

2001 HIGHER SCHOOL CERTIFICATE EXAMINATION

Biology

Section I – Part B (continued)

Marks

Question 25 (3 marks)

Antibiotics are drugs widely used in most industrialised societies. They are used to treat bacterial infections, are added to animal feed, and have been included in plastic products such as sandwich bags.

3

Explain TWO possible effects of this widespread use of antibiotics on the likely spread of disease in the future.

In the future antibiotics are not going to work. Diseases and infections are going to be immune to the antibiotics and there is going to be no benefits.

Question 26 (3 marks)

When a body organ is transplanted from one person to another, the immune system of the recipient is triggered.

- (a) Patients who have an organ transplant are given drugs to suppress their immune response. State the reason for this.

1

So that the immune system doesn't reject the organ as it is a foreign object.

- (b) Explain a possible consequence for the general health of organ transplant patients as a result of suppressing the immune system.

2

That diseases may develop as the immune system is unable to fight against disease entering as the drugs are suppressing their immune system.

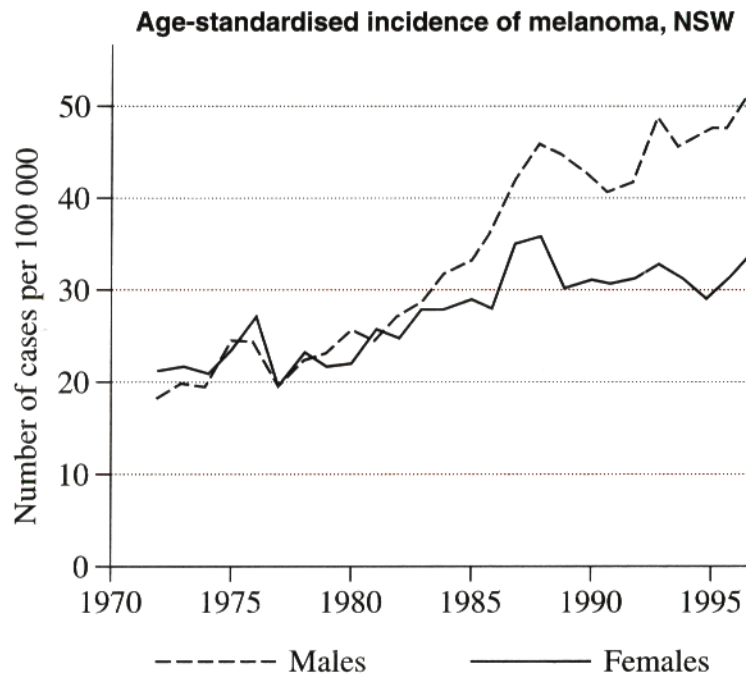
Marks

Question 27 (4 marks)

Epidemiological studies have demonstrated a relationship between ultraviolet radiation exposure and the development of melanoma, a type of skin cancer.

4

The graph shows the rate of occurrence of melanoma in males and females between 1972 and 1997.



A student studying the graph made the following statement.

‘The incidence of melanoma will continue to increase beyond 1997 at a greater rate in males than in females.’

Analyse the data in the graph to assess the validity of this statement.

‘The incidence of melanoma will continue to increase beyond 1997 at a greater rate in males than in females.’ This statement is most likely to take place because for males they normally grow to a greater rate than in females, and as shown in the graph males in 1997 are climbing at a faster rate.

Marks

Question 28 (8 marks)

Evaluate the impact of major advances in scientific understanding and technology, in the field of genetics, on developments in reproductive technologies.

8

Advances in scientific understanding in such things as inherited characteristics, sex-linked genes, DNA & RNA, transmitted diseases etc have helped develop a much safer environment and made the detection and treatment of some diseases easier. We now have a greater understanding of how human body and how it functions due to scientific understanding. Technologies such as artificial blood has helped save many lives and given a much better understanding into blood. ~~Now~~ artificial insemination has provided couples who can't have children, be able to have children. But cloning can be considered an advantage and disadvantage, it can help with scientific investigation but where is the line drawn for people who want to ~~use~~ clone humans. ethical questions come into it.