

GCSE Biology B (Twenty First Century Science)
J257/02 Depth in Biology (Foundation)

Question Set 16

1 Human health can be affected by disease.

(a) Complete the sentences to describe the relationship between health and disease.

Use words from the list.

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

genes **lifestyle** **pathogens** **symptoms**

Health can be affected by diseases that are passed from a sick adult to a healthy adult. These diseases are caused by pathogens.....

Health can be affected by diseases that are inherited.

These diseases are caused by a person's genes.....

Health can be affected by diseases that **cannot** be passed from one person to another. These diseases are caused by a person's lifestyle.....

[3]

(b) Complete the table to describe common human diseases.

Disease	Type of microorganism that causes the disease	How the microorganism is spread
HIV/AIDS	<u>virus</u>	<u>sexual intercourse</u> <u>sharing needles</u>
Malaria	Protist	<u>mosquitoes</u>
<i>Salmonella</i>	<u>bacteria</u>	In food that is eaten

[4]

(c) Jane has been infected with influenza.

Explain how she could have become infected with the influenza virus **and** how her immunesystem will respond to it.

[6]

She became infected by coming into contact with an infected person, or using something an infected person has used / touched. ^(or airborne transmission e.g. via cough)

Once the virus has entered the body, lymphocytes recognise the shape of antigens, on the virus surface. The lymphocytes produce antibodies which are complementary to the antigens. The antibodies attach to the antigens, neutralising the virus or clumping them together so they can be engulfed by phagocytes and destroyed. They also produce memory cells to prepare for second infection (for faster and larger antibodies production).

Total Marks for Question Set 16: 13

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