AQA GCSE Biology | 8461

SPECIFICATION POINT 4.3.1.5

Protist diseases

Past-paper questions

Tier	**Foundation**
Question groups	**2**
Available paper years	**2019–2023**

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.

4.3.1.5 Protist diseases

Question 01

June 2019 | 8461/1F | Original Q8

0 8 Mosquitoes carry a pathogen that causes malaria.

0 8 . 1 What type of pathogen causes malaria?

[1 mark]

Tick (✓) **one** box.

A bacterium ☐

A fungus ☐

A protist ☐

A virus ☐

Mosquito nets can help prevent the spread of malaria.

Table 7 shows the results of a study in one area of Africa.

Table 7

Total number of people in the study	Number of people who use mosquito nets when sleeping	Percentage of people with malaria	
		Who use mosquito nets when sleeping	Who do NOT use mosquito nets when sleeping
476	426	1.2	40

A newspaper made the following statement:

‘Study shows mosquito nets are scientifically proven to prevent malaria.’

0 8 . 2 Give **one** piece of evidence that supports the statement.

[1 mark]

4.3.1.5 Protist diseases

Question 01 · continued

0 8 . 3 Suggest **one** reason why the statement may **not** be valid.

[1 mark]

Table 8 shows information about the number of deaths from malaria in the same area of Africa.

Table 8

Year	Number of deaths from malaria per 100 000 people
2005	161
2007	136
2009	114
2011	97
2013	94
2015	92

0 8 . 4 Predict the number of people per 100 000 who died from malaria in 2017 if the trend stayed the same.

[1 mark]

Number of people per 100 000 = _____

0 8 . 5 Use of mosquito nets has helped to reduce the number of deaths from malaria each year.

Suggest **one** other reason for the reduced number of deaths from malaria each year.

[1 mark]

4.3.1.5 Protist diseases

Question 01 · continued

0 8 . 6 Describe how the human body:

- prevents pathogens from entering
- defends itself against pathogens inside the body.

[6 marks]

11

4.3.1.5 Protist diseases

Question 02

June 2023 | 8461/1F | Original Q4

0 4 Malaria is caused by a protist.

The protist is passed from one person to another person by mosquitos.

0 4 . 1 Which term describes the mosquito?

[1 mark]

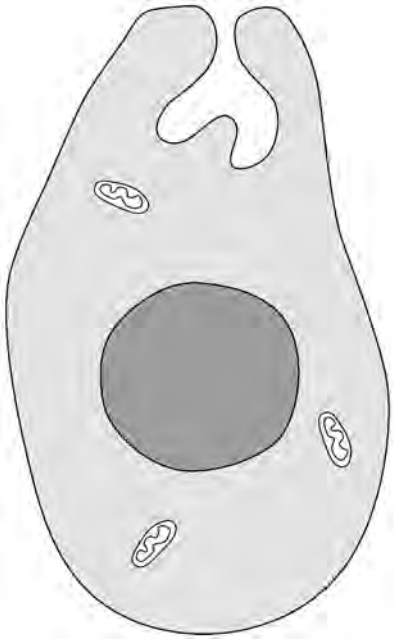
Tick (✓) **one** box.

- Bacterium ☐
- Gene ☐
- Vector ☐

0 4 . 2 The malarial protist is a eukaryotic cell.

Figure 2 shows a malarial protist.

Figure 2



4.3.1.5 Protist diseases

Question 02 · continued

Give **two** features of the malarial protist that show the cell is eukaryotic and **not** prokaryotic.

[2 marks]

1 _____

_____

2 _____

_____

0 4 . 3 Which organism is prokaryotic?

[1 mark]

Tick (✓) **one** box.

Cow ☐

Grass ☐

Salmonella ☐

0 4 . 4 The malarial protist reproduces asexually.

What is a feature of asexual reproduction?

[1 mark]

Tick (✓) **one** box.

Only one parent is involved. ☐

The offspring show genetic variation. ☐

Two gametes fuse. ☐

Question 4 continues on the next page

4.3.1.5 Protist diseases

Question 02 · continued

0 4 . 5 Mitosis occurs in the malarial protist during asexual reproduction.

The protist has 14 chromosomes.

How many chromosomes will each new protist cell have after mitosis?

[1 mark]

Tick (✓) **one** box.

7 ☐ 14 ☐ 21 ☐ 28 ☐

0 4 . 6 When a person has malaria, the protists destroy red blood cells.

What change would happen in the blood of a person with malaria?

[1 mark]

Tick (✓) **one** box.

Decreased antibodies ☐

Decreased haemoglobin ☐

Increased plasma ☐

Increased platelets ☐

4.3.1.5 Protist diseases

Question 02 · continued

0 4 . 7 It is estimated that 210 million people are infected with malaria every year. Half of these infected people survive the disease.

Calculate how many people would survive the disease in 3 years if the estimate is correct.

Give your answer in standard form.

[4 marks]

Number of people (in standard form) = _____

0 4 . 8 The spread of malaria can be controlled by using mosquito nets to avoid being bitten.

Describe **two** other ways that people can reduce the chance of being bitten by mosquitos.

Do **not** refer to mosquito nets in your answer.

[2 marks]

1 _____

2 _____

Question 4 continues on the next page

0 4 . 9 Different types of disease may interact.

Scientists studied how having disorder **S** interacts with malaria.

The scientists calculated the chance of children with disorder **S** getting malaria.

Table 4 shows the results.

Table 4

Age in years	Percentage (%) chance of children with disorder S getting malaria
2	70
4	65
6	50
8	45

Describe the trend shown in **Table 4**.

Use data from **Table 4**.

[2 marks]

15