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6.3 Defence Against Infectious Disease

Medium



BIOLOGY

IB HL

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

EXAM PAPERS PRACTICE

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.

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?

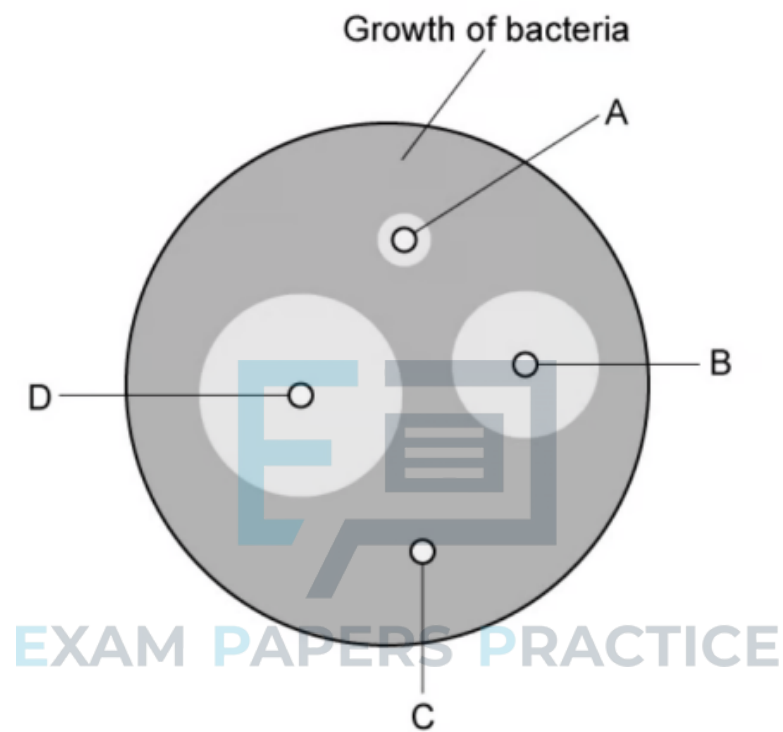
- A** Viruses need a host to survive.
- B** Viruses consist of just nucleic acid and a protein coat.
- C** Bacteria have peptidoglycan cell walls.
- D** Viruses are significantly smaller than bacteria.

[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

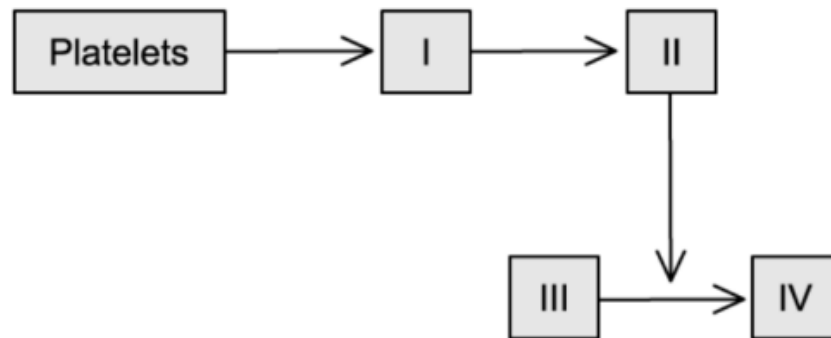
Which of these statements correctly describes a lymphocyte?

- 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]