

Infectious Disease

Question Paper

Level	International A Level
Subject	Biology
Exam Board	CIE
Topic	Infectious Disease
Sub Topic	
Booklet	Multiple Choice
Paper Type	Question Paper

Time Allowed : 14 minutes

Score : / 11

Percentage : /100

Grade Boundaries:

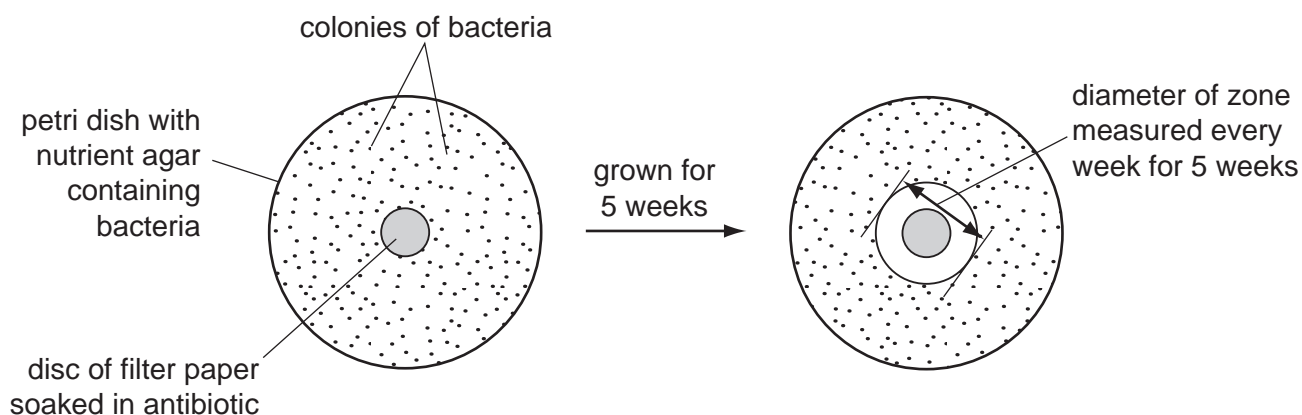
A*	A	B	C	D	E	U
>85%	'77.5%	70%	62.5%	57.5%	45%	<45%

1 Some antibiotics are used in animal feed to reduce disease.

What explains why these antibiotics should **not** be used in the treatment of human diseases?

- A Humans may be allergic to these antibiotics.
- B Human cells may stop responding to these antibiotics.
- C Pathogenic bacteria may develop resistance to these antibiotics.
- D Useful gut bacteria may be killed by these antibiotics.

2 The diagram shows one way of testing the effect of an antibiotic on bacteria.



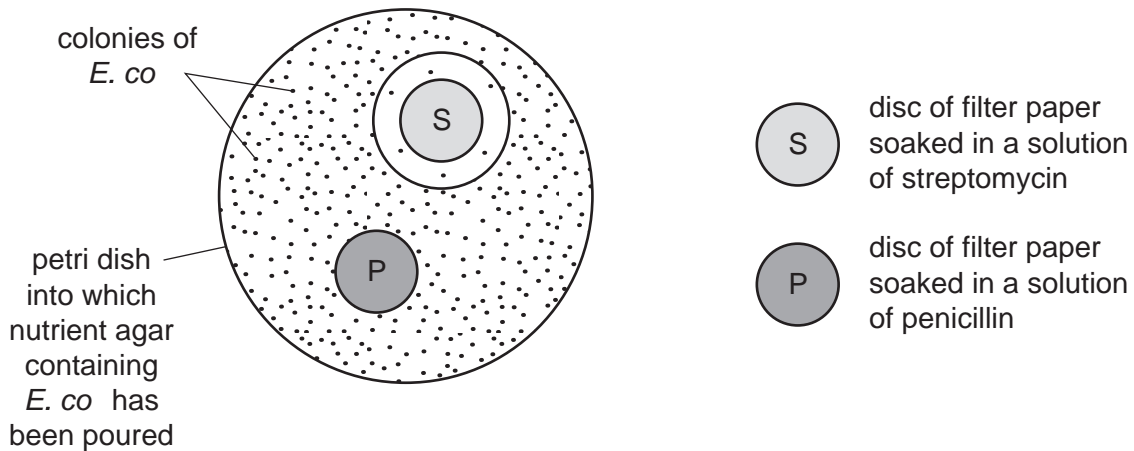
The table shows the results of testing five different types of bacteria. Zones of less than 13 mm show the presence of resistant bacteria.

type of bacteria	diameter of zone / mm				
	week 1	week 2	week 3	week 4	week 5
1	24.10	21.90	19.00	17.60	14.30
2	18.60	15.40	12.20	9.00	0.00
3	17.90	12.80	12.40	11.10	10.90
4	19.40	15.30	13.20	8.10	0.00
5	22.00	21.00	20.50	20.40	20.40

Which statement can be supported by this data?

- A Bacteria become more resistant to antibiotics over time.
- B Only types 2, 3 and 4 of the bacteria show resistance to the antibiotic.
- C The antibiotic can be used to treat all the types of bacteria.
- D Type 5 of the bacteria can never become resistant to the antibiotic.

- 3 Why is it necessary for a person with a bacterial infection to be told to take antibiotics at evenly spaced time intervals?
- A to increase the concentration of antibiotic slowly to a level which is lethal to the bacteria
 - B to maintain concentration of antibiotic in the body which is lethal to the bacteria
 - C to prevent the development of resistant strains of bacteria
 - D to select and kill the resistant strains of bacteria
- 4 The diagram shows the effects of the antibiotics streptomycin and penicillin on the bacterium *Escherichia coli*.



What can you deduce about the response of *E. coli* to the effects of the antibiotics?

	completely resistant	not completely resistant
A	S and P	–
B	S	P
C	P	S
D	–	S and P

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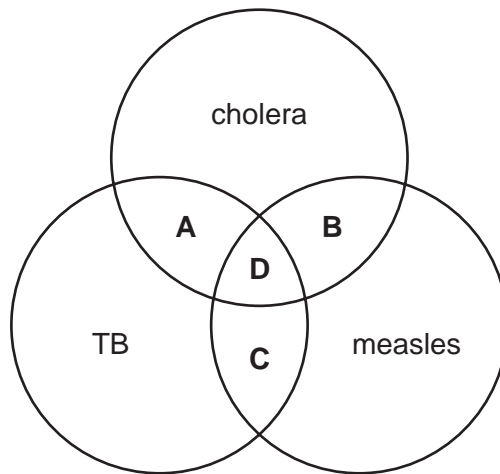
- A Humans may be allergic to these antibiotics.
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6 In parts of London, there was an increase in the number of cases of TB in the 1990s.

Which factor is **most** likely to have contributed to this?

- A global warming increasing mean temperature
- B increase in air pollution
- C increased pathogen mutation rate
- D overcrowded accommodation

7 Which diseases are treated with antibiotics?



8 Which diseases can be cured by the use of antibiotics?

- A** cholera and tuberculosis
- B** measles and smallpox
- C** measles and tuberculosis
- D** smallpox and cholera

9 Some antibiotics are used in animal feed to reduce disease.

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10 Some facts about diseases are listed.

- 1 may be inherited from a parent
- 2 may be carried by a vector
- 3 may be caused by stress
- 4 may be passed on by contact
- 5 may enter through the mouth with food

Which numbered statements apply to infectious diseases?

- A** 1,2 and 3
- B** 1, 3 and 5
- C** 2, 3 and 4
- D** 2, 4 and 5

- 11 For which diseases is treatment with antibiotics likely to be effective?

	cholera	malaria	TB
A	✓	✓	x
B	x	✓	✓
C	✓	x	✓
D	✓	✓	✓