Diseases and immunity – 2022 June IGCSE 0610

1. June/2022/Paper_ 11/No.21

The body has several defence mechanisms to protect against disease.

Which defence mechanism is a chemical barrier?

A hairs in the nose

B mucus

C skin

D white blood cells

2. June/2022/Paper_ 12/No.21

Which disease is caused by a pathogen?

A cholera

B coronary heart disease

C lung cancer

D scurvy

3. June/2022/Paper_ 13/No.1

All living organisms release energy from nutrient molecules within their cells.

What is the name of this characteristic?

A growth

B nutrition

C respiration

D sensitivity

4. June/2022/Paper_ 13/No.2

The scientific names of some animals are listed.

1 *Arius felis*

2 *Felis concolor*

3 *Felis rufus*

4 *Macropus rufus*

Which animals are in the same genus?

A 1, 2 and 3 **B** 2, 3 and 4 **C** 2 and 3 only **D** 3 and 4 only

5. June/2022/Paper_ 13/No.21

The body has several methods of avoiding infection by pathogens, including specialised cells, mechanical barriers and chemical barriers.

Which row has a correct example for each method?

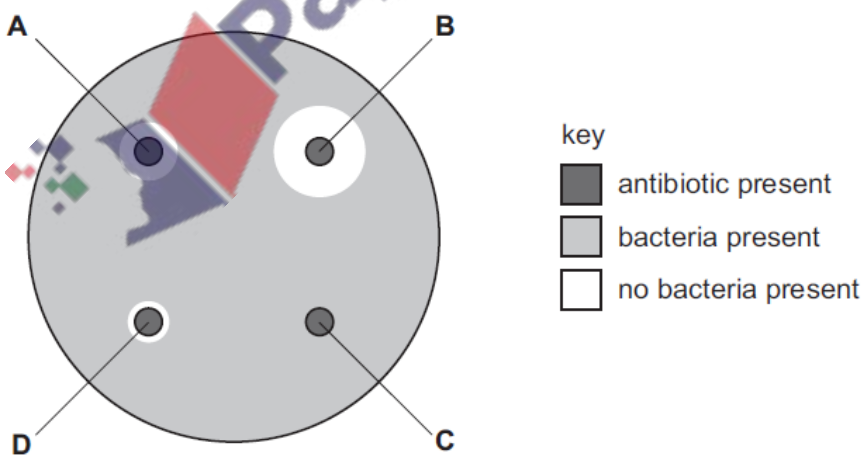
	specialised cells	mechanical barrier	chemical barrier
A	hairs in the nose	stomach acid	phagocytes
B	hairs in the nose	phagocytes	stomach acid
C	phagocytes	stomach acid	hairs in the nose
D	phagocytes	hairs in the nose	stomach acid

6. June/2022/Paper_ 13/No.30

The diagram shows the effect of four different antibiotics, **A**, **B**, **C** and **D**, on the growth of one type of bacteria. The bacteria were grown on agar jelly in a Petri dish. When bacteria covered the whole surface of the agar, paper discs soaked in each antibiotic were placed on top of the agar.

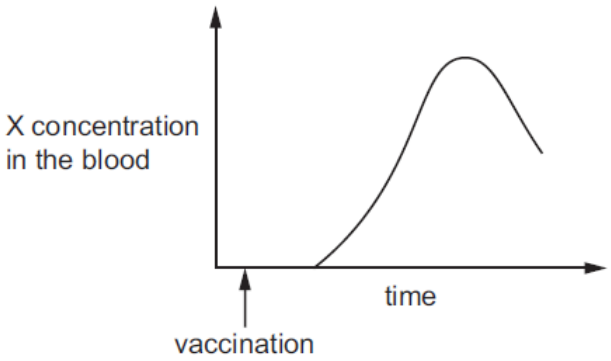
The diagram shows the appearance of the Petri dish 48 hours after the paper discs were added.

Which antibiotic is the **most** effective treatment for this type of bacteria?



7. June/2022/Paper_ 21/No.19

The graph shows the response of the body to vaccination.



Which word should be used to replace the letter X, to complete the label on the *y*-axis?

A antibody

B antigen

C pathogen

D platelet

8. June/2022/Paper_ 21/No.20

Which cells produce mucus?

A ciliated cells

B goblet cells

C nerve cells

D white blood cells

9. June/2022/Paper_ 32/No.6(a_ b)

Pathogens in food can cause diarrhoea.

(a) Describe diarrhoea and state how diarrhoea can be treated.

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..... [2]

(b) Describe ways of preventing the spread of diseases that are caused by pathogens in food.

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..... [4]

10. June/2022/Paper_ 33/No.8(a_ b)

(a) Complete the description of the immune system, using the words from the list.

Each word may be used once, more than once or not at all.

antibodies	**antigens**	**biological**	**block**
chemical	**engulf**	**hairs**	**mechanical**
	nails	**vaccines**	

The body has defences to protect against infectious diseases.

Skin and ..... in the nose are ..... barriers.

Some types of blood cell are involved in defending the body against infectious diseases.

Some blood cells can produce ..... which can kill the pathogen.

Other cells can ..... the pathogen in a process called phagocytosis. [4]

(b) Describe actions that can be taken by individuals in their homes to reduce the spread of disease.

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..... [3]

11. June/2022/Paper_ 42/No.4

Fig. 4.1 is a diagram of a virus.

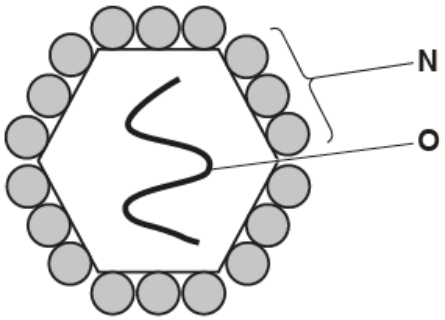

Fig. 4.1

(a) Identify the parts of the virus labelled **N** and **O**.

N .....

O .....

[2]

(b) The human immunodeficiency virus (HIV) infects and destroys lymphocytes.

The number of lymphocytes in the blood of a person infected with HIV was measured over a period of 84 months.

The results are shown in Fig. 4.2.

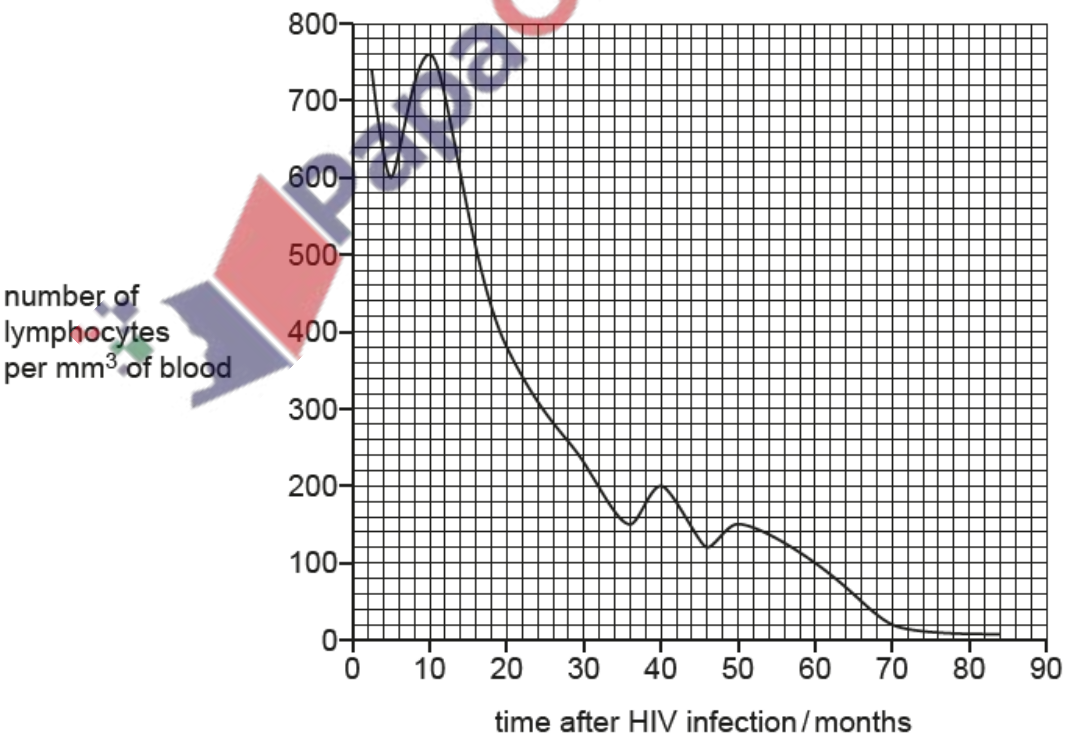

Fig. 4.2

(i) Use the information shown in Fig. 4.2 to calculate the percentage change in the number of lymphocytes from month 10 to month 60.

Give your answer to **two** significant figures.

Space for working.

.....%
[3]

(ii) Describe the changes in the number of lymphocytes, over the 84 months following infection with HIV, shown in Fig. 4.2.

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(iii) Outline the consequences of the changes in the number of lymphocytes for the health of the person infected with HIV.

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(iv) Explain why antibiotics are **not** used to treat viral infections.

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