

# Communicable diseases,disease prevention & the immune system

## Multiple Choice

### Question Paper 1

Level	A Level
Subject	Biology
Exam Board	OCR
Module	Biodiversity,evolution and disease
Topic	Communicable diseases,disease prevention & the immune system
Booklet	Question Paper 1

**Time allowed:** 26 minutes

**Score:** /19

**Percentage:** /100

#### Grade Boundaries:

A*	A	B	C	D	E
>69%	56%	50%	42%	34%	26%

## Question 1

Autoimmune diseases are often treated with a course of antibody injections.

Which of the following statements, **A** to **D**, describes the immunity arising from this treatment?

- A** active natural immunity
- B** active artificial immunity
- C** passive natural immunity
- D** passive artificial immunity

**[1]**

## Question 2

Which of the following types of cells is **not** involved in a primary immune response?

- A T-memory cells
- B T-helper cells
- C T-killer cells
- D plasma cells

[1]

### Question 3

Which of the following antibodies increase(s) the phagocytosis of pathogens?

- 1 opsonins
  - 2 agglutinins
  - 3 anti-toxins
- A. 1, 2 and 3
- B. Only 1 and 2
- C. Only 2 and 3
- D** Only 1

**[1]**

## Question 4

Which of the following describes an autoimmune disease?

- A. a disease in which an individual's own body cells are antigenic
- B. a disease in which a pathogen attacks cells of the immune system
- C. a disease that prevents production of antibodies
- D. a disease to which an individual has developed immunity

[1]

## Question 5

Lupus is an autoimmune disease. One symptom is a facial rash, typically in a butterfly shape across the cheeks.

Following a blood test, which of the following would indicate the patient has Lupus?

- A. the presence of antibodies for the cell surface antigens of connective tissue
- B. the presence of herpes antibodies
- C. the presence of high levels of antihistamines
- D. the absence of B lymphocytes

[1]

## Question 6

An individual bitten by a rabid dog can be treated by an injection of human rabies antibodies.

Which option, **A** to **D**, describes the type of immunity provided by this treatment?

- A. natural passive
- B. natural active
- C. artificial passive
- D. artificial active

[1]

## Question 7

Which of the options, **A** to **D**, is a primary defence against pathogens?

- A. antibody production
- B. inflammation
- C** phagocytosis
- D T-killer cells

**[1]**



## Question 8

Three methods of pathogen transmission between animals or plants are listed below.

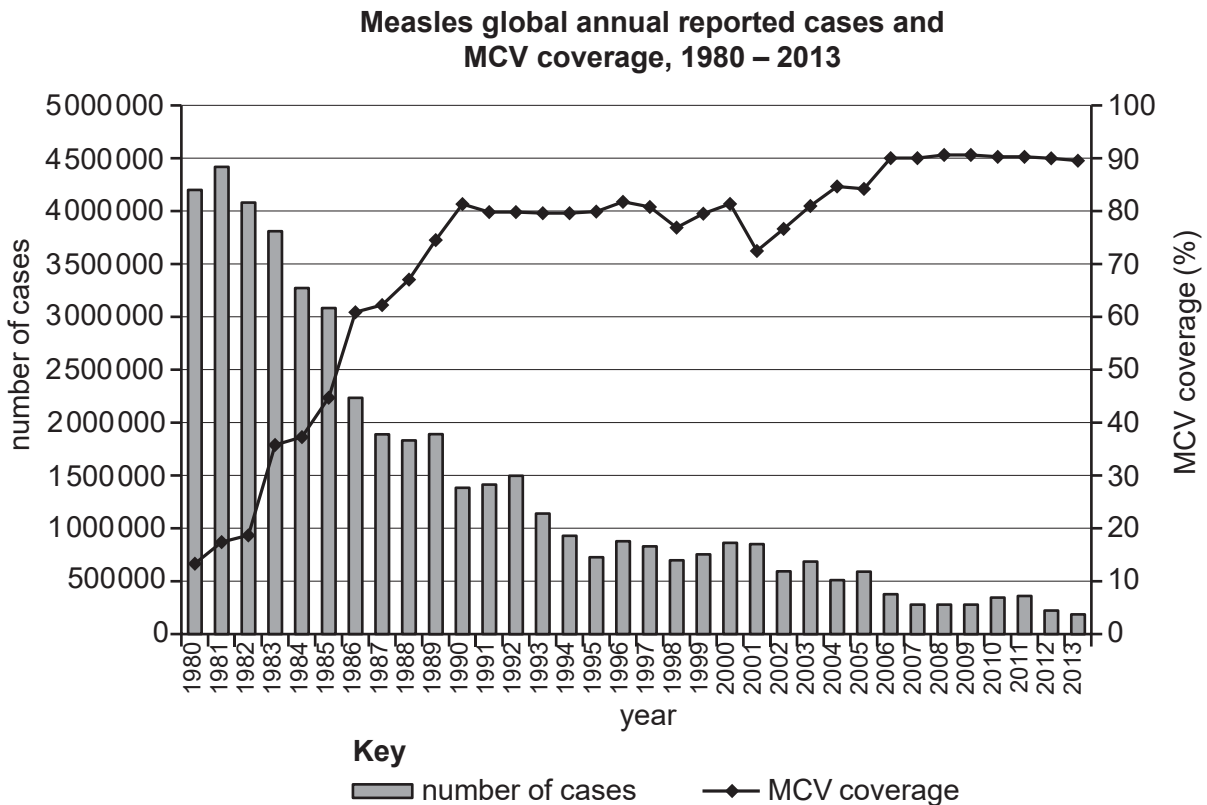
- 1 direct contact
- 2 vectors
- 3 droplets

Which of the methods of pathogen transmission **do** apply to plants?

- A. 1, 2 and 3
- B. Only 1 and 2
- C. Only 2 and 3
- D. Only 1

**[1]**

Measles is a serious disease that can be prevented by vaccination. The chart below shows the Measles-containing Vaccine (MCV) coverage and annual reported cases of measles between 1980 and 2013.



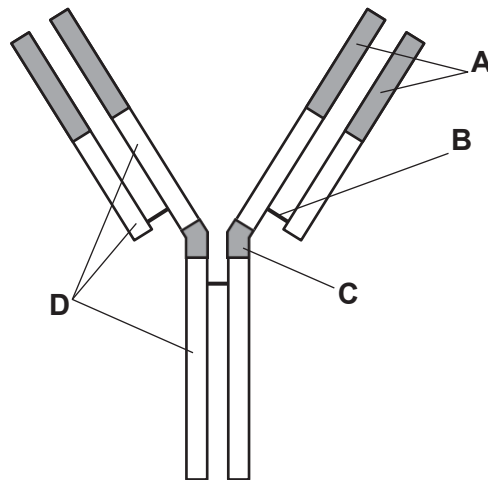
Which of the following statements, **A** to **D**, is a correct interpretation of the chart?

- A. An increase in herd immunity resulted in fewer deaths from measles.
- B. The highest number of measles cases occurred when MCV coverage was at its lowest.
- C. A 90% MCV coverage resulted in fewer than half a million cases of measles each year.
- D. There is a positive correlation between the number of measles cases and the MCV coverage.

[1]

## Question 10

The diagram below shows the simplified structure of an antibody.

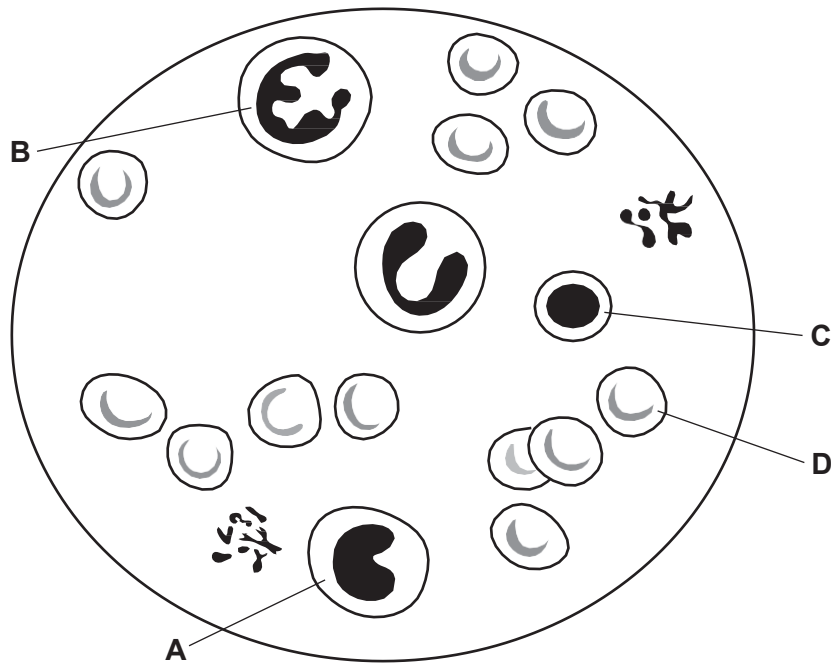


Which of the letters, **A** to **D** identifies the region of the antibody that allows the distance between the antibody binding sites to vary.

[1]

## Question 11

A diagram of a stained blood smear observed under a light microscope is shown below.



Which of the structures labelled **A** to **D** in the diagram is a neutrophil?

[1]

## Question 12

Which of the following options, **A** to **D**, is a primary defence mechanism against pathogens?

- A** neutralisation
- B** agglutination
- C** phagocytosis
- D** blood clotting

[1]

## Question 13

Pathogens cause disease and are transmitted from individual to individual in a variety of ways.

Which of the rows, **A** to **D**, in the table below is correct?

	<b>Disease</b>	<b>Type of pathogen</b>	<b>Means of transmission</b>
<b>A</b>	Athlete's foot	Fungus	Direct and indirect contact
<b>B</b>	HIV/AIDs	Virus	Indirect contact
<b>C</b>	Malaria	Bacterium	Vector
<b>D</b>	Tuberculosis	Protoctist	Direct contact

[1]

## Question 14

Young mammals receive antibodies in their mother's milk. This is an example of which type of immunity?

- A artificial active immunity
- B artificial passive immunity
- C natural active immunity
- D natural passive immunity

[1]

## Question 15

Which of the following descriptions is correct?

- A** Vaccination gives long-term protection, immunisation gives short-term protection.
- B** Vaccination involves injection of antigenic material and immunisation is the process of developing immunity.
- C** Vaccination involves injection of antigenic material, immunisation is injection of antibodies.
- D** Vaccination and immunisation have the same meaning. **[1]**



## Question 16

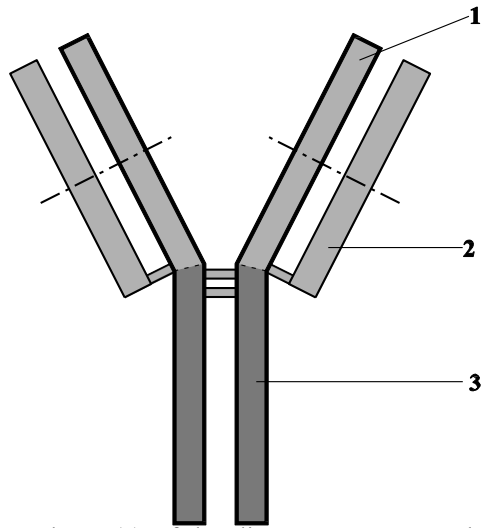
If a person is bitten by a venomous snake, the immediate treatment is normally to inject the person with the appropriate antibodies.

This is an example of which type of immunity?

- A artificial active immunity
- B artificial passive immunity
- C natural active immunity
- D natural passive immunity

[1]

The diagram represents the general structure of an antibody.



Which of the following numbered part(s) of the diagram represent the part of the antibody that has the same sequence of amino acids in all antibodies?

- A. 1, 2 and 3
- B. Only 1 and 2
- C. Only 2 and 3
- D. Only 1

[1]

## Question 18

Plants such as the soybean have a number of defence strategies to prevent infection by pathogens.

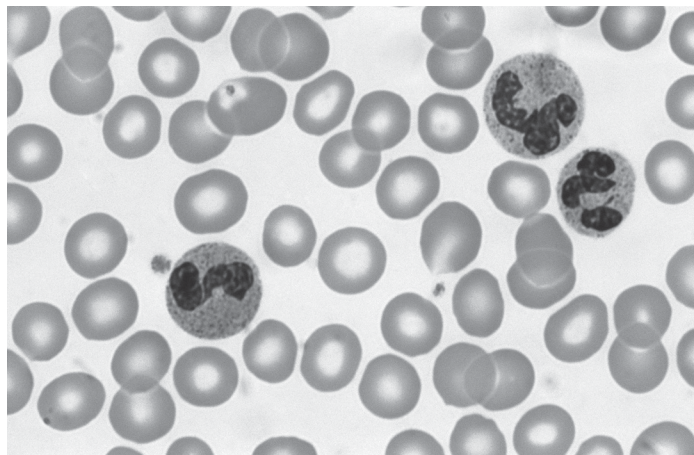
Which of the following strategies is a chemical defence against pathogen infection?

- A** callose deposits at sieve tube ends that prevent pathogen movement in phloem
- B** hydrolytic enzymes such as chitinase found between cells
- C** stomata can be closed by guard cells if pathogens are detected
- D** cell walls can be thickened by lignin, making cell entry very difficult for pathogens

**[1]**

## Question 19

The photograph below shows a blood smear.



Which row correctly lists the cells that are visible in the smear?

	erythrocytes	lymphocytes	monocytes	neutrophils
<b>A</b>	✓	x	✓	✓
<b>B</b>	✓	x	x	✓
<b>C</b>	✓	✓	✓	x
<b>D</b>	x	✓	✓	✓

[1]