

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.	
<p>I think the likelihood of disease spreading by use of antibiotics will decrease because the use of technology will improve this drug to help fight the diseases our society will be introduced to over the years.</p>	
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
<p>They don't want the immune system working before the organ has had time to adapt.</p>	
(b) Explain a possible consequence for the general health of organ transplant patients as a result of suppressing the immune system .	2
<p>Immune may not have barriers to disease therefore putting the patient at high risk of developing a disease.</p>	

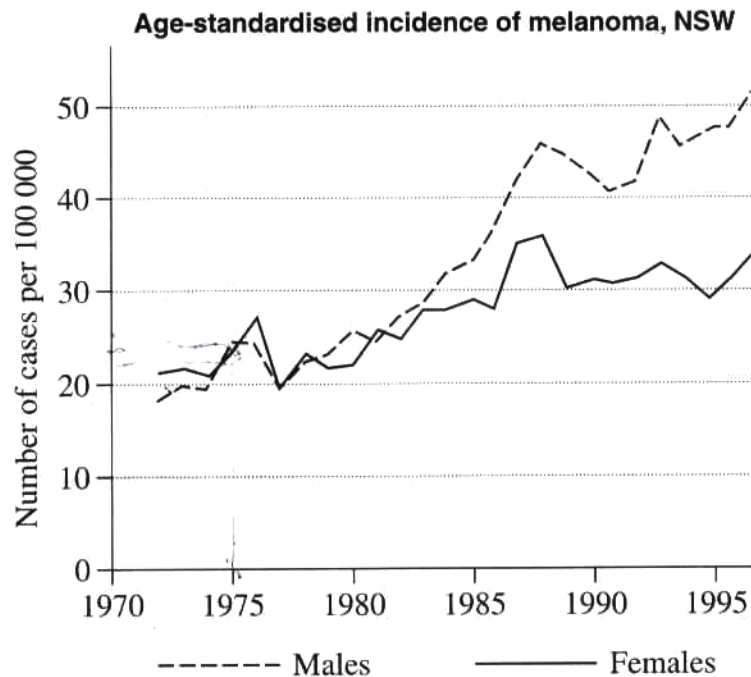
Marks

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.

In Males between 1970 and 1975 there was 23 cases per 100 000 by 1995 the number of cases in males had rose to 51 per 100 000.
In Females at 1975 the number of cases was 22 per 100 000 by 1995 it was 33 per 100 000. By this we can see that the males rises at a much higher and quicker rate than females.

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

There has been huge development in scientific understanding, in the field of genetics and on developments in reproductive technologies. Some of these advancements have contributed to the support of certain theories like Darwins, Beadle & Tatum, Boveri, Sutton, Mendel and the list goes on.

The developments in the field of genetics has helped Australia to understand how the human genotype and phenotype are made up. ~~the have~~ It has helped there study in the genetic makeup of a human being. Technology has taken science to ~~new~~ a new level now with scientists even cloning animals, making artificial blood/semen, developing human replacement body parts eg. ear.

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Technology has brought science a long way and now by providing the tools and equipment needs to advance even further our scientific understanding.