

11.1 The Immune System

Question Paper

Course	CIE A Level Biology (9700) exams from 2022
Section	11. Immunity
Topic	11.1 The Immune System
Difficulty	Hard

Time allowed: 10

Score: /10

Percentage: /100

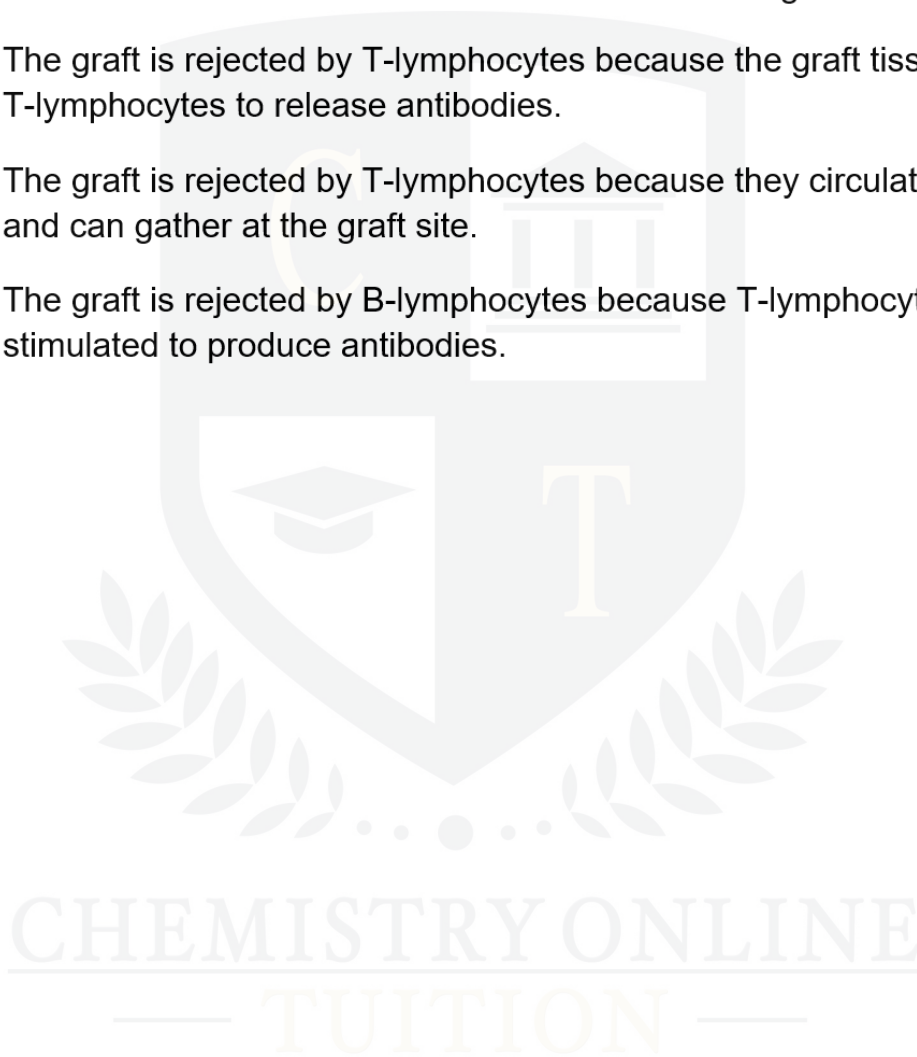
Question 1

When a person receives a skin graft from another person there is a risk of rejection.

Which of the following is a correct statement about graft rejection?

- A** The graft is rejected by the B-lymphocytes because they make and release antibodies which react with the surface antigens on the graft cells.
- B** The graft is rejected by T-lymphocytes because the graft tissue causes T-lymphocytes to release antibodies.
- C** The graft is rejected by T-lymphocytes because they circulate in the blood and can gather at the graft site.
- D** The graft is rejected by B-lymphocytes because T-lymphocytes are not stimulated to produce antibodies.

[1 mark]



Question 2

Antigens on red blood cells determine a person's blood group. Most people will have antibodies even if they haven't had a blood transfusion. Some blood transfusions can be unsafe due to the presence of these antibodies in the plasma.

The table shows the antibodies and antigens in the blood of people with different blood groups.

blood group	antigens on red blood cells	antibodies in plasma
A	A	antibodies to B
B	B	antibodies to A
AB	A and B	no antibodies to A and B
O	neither A or B	antibodies to A and B

Which group of people can safely receive blood from a person with blood group A?

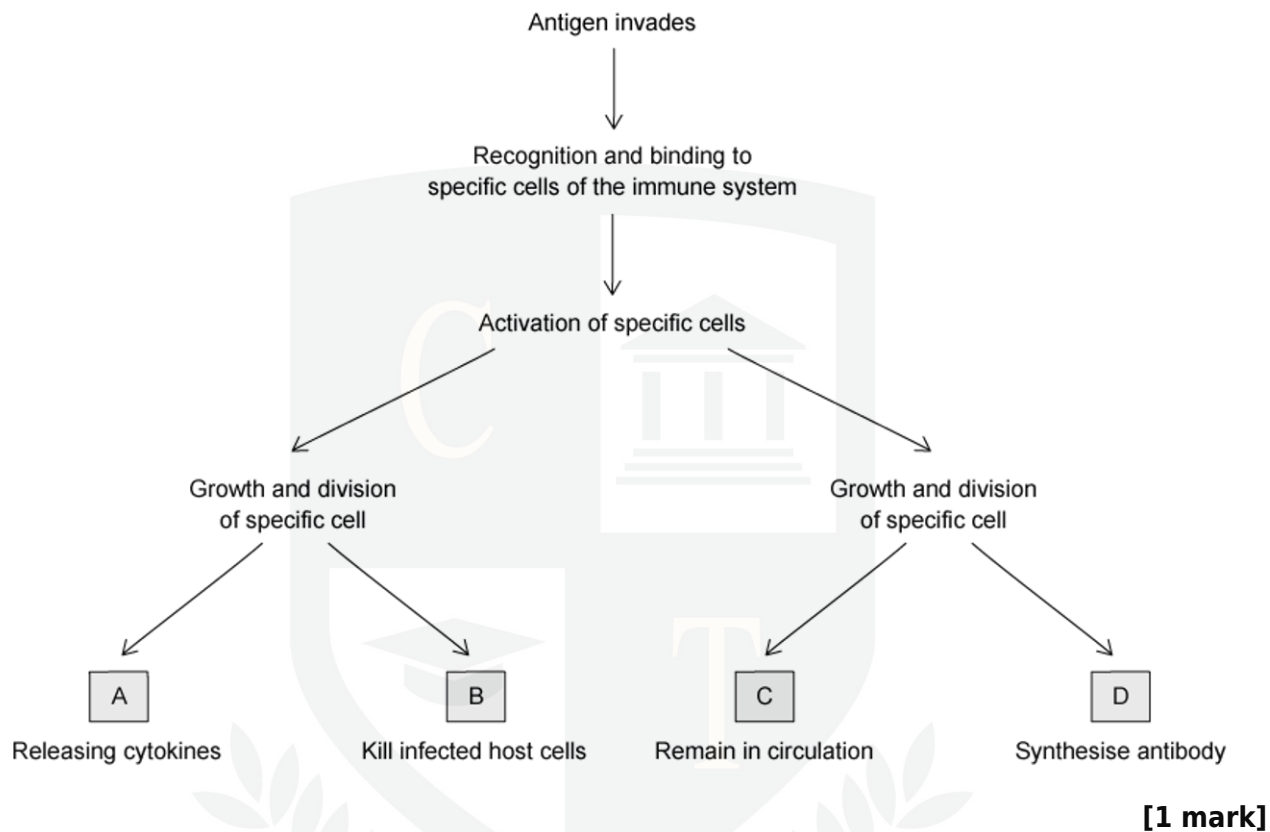
- A** AB only
- B** A and O
- C** B and O
- D** A and AB

[1 mark]

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Question 3

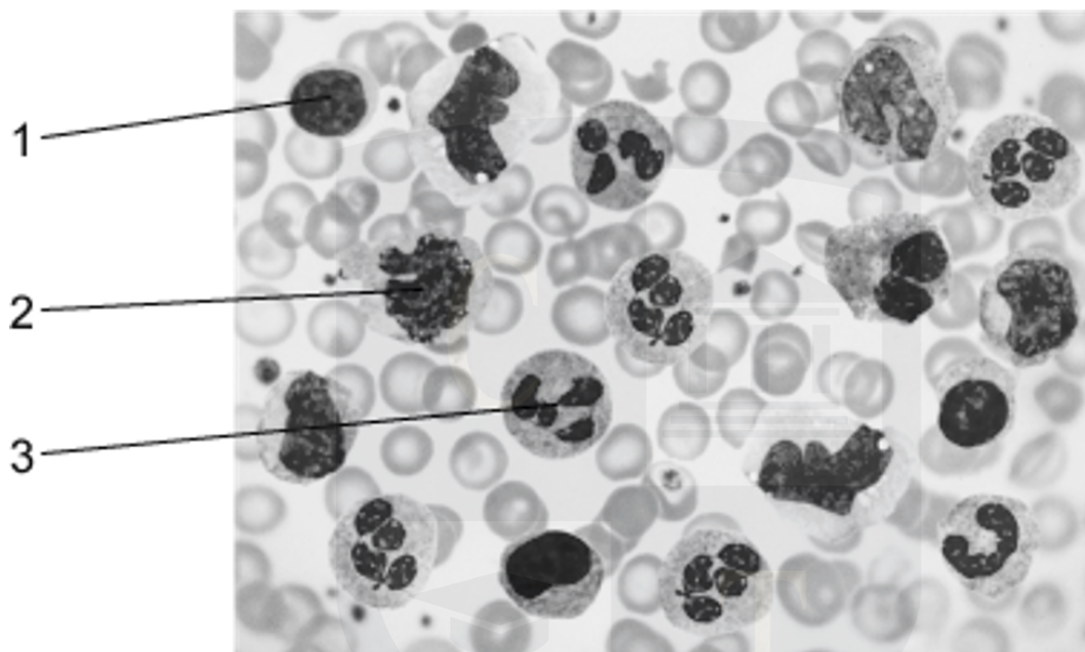
Which of the pathways below shows the correct activity of a helper T cell?



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Question 4

The micrograph below shows human blood. There are three types of cells from the immune system labelled.



Which row in the table below correctly identifies the cells in the micrograph?

	1	2	3
A	lymphocyte	phagocyte	phagocyte
B	lymphocyte	lymphocyte	phagocyte
C	phagocyte	lymphocyte	phagocyte
D	lymphocyte	lymphocyte	phagocyte

[1 mark]

Question 5

Children can be born with a condition called Severe Combined Immune Deficiency (SCID). This is a disease characterized by a lack of T-lymphocytes; individuals with SCID therefore are highly at risk from infectious disease.

Which of the following would be a possible cure for SCID?

- A transfusion of antibodies
- B continual use of antibodies
- C bone marrow transplantation
- D vaccination against all diseases

[1 mark]

Question 6

Monocytes move from the blood to the connective tissue.

Which phagocytic cell do they differentiate into?

- A Macrophage
- B Neutrophil
- C T-lymphocyte
- D B-lymphocyte

[1 mark]

Question 7

Which of the following is a characteristic of a secondary humoral response?

- A It happens only in the spleen.
- B It happens much more rapidly than a primary response.
- C It results in antibody secretion.
- D It results in less memory cell circulation.

[1 mark]

Question 8

Which cell is essential for an adaptive immune response?

- A plasma cells
- B Antibodies
- C T-lymphocytes
- D B-lymphocytes

[1 mark]

Question 9

What is a phagosome?

- A A vesicle containing lysozymes.
- B A white blood cell produces antibodies.
- C A white blood cell that ingests bacteria.
- D A vesicle containing an engulfed bacterium.

[1 mark]

Question 10

Which type of cell will destroy virally-infected cells?

- A** phagocytic macrophages
- B** activated B-lymphocytes
- C** plasma cells
- D** cytotoxic T-lymphocytes

[1 mark]

