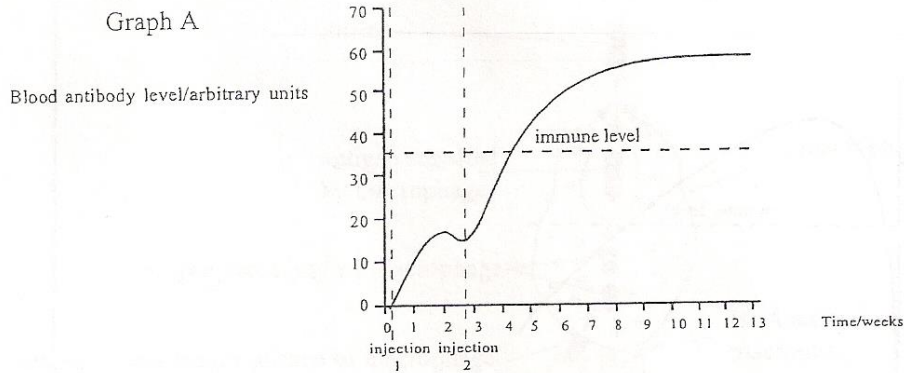


# Immunity practice questions

## IMMUNITY QUESTIONSHEET 2

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Graph A shows the response of person to immunisation using a vaccine containing killed pathogens.



(a) (i) Explain the response to the first injection.

.....

.....

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.....

.....

[4]

(ii) Explain why the response to the second injection was greater than the response to the first injection.

.....

.....

[1]

(b) Vaccination against diseases such as polio and tetanus lasts for several years. Vaccination against influenza has to be given every year. Explain why.

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.....

.....

[2]

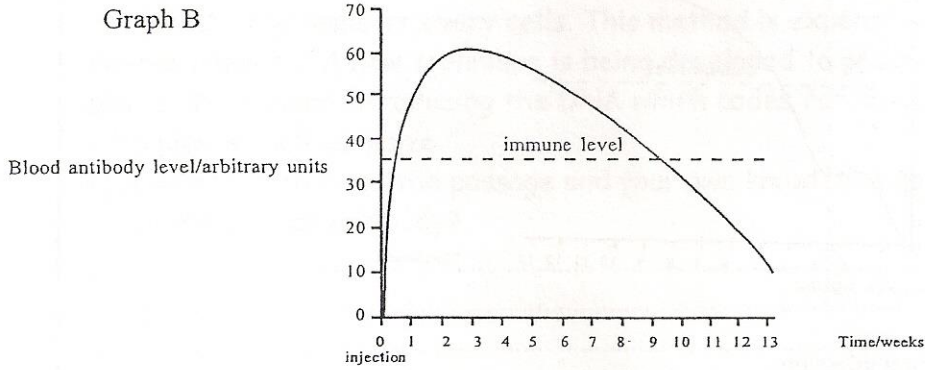
(Continued...)

# IMMUNITY

## QUESTIONSHEET 2 CONTINUED

Do not  
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People who have not been vaccinated against tetanus may be exposed to the bacteria causing tetanus if they cut their skin on barbed wire. Graph B shows the response of unvaccinated person to immunization against tetanus following such a cut.



- (c)(i) What is present in the injection given to an unvaccinated person after they have been exposed to the bacteria causing tetanus?

..... [1]

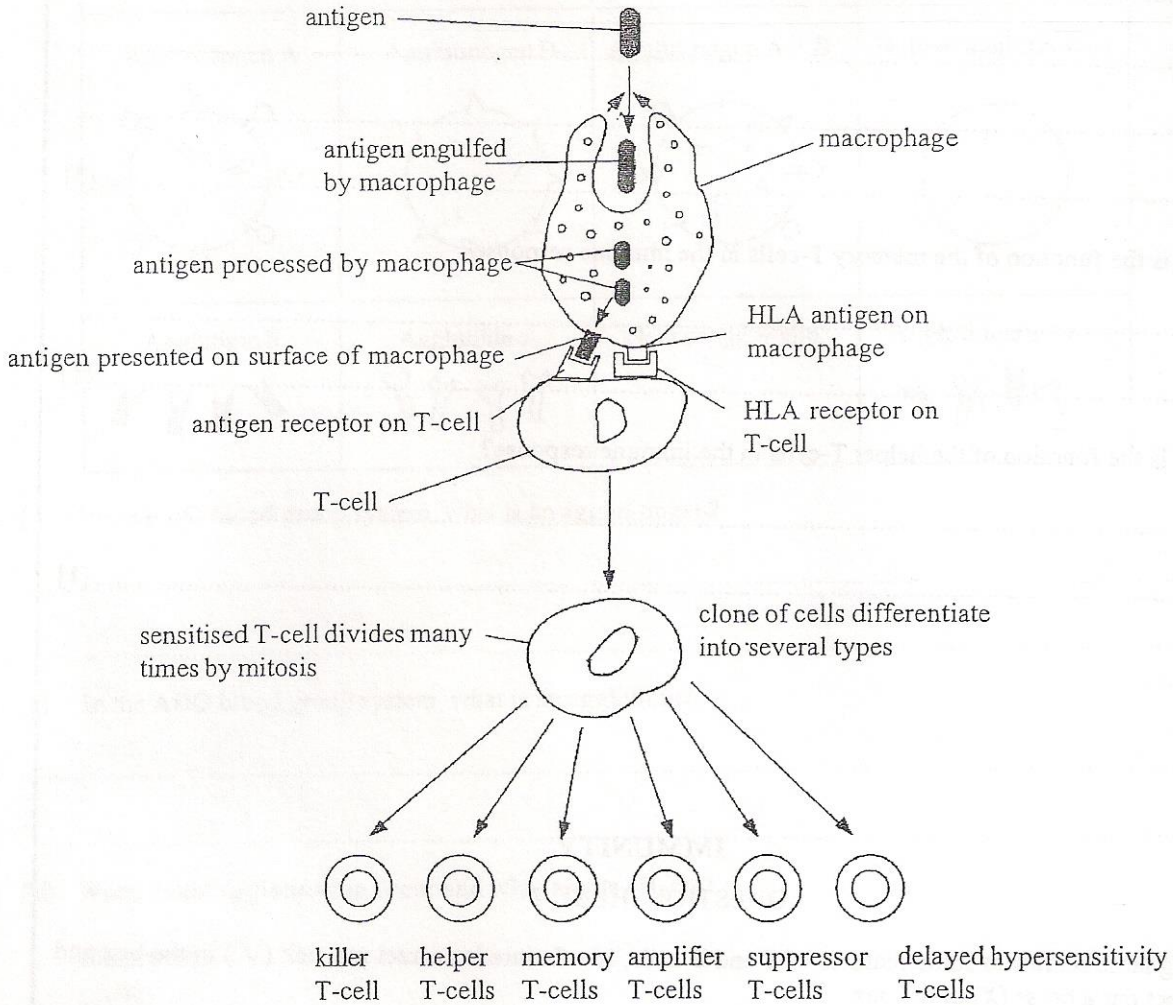
- (ii) Explain why the curve shown in graph B differs from that shown in graph A.

..... [2]

**IMMUNITY**  
**QUESTIONSHEET 6**

*Do not  
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margin*

The diagram below shows the T-cell immune response when the body is infected by a foreign antigen, such as a pathogenic bacterium.



(a)(i) Describe the role of the macrophage in the T-cell response.

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.....

.....

.....

.....

[4]

(ii) The sensitised T-cells divide thousands of times by mitosis to produce a cloned population of active T-cells. Suggest how this helps the immune response.

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.....

.....

[2]

(Continued...)

# IMMUNITY

## QUESTIONSHEET 6 CONTINUED

*Do not  
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(b) (i) Describe the activity of the killer T-cells in the immune response.

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.....

.....

..... [3]

(ii) What is the function of the memory T-cells in the immune response?

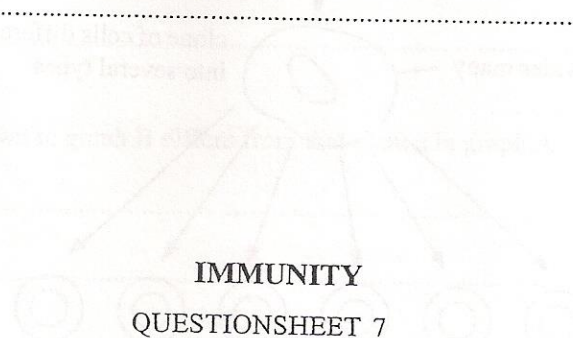
.....

..... [1]

(iii) What is the function of the helper T-cells in the immune response?

.....

..... [1]



# IMMUNITY

## QUESTIONSHEET 7

The following table relates to some features of T and B cells, If a feature is correct put tick (✓) in the box and if it is incorrect put a cross (X) in the box.

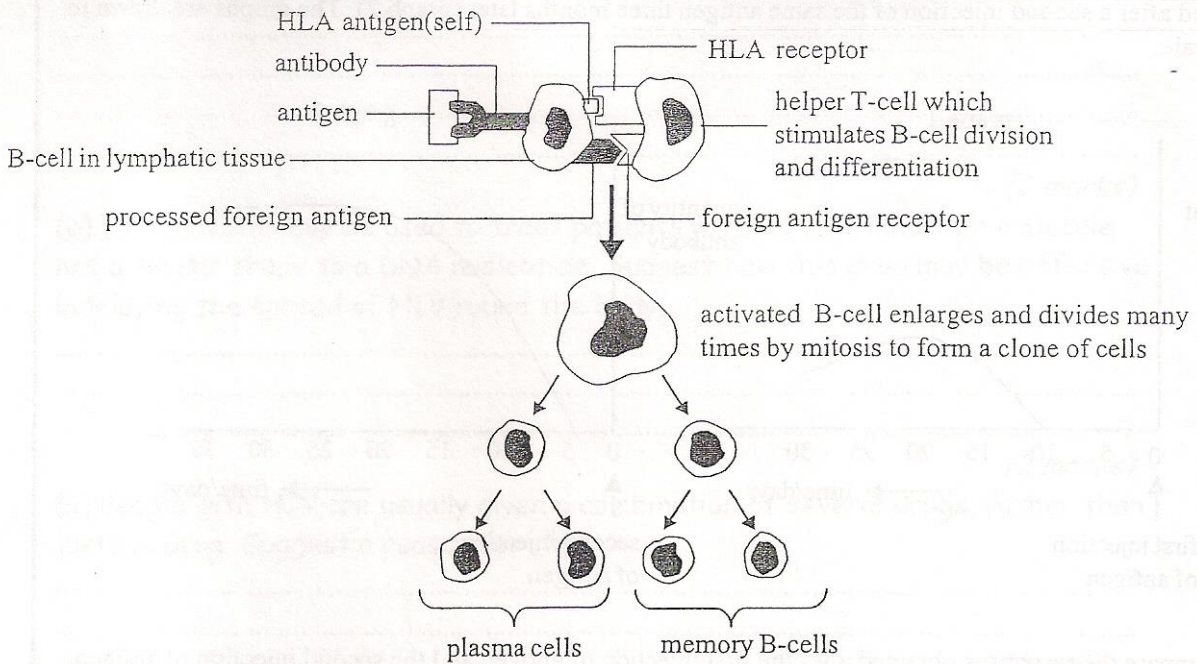
Feature	T-cells	B-cells
May produce antibodies	<input type="checkbox"/>	<input type="checkbox"/>
Are classed as small lymphocytes	<input type="checkbox"/>	<input type="checkbox"/>
Develop in the thymus	<input type="checkbox"/>	<input type="checkbox"/>
May secrete interferon	<input type="checkbox"/>	<input type="checkbox"/>
Give passive immunity to the organism which possesses them	<input type="checkbox"/>	<input type="checkbox"/>
Give active immunity to the organisms which possesses them	<input type="checkbox"/>	<input type="checkbox"/>

TOTAL / 11

**IMMUNITY**  
**QUESTIONSHEET 9**

*Do not  
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margin*

The diagram below illustrates the immune response by the B lymphocytes.



(a) (i) Describe the roles of the B-cells and T-helper cells in establishing the immune response against the antigen.

.....  
 .....  
 .....  
 ..... [4]

(ii) Suggest why the activated B-cell divides many times by mitosis to form a cloned population of cells.

.....  
 ..... [2]

(iii) Describe the role of the plasma cells.

.....  
 ..... [2]

(iv) Describe the role of the memory B-cells.

.....  
 ..... [1]

(b) Distinguish between the primary immune response and the secondary immune response.

.....  
 .....  
 .....  
 ..... [3]

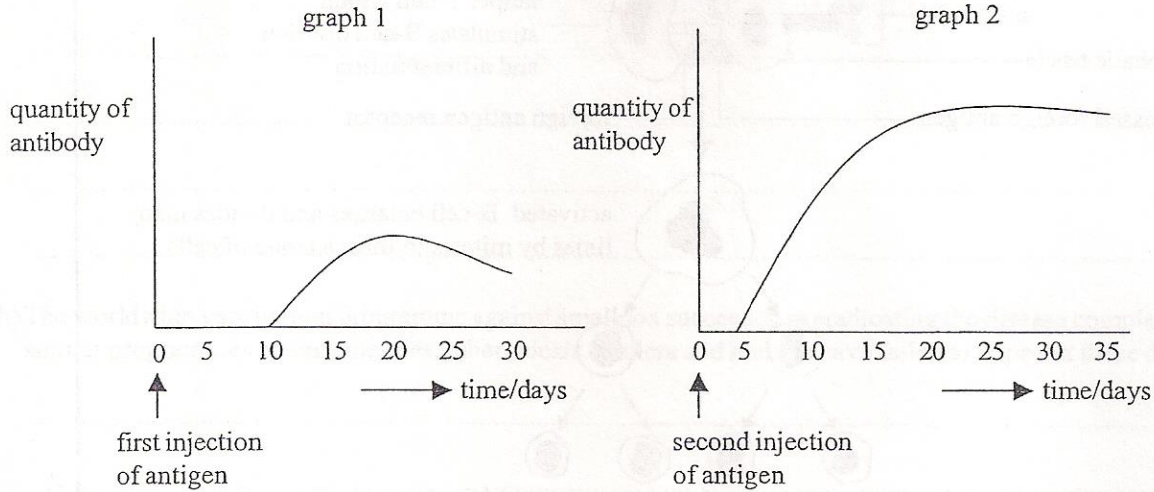
TOTAL / 12 \_\_\_\_\_

# IMMUNITY

## QUESTIONSHEET 12

Do not  
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margin

The graphs below show the quantities of antibodies present in the plasma after a first injection of an antigen (graph 1) and after a second injection of the same antigen three months later (graph 2). The graphs are drawn to the same scale.



(a) (i) Compare the responses obtained after the first injection of antigen and the second injection of antigen.

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.....

..... [3]

(ii) Explain the reasons for the differences in the two responses.

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..... [4]

(b) Explain why successful tissue transplantation is so difficult to achieve, even though the actual surgical techniques are relatively straightforward.

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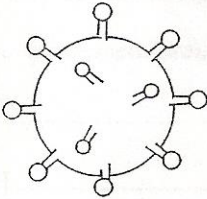
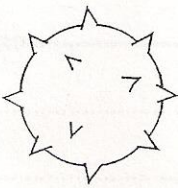
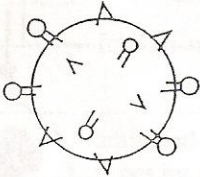
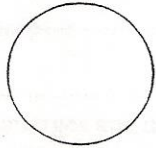



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..... [3]

**IMMUNITY**  
**QUESTIONSHEET 4**

*Do not  
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margin*

The diagram below illustrates the ABO blood group system of agglutinogens on the red cells and agglutinins.

Group A	Group B	Group AB	Group O
Agglutinogen A 	Agglutinogen B 	Agglutinogen A + B 	Neither agglutinogen 
Agglutinin b 	Agglutinin a 	Neither agglutinin	Agglutinins a + b 

(a) (i) In the ABO blood group system, what is an agglutinogen?

.....  
..... [2]

(ii) In the ABO blood group system, what is an agglutinin?

.....  
..... [2]

(iii) When could agglutination occur and what are its effects?

occurrence: .....

.....

effects: .....

.....

..... [4]

(b) (i) List the blood transfusions which would be incompatible.

.....  
..... [4]

(ii) Group O blood contains agglutinins a and b but it is permissible to transfuse it into group A, B or AB. Explain why is this possible.

.....  
..... [2]