

## Communicable disease

### Q1.a(2020)

Figure 7 shows the number of people per million **of the population** in five European countries who were diagnosed with measles in one year.

| country | number of people diagnosed with measles per million of the population |
|---------|-----------------------------------------------------------------------|
| Belgium | 21.00                                                                 |
| France  | 15.63                                                                 |
| Germany | 8.42                                                                  |
| Italy   | 20.06                                                                 |
| Norway  | 0.05                                                                  |

**Figure 7**

- (i) The population of Belgium in that year was 11.18 million.

Calculate the number of people in Belgium diagnosed with measles.

Give your answer to three significant figures.

(3)

..... people

### Q1.b(2020)

Countries do not report the total number of people diagnosed with measles. Countries report the number of people diagnosed with measles per million of the population.

Give **one** reason why this is better.

(1)

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.....

### Q1.c(2020)

Give **one** reason why the number of people per million diagnosed with measles is different in these countries.

(1)

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### Q2.(2021)

Name the organisation which defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

(1)

## Q3.a(2021)

Tuberculosis (TB) is a communicable disease.

- (i) State **two** ways that communicable diseases are different from non-communicable diseases.

(2)

## Q3.b(2021)

Explain **one** way that the spread of tuberculosis (TB) can be reduced or prevented.

(2)

## Q3.c(2021)

- (iii) A student researched the number of people with TB in some countries.

Figure 11 shows the student's data.

|  |                |                |
|--|----------------|----------------|
|  | Belgium 1000   | Portugal 2400  |
|  | UK 5400 people |                |
|  | Germany 6100   | 5800 in France |
|  |                |                |
|  |                |                |

**Figure 11**

Complete the table to show the student's data.

(2)

|  |  |
|--|--|
|  |  |
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|  |  |
|  |  |
|  |  |

## Q4.a(2022)

(c) A scientist investigated the effect of temperature on the growth of bacteria.

The bacteria were grown at 10°C and 20°C.

The number of bacteria grown at each temperature were counted every two hours.

Figure 1 shows the result.

| time in hours | number of bacteria at 10°C in thousands | number of bacteria at 20°C in thousands |
|---------------|-----------------------------------------|-----------------------------------------|
| 0             | 10                                      | 10                                      |
| 2             | 20                                      | 47                                      |
| 4             | 30                                      | 74                                      |
| 6             | 40                                      | 80                                      |
| 8             | 50                                      | 80                                      |

**Figure 1**

Figure 2 shows a graph of the results at 20°C.

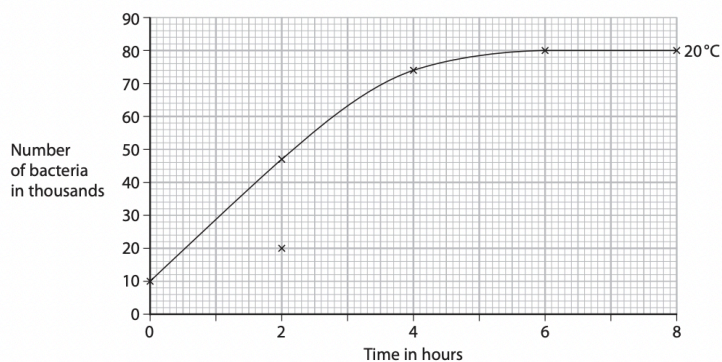


**Figure 2**

(i) Plot the points on the graph for the number of bacteria at 10°C.

The first two points have been plotted for you.

(1)

Q4.b(2022)

Draw a line of best fit on the graph for 10°C.

(1)

Q4.c(2022)

Describe how the growth of bacteria at 10°C was different from the growth of bacteria at 20°C.

(2)

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Q5.a(2022)

Figure 10 shows the number of people diagnosed with sexually transmitted infections (STIs) in the UK during 2017.

| sexually transmitted infection (STI) | number of people diagnosed per 1000 of the population |
|--------------------------------------|-------------------------------------------------------|
| chlamydia                            | 3.7                                                   |
| gonorrhoea                           | 0.8                                                   |
| genital herpes                       | 0.6                                                   |
| genital warts                        | 1.1                                                   |
| syphilis                             | 0.1                                                   |

**Figure 10**

- (i) State the sexually transmitted infection that has the median number of people diagnosed.

(1)

**Q5.b(2022)**

The population of the UK in 2017 was 66 million people.

Calculate the total number of people diagnosed with chlamydia in the UK in 2017.

(2)

..... people

**Q5.c(2022)**

State why chlamydia can be described as a communicable disease.

(1)

**Q5.d(2022)**

Give **one** way the transmission of chlamydia can be prevented.

(1)

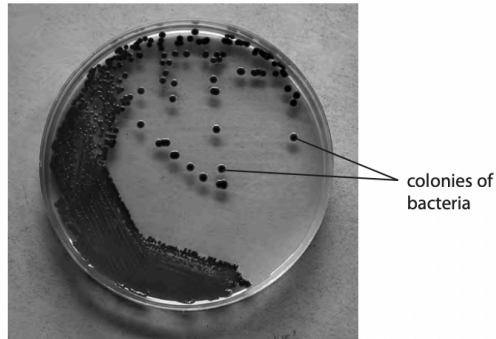
**Q5.e(2022)**

Explain why chlamydia can be treated with antibiotics.

(2)

Q6.(2023)

Figure 10 shows colonies of bacteria growing on an agar plate.



(Source: © Chatchouliya/Shutterstock)

**Figure 10**

Each colony starts as one bacterium.

Every time bacteria reproduce, the number of bacteria in each colony doubles.

- (a) Calculate the number of bacteria in a colony after five hours, if each bacterium reproduces every 30 minutes.

(2)

..... bacteria

Q7.(2024)

Measles is a disease caused by a virus.

Figure 9 shows the number of measles cases reported in England and Wales from 1985 to 2015.

| year | number of measles cases reported |
|------|----------------------------------|
| 1985 | 97 408                           |
| 1995 | 7 447                            |
| 2005 | 2 089                            |
| 2015 | 1 193                            |

**Figure 9**

Explain **one** conclusion that can be made about the change in the number of measles cases reported from 1985 to 2015.

(2)

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