0 2 . 3 Which of the following is a target organ for insulin?

[1 mark]

Tick (✓) **one** box.

Bladder ☐

Heart ☐

Liver ☐

0 2 . 4 The glucose is stored as an insoluble substance.

What is the insoluble storage substance that is formed from glucose?

[1 mark]

Tick (✓) **one** box.

Glycogen ☐

Protein ☐

Urea ☐

Question 2 continues on the next page

Question 08 · continued

Scientists investigated the effect of a glucose drink on the concentration of glucose in a person's blood.

This is the method used.

1. Take a small sample of blood from the person.

2. Measure the concentration of glucose in the person's blood.

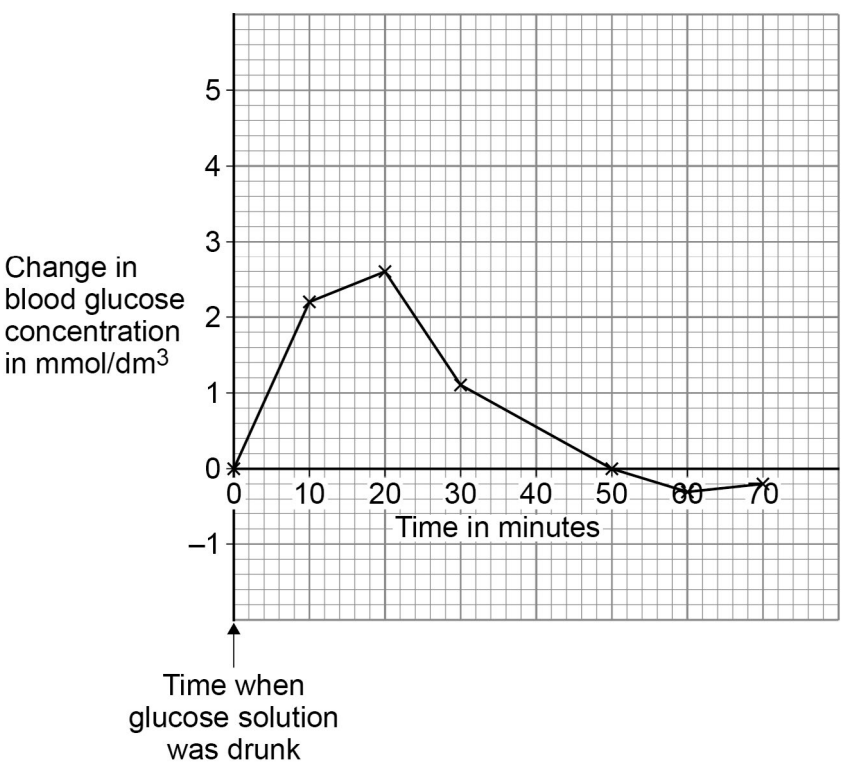
3. Give the person a drink containing 50 grams of glucose.

4. Measure the concentration of glucose in the person's blood at intervals.

5. Calculate the **change** in blood glucose concentration from the starting value.

Figure 3 shows the results.

Figure 3



4.5.3.1 Human endocrine system

Question 08 · continued

Figure 3 shows the **change** in blood glucose concentration.

0 2 . 5 At the start of the investigation, the blood glucose concentration was 5 mmol/dm^3.

Calculate the highest blood glucose concentration during the investigation.

Use information from **Figure 3** in your answer.

[2 marks]

Highest blood glucose concentration = _____ mmol/dm^3

0 2 . 6 What is the time taken for the blood glucose concentration to decrease from its highest value back to the starting value?

Use data from **Figure 3** in your answer.

[1 mark]

Time taken = _____ minutes

0 2 . 7 Why can you **not** be certain that your answer to Question **02.6** is accurate?

[1 mark]

0 2 . 8 **Figure 3** shows the results for a person who does **not have** Type 2 diabetes.

Sketch a line on **Figure 3** to show the results you would expect for a person who **has** Type 2 diabetes.

[2 marks]

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4.5.3.1 Human endocrine system

Question 09

June 2023 | 8461/2F | Original Q1

0 1 Hormones are important for controlling many processes in the human body.

Hormones are produced by glands.

0 1 . 1 Which organ system has glands that produce hormones?

[1 mark]

Tick (✓) **one** box.

- The circulatory system ☐
- The endocrine system ☐
- The nervous system ☐

0 1 . 2 How are hormones transported around the body?

[1 mark]

Tick (✓) **one** box.

- By the blood ☐
- By the muscles ☐
- By the nerves ☐

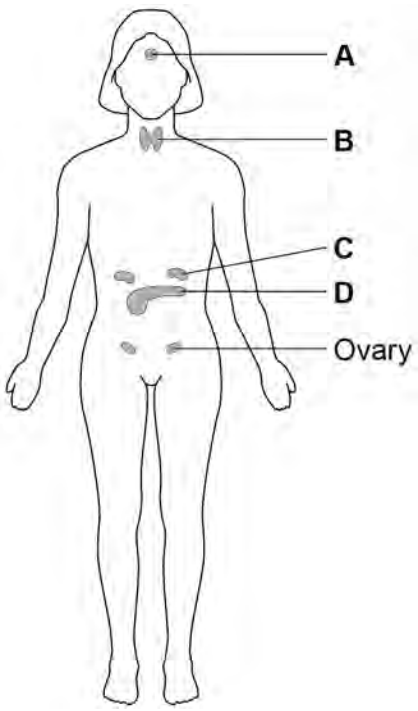
Question 1 continues on the next page

4.5.3.1 Human endocrine system

Question 09 · continued

Figure 1 shows glands in a woman's body.

Figure 1



0 1 . 3 Draw **one** line from each gland to the name of that gland.

[3 marks]

Gland	Name
A	Adrenal
B	Pituitary
C	Testes
	Thyroid

4.5.3.1 Human endocrine system

Question 09 · continued

0 1 . 4 Which gland in **Figure 1** produces insulin?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 1 . 5 Which organ does insulin mainly affect?

[1 mark]

Tick (✓) **one** box.

The brain ☐

The liver ☐

The ovary ☐

0 1 . 6 Give **one** effect of insulin.

[1 mark]

_____

_____

Question 1 continues on the next page

4.5.3.1 Human endocrine system

Question 09 · continued

Some hormones control a woman's menstrual cycle.

0 1 . 7 Which hormone causes an egg to mature in the ovary?

[1 mark]

Tick (✓) **one** box.

- Adrenaline ☐
- Follicle stimulating hormone (FSH) ☐
- Testosterone ☐

0 1 . 8 Which **two** are hormones that help to maintain the lining of the uterus during pregnancy?

[2 marks]

Tick (✓) **two** boxes.

- Amylase ☐
- Oestrogen ☐
- Progesterone ☐
- Protease ☐
- Thyroxine ☐

4.5.3.1 Human endocrine system

Question 09 · continued

0 1 . 9 Contraception prevents pregnancy.

Give **two** methods of contraception that use hormones.

[2 marks]

1 _____

_____

2 _____

_____

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Turn over for the next question

4.5.3.1 Human endocrine system

Question 10

June 2024 | 8461/2F | Original Q1

0 1 The nervous system allows humans to:

- respond to stimuli
- coordinate their behaviour.

0 1 . 1 Complete the order of structures to link a stimulus to a response.

[2 marks]

Choose answers from the box.

coordinator	**effector**	**receptor**

stimulus ⟶ _____ ⟶ _____ ⟶ _____ ⟶ response

0 1 . 2 Some human actions are reflex actions.

What is a reflex action?

[2 marks]

4.5.3.1 Human endocrine system

Question 10 · continued

0 1 . 3 Which is an example of a reflex action?

[1 mark]

Tick (✓) **one** box.

- Blinking in sudden bright light ☐
- Kicking a ball in a game ☐
- Writing a message to a friend ☐

0 1 . 4 Many reflex actions are movements.

What type of tissue causes movement?

[1 mark]

Tick (✓) **one** box.

- Blood ☐
- Gland ☐
- Muscle ☐

Question 1 continues on the next page

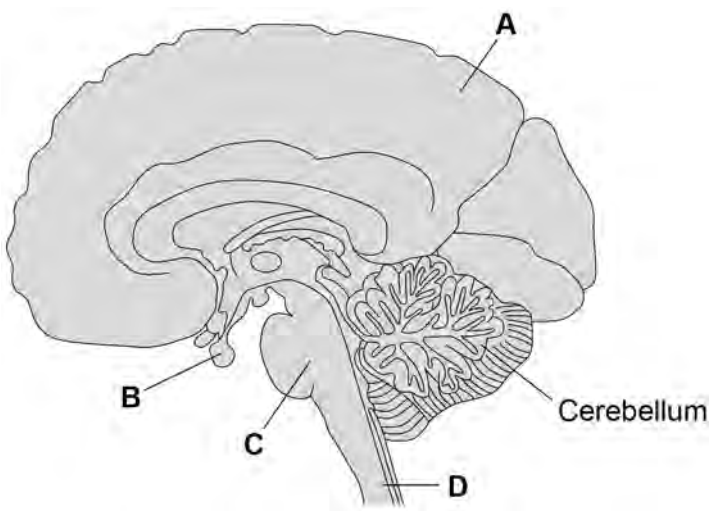
4.5.3.1 Human endocrine system

Question 10 · continued

Many human activities are coordinated by the brain.

Figure 1 shows the human brain.

Figure 1



0 1 . 5 Which structure in **Figure 1** is the pituitary gland?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

0 1 . 6 Which structure in **Figure 1** is the cerebral cortex?

[1 mark]

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

4.5.3.1 Human endocrine system

Question 10 · continued

0 1 . 7 What is the function of the cerebellum?

[1 mark]

Tick (✓) **one** box.

- Balance ☐
- Hearing ☐
- Sight ☐

9

Turn over for the next question