Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B3 Infection And Response

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Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Q1.

Communicable and non-communicable diseases are major causes of ill health.

(a) Which disease is a **non-communicable** disease?

Tick (✓) **one** box.

AIDS	☐
Cancer	☐
Gonorrhoea	☐
Malaria	☐

(1)

Obesity is a risk factor for many non-communicable diseases.

(b) Give **one** non-communicable disease that obesity is a risk factor for.

Do **not** refer to the diseases given in part (a) in your answer.

_____

(1)

(c) National policies are used to help people who are obese to lose weight.

One national policy is to reduce the amount of sugar added to food and drinks.

Suggest **one other** national policy that could help people to lose weight.

_____

_____

(1)

(d) Body mass index (BMI) is one measure of obesity.

BMI is calculated using the equation:

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$$\text{BMI} = \frac{\text{body mass in kg}}{(\text{height in m})^2}$$

The table below shows how BMI is used to describe an adult's BMI category.

BMI	BMI category
<18.5	Underweight
18.5 to 24.9	Healthy weight
25.0 to 29.9	Overweight
>29.9	Obese

A person is 1.64 m tall and has a mass of 69 kg.

Determine the **BMI category** for this person.

Use the BMI equation and the table above.

_____

_____

_____

_____

_____

The person's BMI category is _____

(3)

Scientists investigated the effect of smoking and of BMI on the birth mass of babies.

Women's BMI categories were determined before the women became pregnant.

(e) Suggest why BMI categories were determined **before** the women became pregnant.

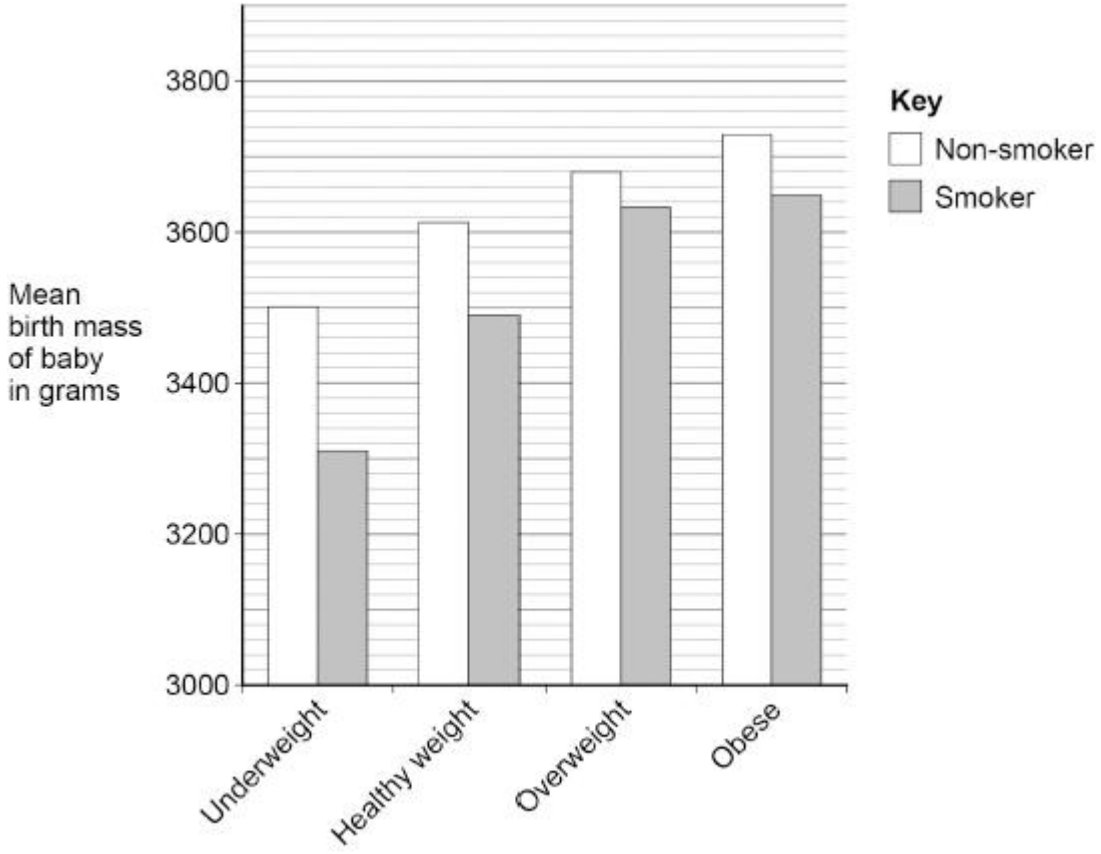
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_____

(1)

The figure below shows the results.

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(f) Give **two** conclusions that can be made from the figure above.

1 _____

_____

2 _____

_____

(2)

(g) Measles is a communicable disease.

A virus causes measles.

Describe how the measles virus is transferred from person to person.

_____

_____

_____

_____

(2)

Athlete's foot is a communicable disease.

A fungus causes athlete's foot.

The athlete's foot fungus infects the skin on feet.

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(h) Scientists estimate that 17% of the UK population have athlete's foot.

The estimated UK population is 67 961 900

Calculate how many people are estimated to have athlete's foot.

_____

_____

_____

Estimated number of people with athlete's foot = _____

(2)

(i) Athlete's foot fungus grows in moist conditions.

Suggest **one** way a person could reduce their chance of catching athlete's foot.

_____

_____

(1)

(Total 14 marks)

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Q2.

Bacteria can cause a variety of diseases in humans.

(a) What are **two** similarities between a bacterial cell and an animal cell?

Tick (✓) **two** boxes.

Both have a cell membrane.	☐
Both have a cell wall.	☐
Both have a nucleus.	☐
Both have cytoplasm.	☐
Both have plasmids.	☐

(2)

(b) Salmonella food poisoning is caused by bacteria in food.

Give **one** symptom of salmonella food poisoning.

Do **not** refer to vomiting or diarrhoea in your answer.

_____

_____

(1)

(c) What is the name of the first antibiotic developed?

_____

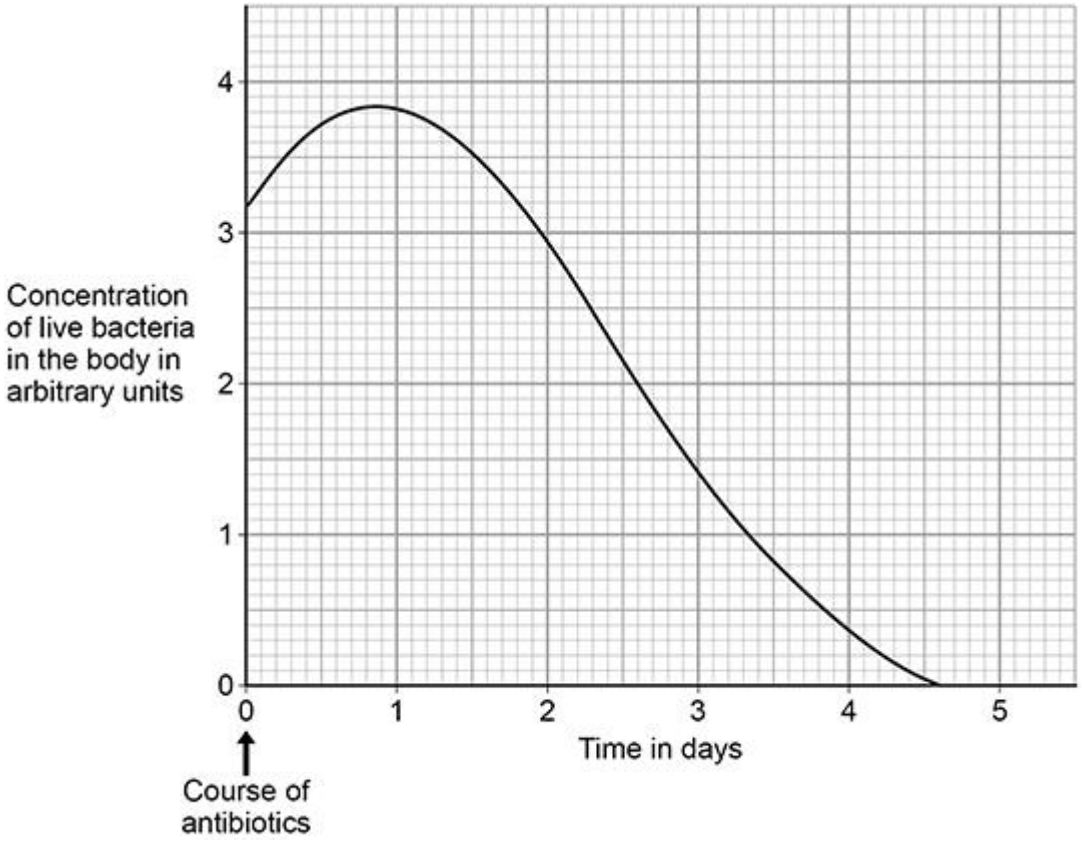
(1)

A child with a severe bacterial infection was given a course of antibiotics.

Figure 1 shows how the concentration of live bacteria in the child's body changed when taking the course of antibiotics.

Figure 1

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(d) The concentration of live bacteria in the body continued to increase after starting the course of antibiotics.

Suggest **one** reason why.

_____

_____

(1)

(e) After 3 days of taking the antibiotic:

- the child felt better
- there were still bacteria in the child's body.

Why did the child feel better?

Tick (✓) **one** box.

Bacteria had become immune to the antibiotic. ☐

The child had become resistant to the bacteria. ☐

There were fewer toxins in the body than at day 0 ☐

(1)

(f) Suggest why doctors do **not** give antibiotics to patients with minor infections.

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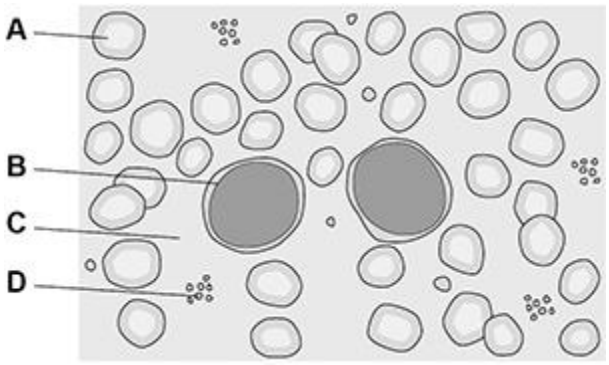
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_____

(1)

Figure 2 shows blood viewed using a microscope.

Figure 2



Blood viewed using a microscope © jarun011 / iStock

(g) A vaccine will stimulate the production of antibodies.

Which part of the blood in **Figure 2** produces antibodies?

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

(h) Which part of the blood in **Figure 2** starts the clotting process?

Tick (✓) **one** box.

A ☐ **B** ☐ **C** ☐ **D** ☐

(1)

(Total 9 marks)

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