

6.3 Defence Against Infectious Disease

Question Paper

Course	DP IB Biology
Section	6. Human Physiology
Topic	6.3 Defence Against Infectious Disease
Difficulty	Medium

Time allowed: 20
Score: /10
Percentage: /100

Question 1

Which of the following are considered primary defence against infectious disease?

- A** Skin and mucous membranes.
- B** Hair and skin.
- C** Phagocytes and fever.
- D** Lymphocyte production of antibodies.

[1 mark]

Question 2

Avian bird flu is caused by the H5N1 virus. Scientists are concerned that this could affect humans and cause a pandemic.

Which of these measures would help prevent the spread of disease in humans?

- A** Reducing the number of flights between different countries.
- B** Killing all birds.
- C** Taking a course of antibiotics.
- D** Increasing the number of winter flu vaccines administered.

[1 mark]

Question 3

Bacteria and viruses are the main pathogens in humans. Antibiotics can be used to treat bacterial infections but not viral infections.

Which of the following statements explains why?

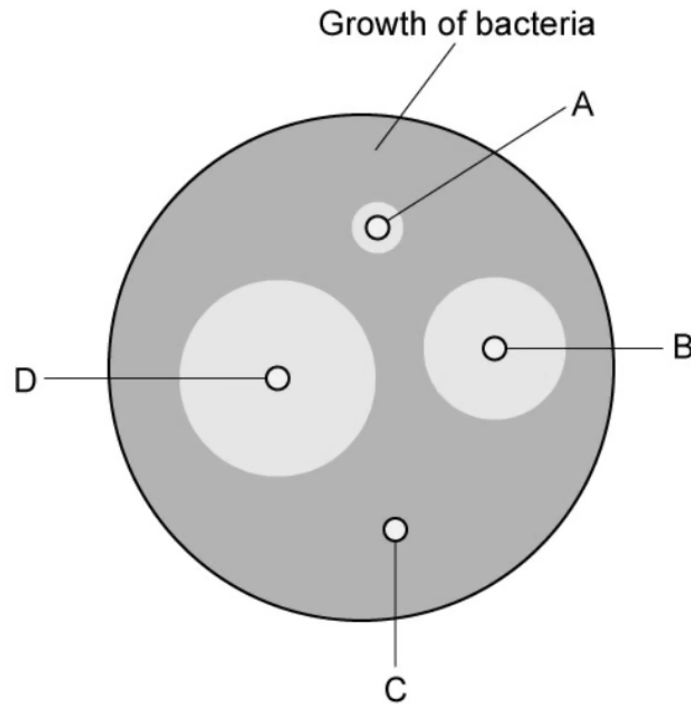
- A** Viruses need a host to survive.
- B** Viruses consist of just nucleic acid and a protein coat.
- C** Bacteria have peptidoglycan cell walls.
- D** Viruses are significantly smaller than bacteria.

[1 mark]

Question 4

An antibiotic sensitivity test was performed on bacteria isolated from a patient's throat.

The diagram shows the results of the four antibiotics tested.



Which one should be used to treat the disease?

[1 mark]

Question 5

When a phagocyte responds to the presence of a pathogen the following events happen:

- I. Enzymatic digestion.
- II. Endocytosis.
- III. Phagocyte membrane extends out.
- IV. Vacuole formation.

Which of the following would be the correct order of events?

	first	→	→	last
A	III	I	IV	II
B	III	II	IV	I
C	II	IV	I	III
D	II	III	IV	I

[1 mark]

Question 6

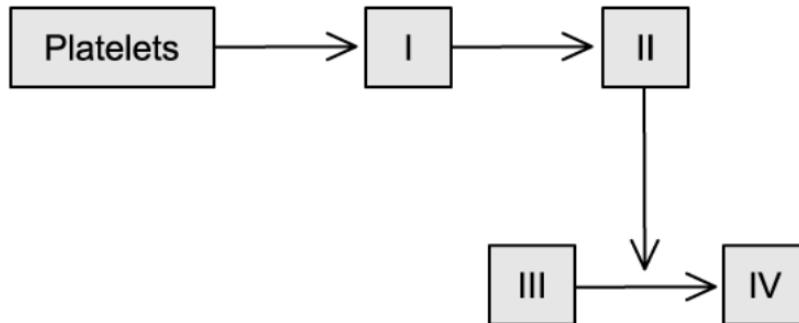
Which of these statements correctly describes a lymphocyte?

- A** They have many mitochondria to produce ATP to allow endocytosis of pathogens.
- B** They have many lysosomes containing hydrolytic enzymes to digest pathogens.
- C** They provide specific defence against disease-causing organisms.
- D** They are white blood cells with a lobed nucleus.

[1 mark]

Question 7

The diagram represents the process of blood clot formation.



What is the correct sequence of events?

	I.	II.	III.	IV.
A	Prothrombin	Thrombin	Fibrin	Fibrinogen
B	Clotting factors	Thrombin	Fibrinogen	Fibrin
C	Fibrin	Fibrinogen	Thrombin	Clotting factors
D	Clotting factors	Thrombin	Fibrin	Fibrinogen

[1 mark]

Question 8

What is specific immunity?

- A** Treating a specific disease through use of antibiotics.
- B** Production of monoclonal antibodies.
- C** Production of antibodies by lymphocytes.
- D** Endocytosis of pathogens by phagocytes.

[1 mark]

Question 9

Which of the following is **not** a contributing factor towards the development of antibiotic resistance in bacteria?

- A** Stopping a course of antibiotics once symptoms improve.
- B** Development of new antibiotics.
- C** Natural selection which favours mutations in bacteria.
- D** Overuse of antibiotics in agriculture.

[1 mark]

Question 10

The following statements are about people infected with HIV/AIDS.

- I. They will have symptoms.
- II. They can be treated and completely cured.
- III. They may live for many years after infection.

Which ones are correct?

- A** I only
- B** I and II
- C** I and III
- D** III only

[1 mark]