Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B3 Infection and response

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

White blood cells protect the body against pathogens such as bacteria and viruses.

(a) (i) Pathogens make us feel ill.

Give **one** reason why.

_____

_____

(1)

(ii) White blood cells produce antibodies. This is one way white blood cells protect us against pathogens.

Give **two** other ways that white blood cells protect us against pathogens.

1. _____

_____

2. _____

_____

(2)

(b) Vaccination can protect us from the diseases pathogens cause.

(i) One type of virus causes measles.

A doctor vaccinates a child against measles.

What does the doctor inject into the child to make the child immune to measles?

_____

_____

_____

_____

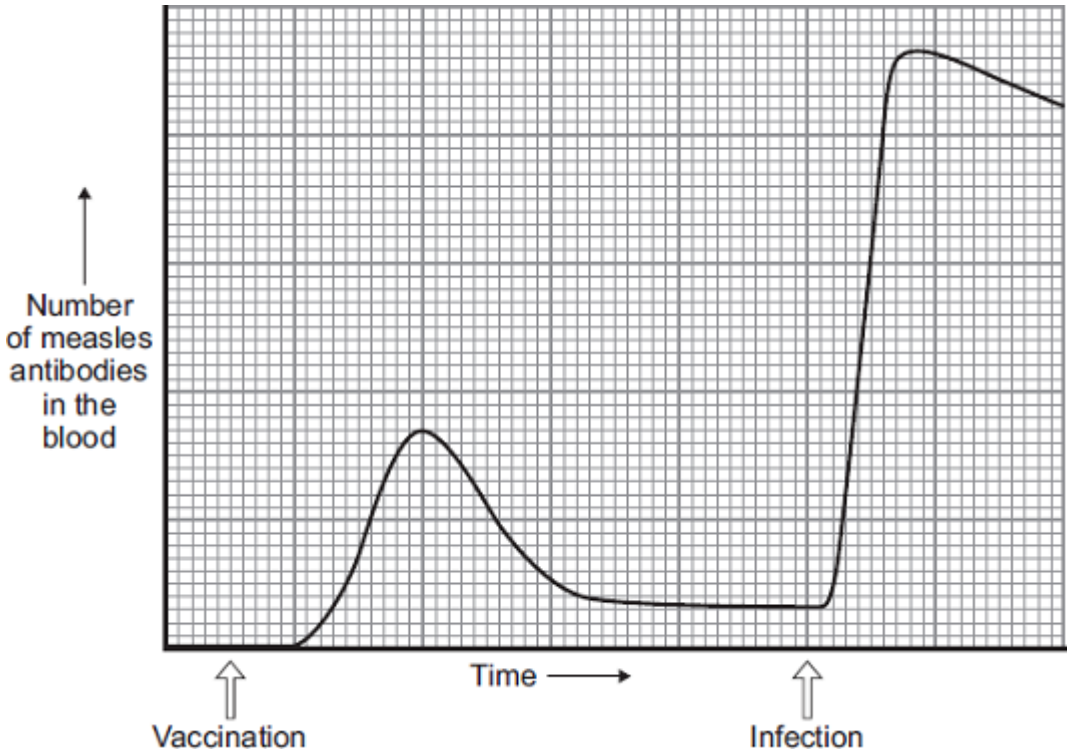
(2)

(ii) A few weeks after the vaccination, the child becomes infected with measles viruses from another person.

The graph shows the number of measles antibodies in the child's blood from before the

Downloaded from www.merit-minds.com

vaccination until after the infection.



More measles antibodies are produced after the infection than after the vaccination.

Describe other differences in antibody production after infection compared with after vaccination.

_____

_____

_____

_____

_____

_____

(3)

(iii) Vaccination against the measles virus will **not** protect the child against the rubella virus.

Why?

_____

(1)

(c) What is the advantage of vaccinating a large proportion of the population against measles?

_____

(1)

(Total 10 marks)

Downloaded from www.merit-minds.com

Q2.

People with type 1 diabetes inject insulin to control their blood glucose level.

A pancreas transplant is another treatment for type 1 diabetes.

One risk of a pancreas transplant is organ rejection.

(a) Explain why a transplanted organ may be rejected.

_____

_____

_____

_____

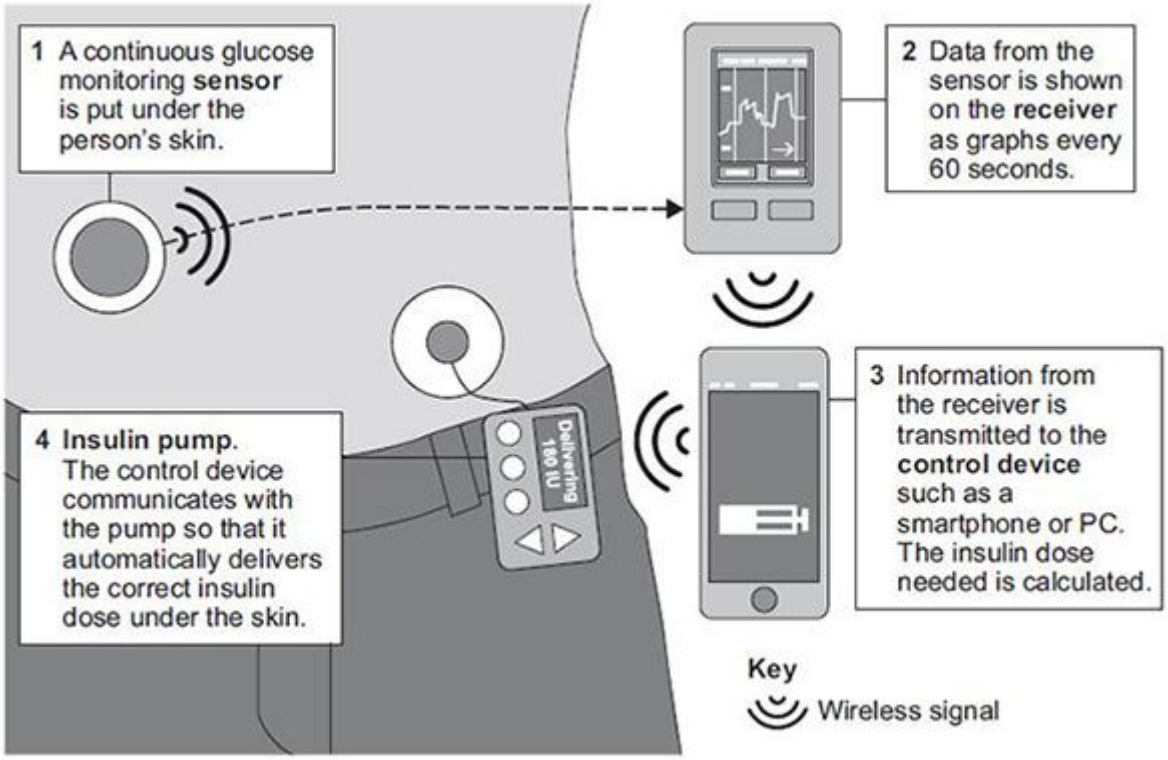
_____

_____

(3)

(b) Scientists have developed an artificial pancreas to treat type 1 diabetes.

The diagram below shows how an artificial pancreas works.



(i) A woman with type 1 diabetes has an artificial pancreas. The woman eats a meal high in sugar. The meal causes her blood glucose level to rise.

Use information from the diagram above to describe what happens to bring the blood glucose level of the woman back to normal.

_____

_____

Downloaded from www.merit-minds.com

_____

_____

_____

_____

_____

_____

(4)

(ii) The traditional way of monitoring and treating type 1 diabetes is to take a small sample of blood and put it on a test strip to find out how much insulin to inject.

Suggest **one** possible advantage, other than not having to do blood tests, of the method used in the diagram above.

_____

_____

(1)

(Total 8 marks)

Downloaded from www.merit-minds.com