AQA GCSE Biology | 8461

SPECIFICATION POINT 4.5.3.5

Contraception

Past-paper questions

Tier	**Foundation**
Question groups	**8**
Available paper years	**2007–2023**

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.

4.5.3.5 Contraception

Question 01

June 2007 | BLY1F | Original Q2 | Legacy

2 (a) We control many conditions inside our bodies.

Name **three** conditions which are controlled inside our bodies.

1 .....

2 .....

3 .....

(3 marks)

(b) Hormones are used to control fertility in women.

Use words from the box to complete the sentences.

antibiotic	**contraceptive drug**	**fertility drug**	**vaccine**

A woman can prevent pregnancy by taking a ..... .

A woman can be helped to become pregnant by taking a ..... .

(2 marks)

(c) Some drugs are addictive.

(i) Name **one** addictive drug.

.....

(1 mark)

(ii) Explain why it is very difficult to give up using an addictive drug.

.....

.....

.....

.....

(2 marks)

8

4.5.3.5 Contraception

Question 02

June 2011 | BLY1F | Original Q6 | Legacy

6 Hormones control the menstrual cycle.

6 (a) Name **two** of the hormones involved in the menstrual cycle.

1 .....

2 .....

(2 marks)

6 (b) Hormones are used in some types of contraception.

Complete the sentence.

When used as contraceptives, hormones stop ..... becoming mature.

(1 mark)

6 (c) There are several ways of using hormones as contraceptives.

These include:

- taking a contraceptive pill each day for 21 days of the menstrual cycle
- using a contraceptive implant.

The contraceptive implant is put under the skin of a woman's arm.

The implant releases contraceptive hormones for three years before the implant needs to be replaced.

6 (c) (i) Suggest **one** advantage of using this implant rather than taking contraceptive pills.

.....

.....

(1 mark)

6 (c) (ii) Suggest **one** disadvantage of using this implant rather than taking contraceptive pills.

.....

.....

(1 mark)

5

4.5.3.5 Contraception

Question 03

June 2012 | BL1FP | Original Q5 | Legacy

5 Thalidomide is a drug that was developed in the 1950s.
In the 1950s some pregnant women took thalidomide to prevent morning sickness during pregnancy.

Today, thalidomide is **not** used to prevent morning sickness.

5 (a) (i) Give **one** medical use of thalidomide, today.

.....

.....

(1 mark)

5 (a) (ii) Today, before a woman is given thalidomide, she is

- checked to see if she is pregnant
- told to use two different methods of contraception at the same time.

Give the reason why:

the woman is checked to see if she is pregnant

.....

.....

the woman is told to use two different methods of contraception at the same time

.....

.....

(2 marks)

5 (b) The information is about two types of contraceptive pill used by women.

Combined pill

- contains two hormones
- is taken for 21 days, then no pills are taken for 7 days
- > 99% effective at preventing pregnancy
- increases chance of headaches
- increases chance of breast cancer
- decreases chance of cancer of the ovary

Mini-pill

- contains one hormone
- must be taken at the same time every day
- < 99% effective at preventing pregnancy
- increases chance of breast cancer

4.5.3.5 Contraception

Question 03 · continued

5 (b) (i) Which **two** hormones does the combined pill contain?

Draw a ring around **two** answers.

LH **oestrogen** **progesterone** **FSH**

(2 marks)

5 (b) (ii) Give **two** advantages of taking the combined pill and **not** the mini-pill.

.....

.....

.....

.....

(2 marks)

5 (b) (iii) Give **one** advantage of taking the mini-pill and **not** the combined pill.

.....

.....

(1 mark)

8

4.5.3.5 Contraception

Question 04

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	☐

6

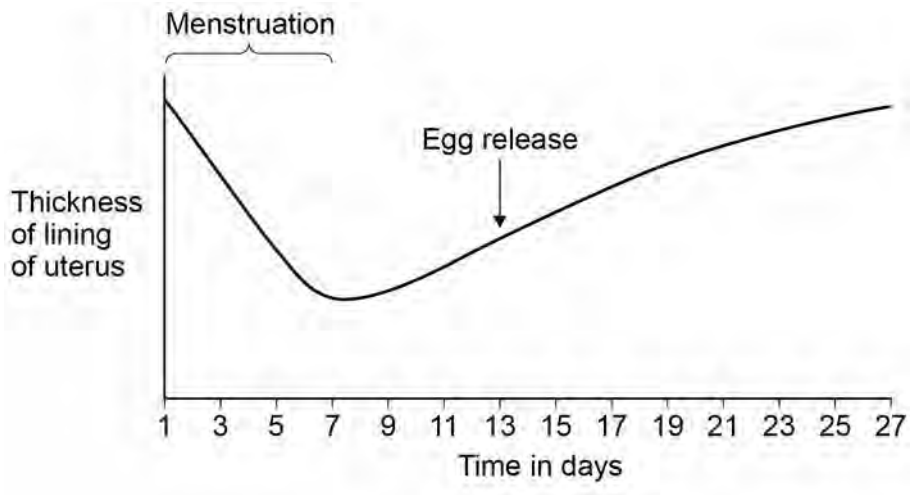
4.5.3.5 Contraception

Question 05

June 2018 | 8461/2F | Original Q2

0 2 **Figure 2** shows some changes that occur during the menstrual cycle.

Figure 2



0 2 . 1 **Figure 2** shows that the lining of the uterus thickens between days 7 and 27.

What is the purpose of thickening the lining of the uterus?

[1 mark]

Tick **one** box.

To allow implantation of the embryo ☐

To break down waste ☐

To prevent sperm reaching the egg ☐

0 2 . 2 Which hormone causes thickening of the lining of the uterus?

[1 mark]

Tick **one** box.

Auxin ☐

Oestrogen ☐

Testosterone ☐

4.5.3.5 Contraception

Question 05 · continued

0 2 . 3 On which day is fertilisation most likely to occur?

Use information from **Figure 2**.

[1 mark]

Contraception can be used to lower the chance of pregnancy.

0 2 . 4 Draw **one** line from each method of contraception to how the method works.

[3 marks]

Method of contraception	How the method works
Contraceptive pill	Barrier to prevent sperm reaching the egg
Diaphragm	Contains hormones to stop eggs maturing
Spermicidal cream	Kills sperm
	Slows down sperm production

Question 2 continues on the next page

4.5.3.5 Contraception

Question 05 · continued

0 2 . 5 **Table 2** gives information about some different methods of contraception.

Table 2

Method	Number of pregnancies per 100 women in one year	Possible Side effects
Diaphragm and spermicidal cream	8	Usually none, but can cause bladder infection in some women
Condom	2	None
Contraceptive pill	1	Mood swings, headaches, high blood pressure, blood clots, breast cancer

A man and a woman decide to use the condom as their method of contraception.

Suggest **three** reasons for this decision.

Use information from **Table 2** and your own knowledge.

[3 marks]

1 _____

_____

2 _____

_____

3 _____

_____

9

4.5.3.5 Contraception

Question 06

June 2019 | 8461/1F | Original Q5

0 5 A man has the following symptoms:

- yellow discharge from his penis
- pain when urinating.

0 5 . 1 The man has a bacterial infection.

What is the most likely cause of the man's symptoms?

[1 mark]

Tick (✓) **one** box.

- Gonorrhoea ☐
- HIV ☐
- Measles ☐
- Salmonella poisoning ☐

0 5 . 2 The man took a full course of antibiotics.

The man's symptoms did **not** improve.

Why did the antibiotics **not** cure the symptoms?

[1 mark]

Tick (✓) **one** box.

- The bacteria are immune to the antibiotics. ☐
- The bacteria are resistant to the antibiotics. ☐
- The man is immune to the antibiotics. ☐
- The man is resistant to the antibiotics. ☐

4.5.3.5 Contraception

Question 06 · continued

June 2019 | 8461/1F | Original Q5

0 5 . 3 Using a condom can stop the bacteria being passed to another person during sexual intercourse.

Suggest a different way the man could avoid passing the bacteria on to someone else.

[1 mark]

_____

_____

Question 5 continues on the next page

Question 06 · continued

A scientist investigated the effect of three different antibiotics on three different types of bacteria, **A**, **B** and **C**.

This is the method used.

1. Grow bacteria **A** on an agar plate.

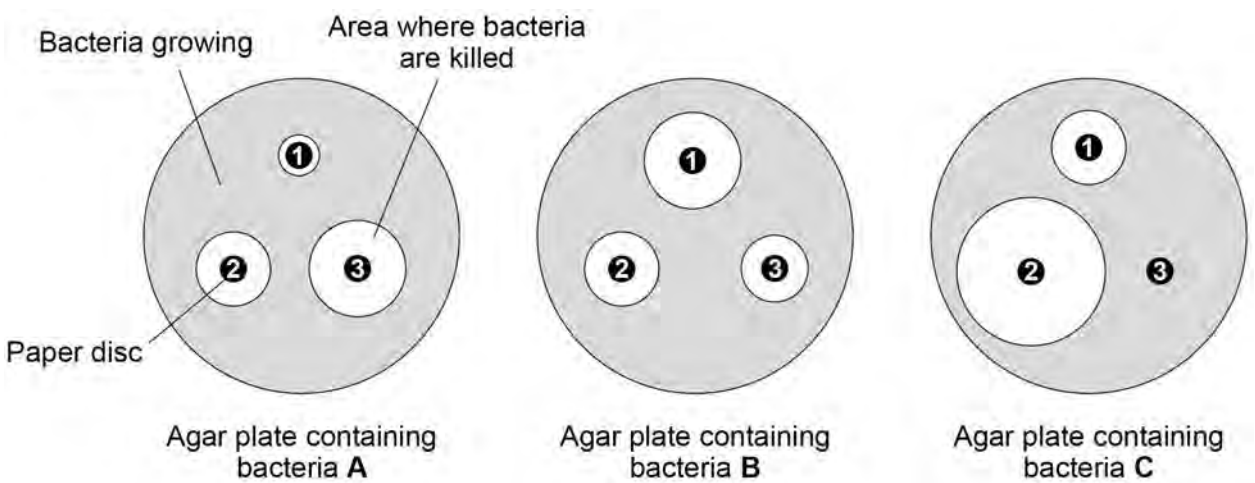
2. Put three separate paper discs each containing one of the antibiotics (**1**, **2** and **3**) onto the agar plate.

3. Put the agar plate into an incubator for 48 hours.

4. Repeat steps 1–3 for bacteria **B** and for bacteria **C**.

Figure 9 shows the scientist's results.

Figure 9



4.5.3.5 Contraception

Question 06 · continued

June 2019 | 8461/1F | Original Q5

0 5 . 4 Compare the effectiveness of the three antibiotics at killing the different types of bacteria.

[6 marks]

Question 5 continues on the next page

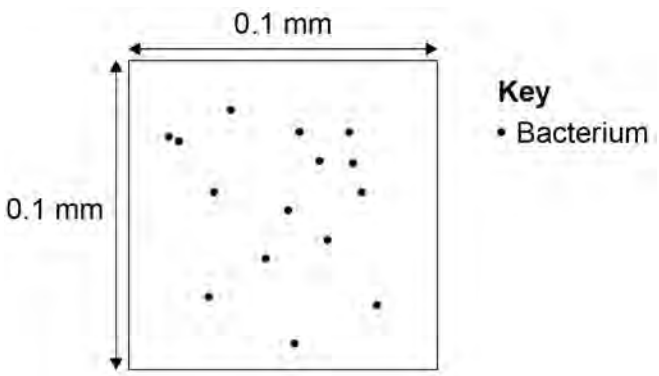
Question 06 · continued

Milk contains bacteria.

A small volume of raw milk was placed in a counting chamber in a special type of microscope slide.

Figure 10 shows what the counting chamber looked like when viewed using a microscope.

Figure 10



A scientist counted the number of bacteria in four samples of raw milk.

Table 4 shows the results.

Table 4

Milk sample	Number of bacteria in counting chamber
E	15
F	12
G	13
H	16

0 5 . 5 Which milk sample is shown in **Figure 10**?

[1 mark]

Tick (✓) **one** box.

Sample **E** ☐

Sample **F** ☐

Sample **G** ☐

Sample **H** ☐

4.5.3.5 Contraception

Question 06 · continued

0 5 . 6 Calculate the mean number of bacteria in the four samples in **Table 4**.

[2 marks]

Mean number of bacteria = _____

0 5 . 7 Calculate the mean number of bacteria per mm^3 of milk in the samples.

Complete the following steps.

[3 marks]

Calculate the total area of the counting chamber in **Figure 10**.

Total area of counting chamber = _____ mm^2

The depth of the counting chamber is 0.01 mm

Calculate the volume of the counting chamber in **Figure 10**.

Use the equation:

$$\text{volume} = \text{area} \times \text{depth}$$

Volume of counting chamber = _____ mm^3

Calculate the mean number of bacteria per mm^3 of milk in the samples.

Use the equation:

$$\text{mean number of bacteria per mm}^3\text{ of milk} = \frac{\text{mean number of bacteria from Question 05.6}}{\text{volume of counting chamber}}$$

Mean number of bacteria per mm^3 of milk = _____

Question 06 · continued

Milk is heated to reduce the number of bacteria it contains before it is sold for humans to drink.

Milk with more than 20 000 bacteria per cm^3 cannot be sold for humans to drink.

Table 5 shows the number of bacteria per cm^3 in four different samples of milk.

Table 5

Milk sample	Number of bacteria per cm^3 of milk
P	1.8×10^4
Q	2.2×10^4
R	2.2×10^{-5}
S	1.8×10^3

0 5 . 8 Which of the milk samples could **not** be sold for humans to drink?

[1 mark]

Tick (✓) **one** box.

P ☐ **Q** ☐ **R** ☐ **S** ☐

0 5 . 9 Why should milk sold for humans to drink **not** contain large numbers of bacteria?

[1 mark]

17

4.5.3.5 Contraception

Question 07

June 2022 | 8461/2F | Original Q5

0 5 In the human female, an egg is released from one of the ovaries about once every four weeks.

During the four weeks, the lining of the uterus thickens and then breaks down.

This is called the menstrual cycle.

0 5 . 1 Which **two** hormones are female reproductive hormones?

[2 marks]

Tick (✓) **two** boxes.

- Adrenaline ☐
- Oestrogen ☐
- Progesterone ☐
- Testosterone ☐
- Thyroxine ☐

0 5 . 2 Follicle stimulating hormone (FSH) is another female reproductive hormone.

What is the function of FSH in the menstrual cycle?

[1 mark]

Tick (✓) **one** box.

- FSH causes an egg to mature in the ovary. ☐
- FSH causes breast development. ☐
- FSH causes the uterus lining to break down. ☐

4.5.3.5 Contraception

Question 07 · continued

0 5 . 3 Sperm cells can survive inside a woman's reproductive organs for five days.

An egg cell can survive for one day after ovulation.

In one woman ovulation occurred on day 14.

Give the range of days on which sexual intercourse could result in fertilisation.

[1 mark]

From day _____ to day _____

0 5 . 4 If a man and a woman have sexual intercourse and do **not** want to produce a baby, they may use contraception.

Explain how different methods of contraception prevent pregnancy.

[6 marks]

10

4.5.3.5 Contraception

Question 08

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 ☐

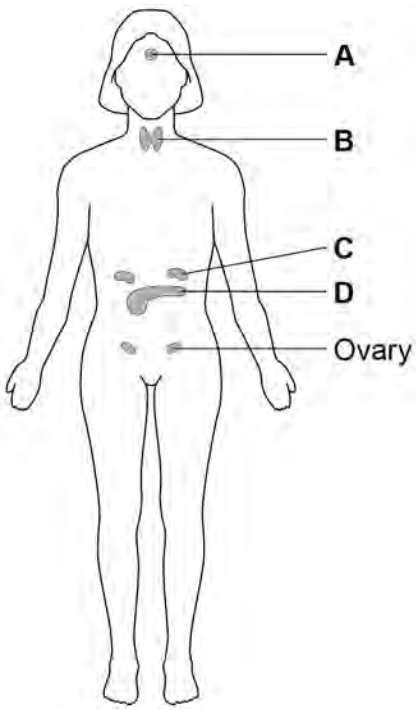
Question 1 continues on the next page

4.5.3.5 Contraception

Question 08 · 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

4.5.3.5 Contraception

Question 08 · 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

4.5.3.5 Contraception

Question 08 · 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 ☐

4.5.3.5 Contraception

Question 08 · continued

0 1 . 9 Contraception prevents pregnancy.

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

[2 marks]

1 _____

_____

2 _____

_____

13

Turn over for the next question