

EXAMPLE STUDENT RESPONSES

Introduction

The responses in this booklet were produced in examination conditions for the current GCSE Specification B Medicine option, which is similar to GCSE 9-1 option 11.

Please apply the question 5/6 generic mark schemes to assess the quality of the answers to the following question.

***6** 'The most important factor in the prevention of illness since 1850 was a scientific understanding of the cause of disease.'

Do you agree? Explain your answer.

(16)

You may use the following in your answer.

- Pasteur's germ theory
- Government vaccination campaigns

You **must** also include information of your own.

Marking notes

No credit should be given for repetition of the stimulus without elaboration. The question focus is prevention of illness; comments on surgical treatment are not relevant.

Response A

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen Question Number: Question 6 ☒ Question 7 ☒

I agree with the statement given in question 6 because understanding the cause of disease helps prevent it today.

Pasteur's germ theory was one of the biggest discoveries in medical history. He did an experiment and found that germs carried ~~out~~ disease and so therefore cured them. Due to the fact Pasteur found this out it eventually improved cleanliness of surgeries and ~~in~~ during everyday life. Pasteur's germ theory meant that people would start washing their hands before and after to prevent the carrying of germs from one person to another. It also meant that the surgeons would wear surgical coats to prevent any germs spreading to normal everyday clothes.

These hygienic rules improving meant that there were a lot fewer infections and so surgeries were deemed as being a lot better and a lot safer to have.



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The governments campaigns to do vaccinations was mostly successful and people would turn up and get the vaccination which didn't completely prevent diseases but certainly increased the ~~chances~~ chances of not catching any.

This meant that diseases could eventually be prevented or lessened because they now knew what caused the diseases. It also means that they gained a much wider medical knowledge which has been built on today.

The cause of disease now being known and used in vaccinations meant that not so many people were dying at younger ages and the older generation were more immune so the average life expectancy went up and the overall population got healthier.

The overall population getting healthier decreased the gap between the rich and poor so not only did it help the medical side of things it helped the social side of things because the ~~poor~~ ^{rich}.



~~different~~ now knew it was germs that created illness and now the poor people knew this they became as hygienic as they could and so the rich saw them differently.



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Turn over ►

Response B

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen Question Number: Question 6 ☒ Question 7 ☒

Following 1850, there has been a significant number of breakthroughs that have changed the approaches to the prevention of disease. ~~These have been as a result of various factors such as Science, Technology, Government and~~ I agree that the scientific understanding of disease was the main cause for the change in prevention of illness since 1850.

I agree that the ^{increased} scientific understanding of disease is the main cause for the change in the prevention of illness since 1850.

This is due to the development of the Germ Theory by Louis Pasteur and his team in 1861. This is the idea that there are microbes that cause disease. Pasteur used various scientific methods to understand ~~the~~ germs, which allowed him to reach a valid conclusion on the cause of infectious disease. 1861 was a turning point for modern medicine because of Pasteur and the Germ Theory, as it allowed other scientists and the



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public to understand the causes of infectious disease. This understanding would enable people to develop new treatments, including a wide variety of vaccinations such as the MMR vaccine. Without the Germ theory in 1861, many preventions and cures for disease that are in use today would not have been discovered ~~without~~ which is why I think that the increased scientific understanding of disease was the main cause for the improvement in prevention of disease.

On the other hand, ^{The Role of} ~~Government~~ The Government could also be argued as ~~the main~~ ^a cause for the improvement in the prevention of disease. This is because the Government made vaccination compulsory ~~important~~ in the late 1800s, so people would be forced to accept the idea of vaccination. At first, many people were opposed to Jenner's ideas of ~~na~~ injecting people with ~~the~~ cowpox ~~vaccination~~ to make them immune from small pox, ~~however~~ ^{or}, which he discovered in 1796. However, over time this approach to the prevention of disease was becoming more accepted, due to Government intervention. It was made compulsory, so people were



forced to accept the idea of government
 vaccination, which proves that the
 Government had a significant role in
 the prevention of illness. Likewise, various
 liberal welfare reforms were introduced
 since the 1900s such as ~~the~~ Free School meals
 and the National Insurance Act. This mean't
 the the Government ensured that the public
 was healthy, which helped them prevent
 developing illnesses. This ^{shows} ~~proves~~ that the
 Government had a significant role in the
 prevention of disease.

However, the increasing role of technology
 could be argued as having the biggest
 impact on the prevention of disease. This
 is because in the past, there was
 minimal technological developments,
 which mean't that little could be done
 to prevent illness. However, since 1850,
 new ~~into~~ electron microscopes have been
 developed, as have blood pressure
 monitors, MRI scanners and Ultrasounds.
 This means that it is easier to detect
 faults in the body, ~~and~~ at earlier stages.
 Likewise, Scientists are now able to use



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new technology to develop new treatments and way of preventions of illness, ~~this is~~ ^{caused} clear as such as new Vaccinations. This proves that the development of new technology since the 1850s has been a significant factor in the prevention of illness.

In conclusion, I ~~believe~~ ^{agree} ~~that~~ ^{despite} Scientific ~~there~~ ^{that} being numerous significant factors ~~that~~ have affected the prevention of illness since 1850, I agree that scientific understanding is the most important factor, because without the work of ~~my~~ Pasteur and the Germ theory, ~~the~~ Scientists and the Government would be unable to prove successful preventions and cures for illness and disease.

TOTAL FOR PAPER = 53 MARKS

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Response C

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Chosen Question Number: Question 6 ☒ Question 7 ☒

I agree with the statement in Q6 ~~because~~
for many reasons however I also ~~do~~ do not
agree to.

In Pasteur's germ theory he had discovered that
germs had caused disease instead of disease
causing germs. (Spontaneous Generation) within
his scientific experimentation with a swan
neck flask he was able to prove that
germs had caused disease by the proof of
dirty ^{liquid} ~~water~~ through the straight swan neck
flask. ~~This~~ I agree with this statement
because as Pasteur had a clear ^{scientific} understanding
of what the germs were doing to the liquid
he could therefore find a prevention for the
germs.

However, I do not agree that having a clear
understanding of the cause of disease was the
most important factor. John Snow and cholera
for example; John Snow had found a high
death rate throughout one pump on Broad Street.
He recorded the amount of deaths in the



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area and had found that a brewery near had no deaths at all inside. From this Snow had concluded that dirty water was the cause of Cholera, removing the pump he found that there were no more deaths in the area. This can show that you don't need a scientific understanding of the cause of disease to prevent it.

Overall, I think that you do not need a clear scientific understanding of the cause of disease to prevent it. Jenner had found that the vaccination of cows and stopped smallpox but he did not understand how it had worked. Even though he did not understand how what he had found had worked he had still managed to find that a way of preventing a deadly disease that killed thousands. Also as the government did not know how the vaccine had worked they had still put out campaigns to get people to take the vaccine. This shows that not having the understanding of the disease does not mean you can't prevent it.

