



Victorian Certificate of Education 2003

HEALTH AND HUMAN DEVELOPMENT

Written examination

Friday 14 November 2003

Reading time: 3.00 pm to 3.15 pm (15 minutes)

Writing time: 3.15 pm to 5.15 pm (2 hours)

QUESTION BOOK

Structure of book

<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
5	5	81

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question book of 7 pages.
- One or more script books.

Instructions

- Write your **student number** in the space provided on the front cover(s) of the script book(s).
- All written responses must be in English.

At the end of the examination

- Place all other used script books inside the front cover of the first script book.
- You may keep this question book.

Students are NOT permitted to bring mobile phones and/or any other electronic communication devices into the examination room.

Question 1

Sally and John are both aged 7 and live next door to each other. They spend a lot of time playing together and enjoy lots of very energetic games such as climbing and ball games. John is tall for his age and very slender. Sally has a more solid build and is shorter. They are both healthy and within the expected height and weight range for their age.

- a. Describe the general pattern of physical development at this lifespan stage. 3 marks
- b. Outline **one** genetic **and one** environmental factor that may account for the differences in the body types of Sally and John as described above. $2 \times 2 = 4$ marks
- c. Identify the nutrients essential for the development of teeth and bones. Explain how these interrelate in the development of healthy teeth and bones. 6 marks

The following table shows the percentages of children aged 4–14 requiring dental treatment.

Age (years)	Proportion needing immediate dental treatment (per cent)
4	12.0
5	10.5
6	10.6
7	10.6
8	9.4
9	8.7
10	8.6
11	8.5
12	9.9
13	12.1
14	10.5

Source: Al-Yaman F, Bryant M & Sargeant H, 2002.
Australia's Children: their health and wellbeing 2002. Canberra: AIHW

- d. List **two** reasons for the changes in the proportions of children requiring dental treatment as shown in the table above. $2 \times 1 = 2$ marks

There are many biomedical and preventive approaches to health and dental care.

- e. i. Identify **one** biomedical approach to health care **and** explain how it could assist in the maintenance of dental health in children.
- ii. Identify **one** preventive approach to health care **and** explain how it could assist in the maintenance of dental health in children.

$2 + 2 = 4$ marks

Total 19 marks

(suggested time: 25 minutes)

Question 2

a. One way the Commonwealth Government spends money on health is through Medicare.

i. What is Medicare?

1 mark

ii. List **three** principles of Medicare.

$3 \times 1 = 3$ marks

iii. Describe how Medicare is funded.

2 marks

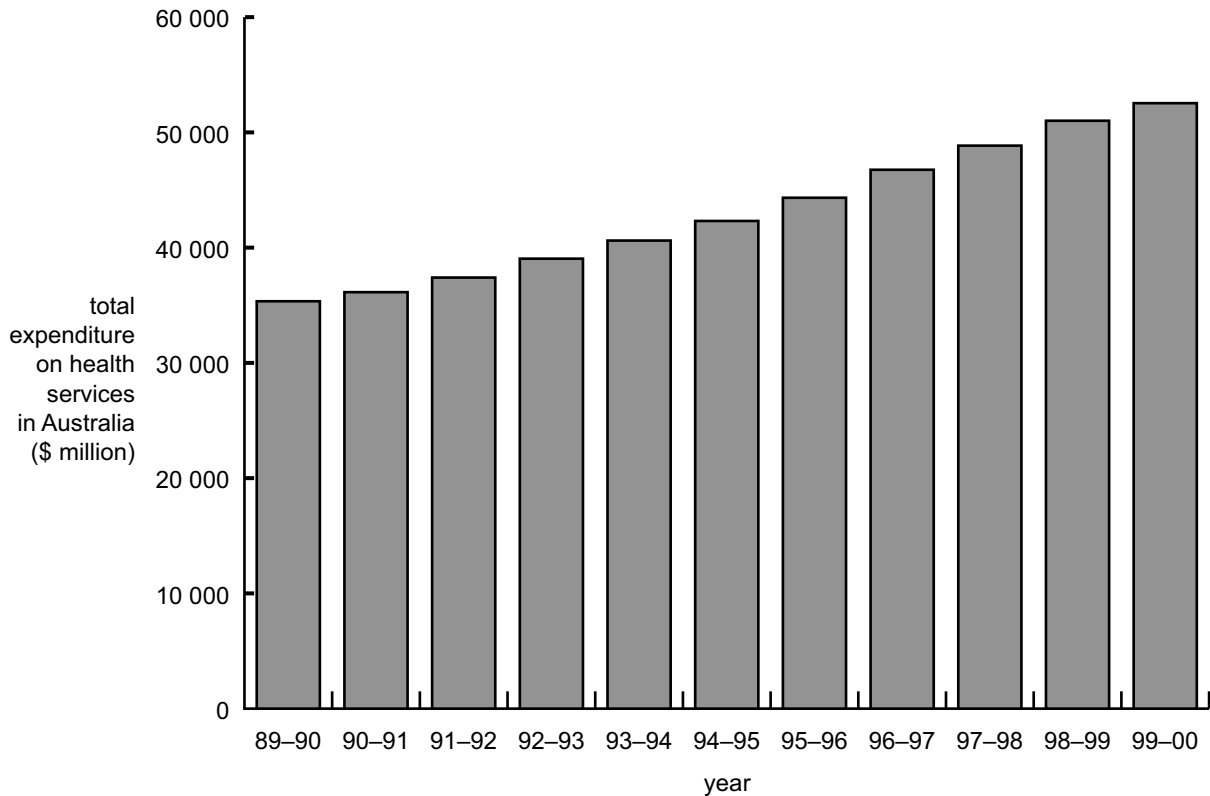


Figure 1 Expenditure on Health Services in Australia, 1989–90 to 1999–00 (adjusted for inflation)

Source: Australian Institute of Health and Welfare 2002. Australia's health 2002, Canberra: AIHW

b. Give **two** reasons for the trend shown in Figure 1 above.

$2 \times 1 = 2$ marks

c. The Commonwealth Government wants people to make a financial contribution for their own health care. List **two** ways the Commonwealth Government encourages people to provide some payment for their own health care.

$2 \times 1 = 2$ marks

Total 10 marks

(suggested time: 15 minutes)

TURN OVER

Question 3

Figure 2 below is a map of Victoria which shows selected areas.

Males living in remote areas like Area 2 and Area 3 have a lower life expectancy than males living in Area 1 which is close to Melbourne. The questions which follow relate to males in middle to late adulthood.

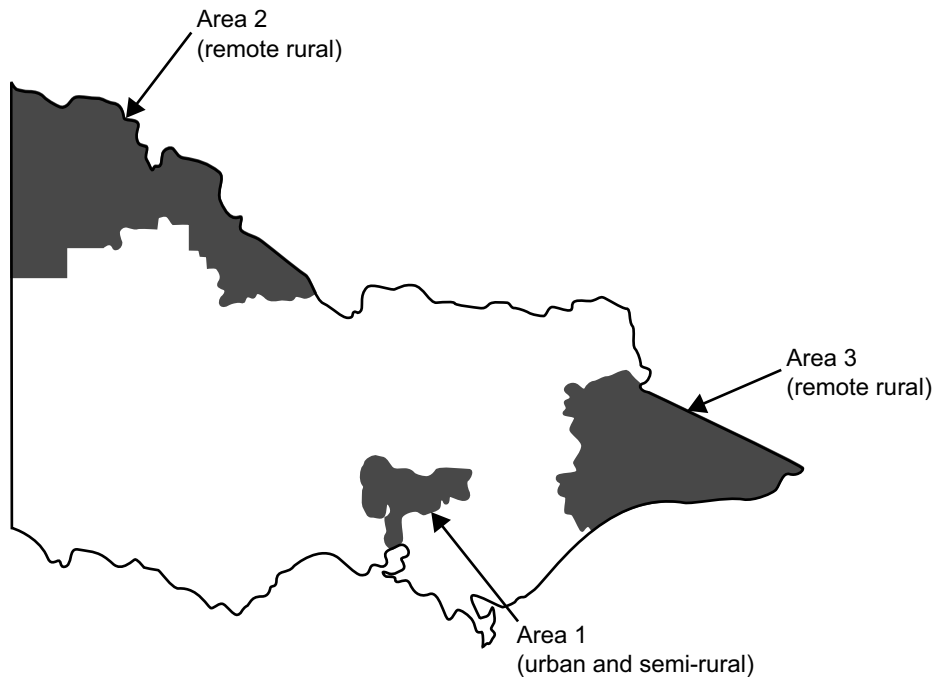


Figure 2

Source: Adapted from Public Health Division. Life Expectancy at Birth by Small Areas, Victoria, 1992–1996. Department of Human Services, Melbourne.
www.dhs.vic.gov.au/phd/hce/epid/ab005.htm

- a. For males aged 45–65, explain **one** major characteristic of their
- physical development
 - social development **and**
 - emotional development.
- 3 × 2 = 6 marks
- b. i. A range of social, environmental and behavioural factors impact on health. List **three** of these factors that may cause the lower life expectancy of males in Area 2 and Area 3.
- ii. Explain how each of these factors may impact on either physical **or** social **or** emotional health of males aged 45–65 in Area 2 or Area 3.
- 3 + 3 = 6 marks
- c. Briefly describe a program that a **local government** could use to promote preventive health care for males aged 45–65 in Area 2 or Area 3.

3 marks

Total 15 marks

(suggested time: 20 minutes)

Question 4

Read the following passage then answer the questions that follow.

Since the age of 50, Betty has suffered from osteoarthritis and has become overweight and short of breath. The development of health problems has led Betty and her husband Bert to stop smoking. At the age of 58, Betty developed late onset (Type 2) diabetes which is controlled by diet.

When Betty and Bert were aged 65 they bought and then moved permanently into a unit at their favourite holiday destination 150 km from Melbourne. They had a small amount of savings but relied on the aged pension for their everyday living costs. Happy together, they became members of the Church, Senior Citizens and the Bowls Club. Together, Betty and Bert managed to look after themselves without assistance.

At the age of 68 Betty had a mild stroke that left her with a weakened right side, unable to drive and subject to falls. She was able to live at home with Bert.

When Betty was aged 77 Bert died from skin cancer. Initially Betty stayed with her only daughter, Anne, in Melbourne. However, after a few weeks, she was keen to return to her unit. Once home, Betty soon found that she was unable to manage on her own and became depressed.

- a. At the age of 60 Betty had a number of health problems that might have been related to her diet.
- i. Describe the food consumption patterns that might have contributed to these health problems.
 - ii. Provide the dietary advice that might have been given to Betty to improve her health.
- 3 + 3 = 6 marks
- b. Six months ago, when she returned to her unit, Betty's doctor told her to change her food consumption practices. Provide **three** reasons why Betty might find this difficult.
- 3 × 1 = 3 marks
- c. Describe **two** ways in which governments work towards improving the nutritional status of older Australians.
- 2 × 2 = 4 marks
- d. Health promotion strategies are designed to prevent the development of both diet related and non-diet related diseases.
- Not all the illnesses suffered by Betty and Bert were related to diet.
- i. Describe **one** existing health promotion strategy that is not diet related.
 - ii. Justify why this strategy should continue to be funded.

2 + 2 = 4 marks

Total 17 marks

(suggested time: 30 minutes)

Question 5

Malaria is a major public health challenge. It undermines human development in the poorest countries of the world. Each year there are more than 1 million deaths from malaria. 90% of these deaths occur in Africa. Most of the victims are children under 5 years of age.

Malaria is a life-threatening parasitic disease transmitted by mosquitoes.

Symptoms occur 9 to 14 days after a bite. Typical symptoms are – fever, headache, vomiting and other flu-like symptoms.

Malaria infects red blood cells and can cause anaemia by clogging capillaries that carry blood to the brain or other vital organs. If drugs are not available malaria can kill.

The Roll Back Malaria Program is a global partnership initiated by the World Health Organisation, the United Nations Development Programme, the United Nations Children’s Fund and the World Bank. It aims to halve the world’s malaria burden by the year 2010. The figure below outlines the aims and actions for this strategy.

Aims	Examples of actions to meet aims
<ul style="list-style-type: none"> To ensure prompt access for all to treatment with effective drugs 	<ul style="list-style-type: none"> Educate health workers and shopkeepers to identify and correctly treat malaria Ensure a supply of antimalarial drugs to shopkeepers
<ul style="list-style-type: none"> To support greater usage of insecticide-treated mosquito nets 	<ul style="list-style-type: none"> Encourage local mosquito net industries to ensure nets are available at affordable prices Persuade governments to abolish taxes on insecticide-treated mosquito nets and insecticides required to re-treat them
<ul style="list-style-type: none"> To prevent and control malaria in all groups of people 	<ul style="list-style-type: none"> Identify at risk groups for example pregnant women and their unborn children Encourage pregnant women to sleep under insecticide-treated mosquito nets Provide intermittent treatment doses of effective antimalarial drugs for at risk people
<ul style="list-style-type: none"> To work to improve the prediction, detection of and response to outbreaks of malaria 	<ul style="list-style-type: none"> Recognise risks posed by mining, logging and agricultural processes Organise public education programs
<ul style="list-style-type: none"> To develop tools and strategies to limit the impact of malaria 	<ul style="list-style-type: none"> Map drug resistance Change treatment as required Promote the development of new drugs Experiment with gene modification of mosquitoes

Figure 3 Roll Back Malaria Program

Source: Adapted from World Health Organisation – www.who.int/inf-fs/en/fact203.html

- a. i. Develop **three** criteria that could be used to evaluate the likely effectiveness of a public health strategy in a developing country.
ii. Justify why each of these criteria should be used.

3 + 3 = 6 marks

- b. Use these **three** criteria to predict whether the Roll Back Malaria Program will be successful.

3 × 2 = 6 marks

- c. Identify **two** actions listed in Figure 3 that may be difficult to implement in a developing country. Explain why these may be difficult to implement in a developing country.

2 × 2 = 4 marks

- d. Given the symptoms described, explain how malaria may affect the physical development of children under 5 years of age in developing countries.

4 marks

Total 20 marks

(suggested time: 30 minutes)