

BOARD OF STUDIES
NEW SOUTH WALES

HIGHER SCHOOL CERTIFICATE EXAMINATION

2000

**PERSONAL
DEVELOPMENT,
HEALTH AND PHYSICAL
EDUCATION
2 UNIT**

*Time allowed—Three hours
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

Section I (20 marks)

- Attempt ALL questions.
- Complete your answers in either blue or black pen on the Answer Sheet provided.
- Each question is worth 1 mark.

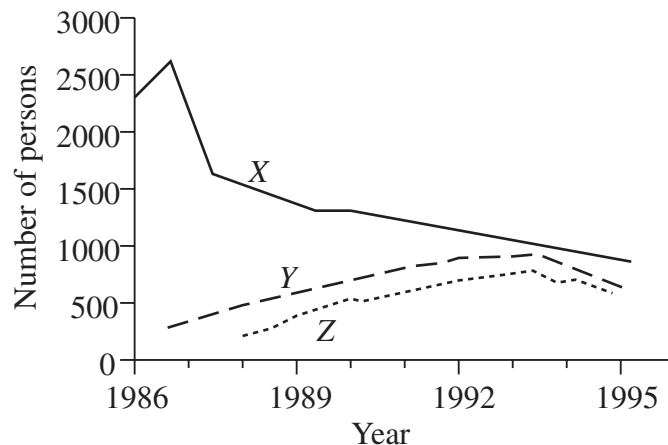
Section II (60 marks)

- Attempt ALL questions.
- Answer the questions in the spaces provided in this paper. You may ask for extra Writing Booklets if you need them.
- Each question is worth 15 marks.
- Write your Student Number and Centre Number in the spaces provided on the first page of each question.

Section III (20 marks)

- Attempt ONE question.
- Answer the question in a SEPARATE Writing Booklet.
- You may ask for extra Writing Booklets if you need them.

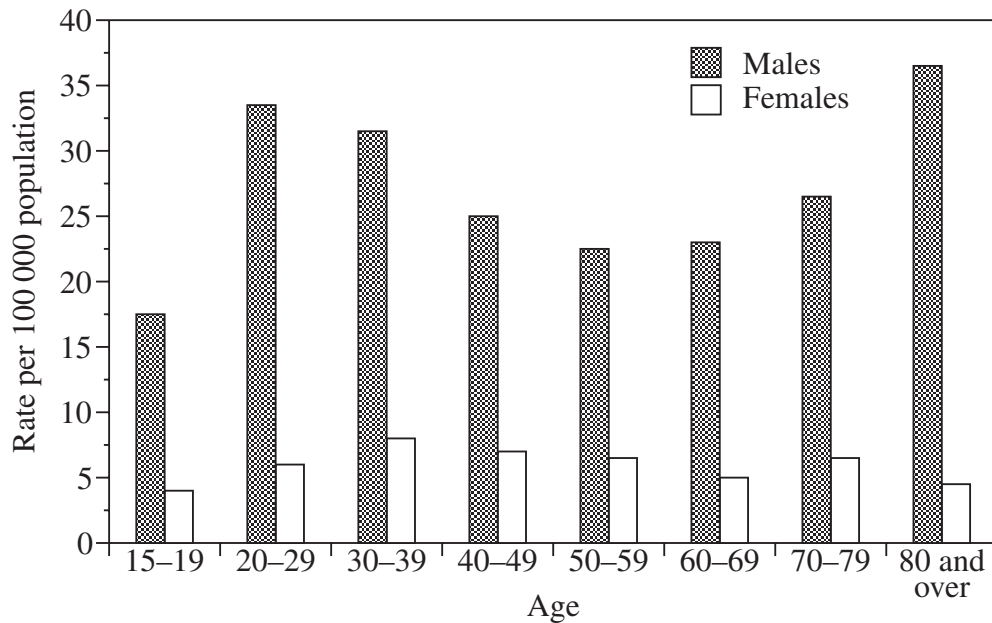
- 1 What is the greatest cause of morbidity in Australia?
- (A) Accidents
 (B) Cardiovascular disease
 (C) Diabetes
 (D) Mental illness
- 2 Which statement is an indicator of the current health status of Australians?
- (A) More men are likely to die from cancer than women.
 (B) More men are likely to be diagnosed with depression than women.
 (C) More women are likely to develop diabetes type II than men.
 (D) More women are likely to die from heart disease than men.
- 3 Which examples represent institutional health care services?
- (A) Dental services, hospitals
 (B) Dental services, pharmaceutical services
 (C) Hospitals, nursing homes
 (D) Pharmaceutical services, nursing homes
- 4 The lines marked X, Y and Z on the graph below would represent which of the following in Australia?



- (A) X = AIDS deaths Y = AIDS cases Z = HIV cases
 (B) X = AIDS deaths Y = HIV cases Z = AIDS cases
 (C) X = HIV cases Y = AIDS cases Z = AIDS deaths
 (D) X = HIV cases Y = AIDS deaths Z = AIDS cases

- 5** Based on current mortality rates, which initiative would have the greatest impact on improving the health status of Australians?
- (A) A vaccine to prevent the spread of HIV
 - (B) Introduction of three-year provisional driver licences
 - (C) Medication for people with mental illness
 - (D) Medication to eliminate the effects of nicotine
- 6** What is the main purpose of recent government initiatives to increase the number of Australians with private health insurance?
- (A) To increase public health care services in rural areas
 - (B) To increase the number of patients who use public hospitals
 - (C) To reduce pressure on the public health care system
 - (D) To reduce the cost of private health insurance
- 7** After drivers, which group is the most at risk of serious injuries in road accidents in Australia?
- (A) Motor cyclists
 - (B) Passengers
 - (C) Pedal cyclists
 - (D) Pedestrians
- 8** What type of skin cancer has the greatest incidence in Australia?
- (A) Basal cell carcinoma
 - (B) Malignant melanoma
 - (C) Solar keratosis
 - (D) Squamous cell carcinoma
- 9** What is an example of a government strategy to manage communicable diseases?
- (A) Annual screening programs
 - (B) Blood transfusion services
 - (C) Needle exchange centres
 - (D) Personal hygiene practices

- 10 The graph shows the mortality rates by age and gender for a major cause of sickness and death in Australia.

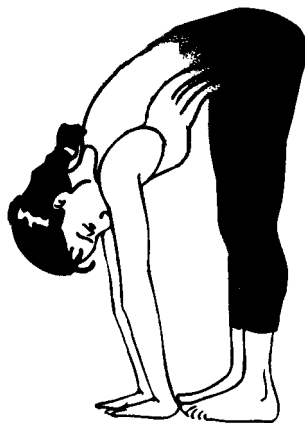


Reproduced with permission of Australian Institute of Health and Welfare

What are the risk factors that contribute to these mortality rates?

- (A) Drink driving, speeding, driver fatigue
 - (B) Physical inactivity, obesity, high blood pressure
 - (C) Rural living, unemployment, depression
 - (D) Workplace accidents, smoking, alcohol use
- 11 Intake of which of the following would be the most important requirement of an elite athlete's dietary plan in the days prior to competition?
- (A) Foods from the major food groups
 - (B) Foods that have been trialled by the athlete
 - (C) Mostly glucose in liquid form
 - (D) Mostly foods with a high protein content
- 12 Where does most of the carbohydrate metabolised during high intensity exercise come from?
- (A) Blood glucose
 - (B) Free fatty acids
 - (C) Liver glucose
 - (D) Muscle glycogen

- 13** A female triathlete is diagnosed with an iron deficiency. Which of the following would most likely occur as she exercises?
- (A) Heart rate would be lower than usual.
 - (B) Oxygen carrying capacity would be reduced.
 - (C) Performance levels would be maintained.
 - (D) Recovery time would be improved.
- 14** What would the training program for a 100-metre sprinter mainly include?
- (A) Exercise in short bursts that uses the ATP—PC system
 - (B) Exercise intensity above the aerobic threshold but below the anaerobic threshold
 - (C) Exercise intensity that causes an endurance training effect
 - (D) Exercise required to produce an improvement in aerobic fitness
- 15** What is the most important intrinsic characteristic that contributes to a skilled performance in a solo skating routine?
- (A) Anticipation
 - (B) Kinaesthetic sense
 - (C) Perceptive sense
 - (D) Personality
- 16** Which of the following best describes the static position shown below?



Fitzgibbon, L and Ruskin, R,
Outcomes 2: The HSC Course
Jacaranda Wiley, 1996 © John
Wiley & Sons Australia

- (A) A ballistic exercise
- (B) A contra-indicated exercise
- (C) A PNF stretch
- (D) An eccentric muscle contraction

- 17 Which of the following is experienced by a golfer who swings at, but misses the ball?
- (A) Augmented knowledge
 - (B) Delayed feedback
 - (C) Extrinsic feedback
 - (D) Knowledge of results

- 18 Fats as an energy source are stored in the body as

- (A) cholesterol.
- (B) fatty acids.
- (C) phospholipids.
- (D) triglycerides.

- 19 Which of W, X, Y and Z below best represents fast twitch muscle fibres when compared with slow twitch muscle fibres?

	<i>Fibre size</i>	<i>Contraction rate</i>	<i>Fatigue rate</i>	<i>Capillary no.</i>
W	large	quickly	quickly	fewer
X	large	quickly	slowly	more
Y	small	slowly	quickly	fewer
Z	small	slowly	slowly	more

- (A) W
 - (B) X
 - (C) Y
 - (D) Z
- 20 What should a beginning athlete aim to achieve when performing exercises to improve flexibility?
- (A) Movement of joints beyond their full range of movement
 - (B) Movement of joints quickly through their full range of movement
 - (C) Movement of joints through their full range of movement
 - (D) Movement of joints through less than their full range of movement

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SECTION III

Marks

(20 Marks)

Attempt ONE question.

Answer the question in a SEPARATE Writing Booklet.

Each question is worth 20 marks.

QUESTION 25 Community Health Issues

- | | | |
|-----|---|-----------|
| (a) | Explain how you would use analysis and fieldwork techniques to determine the health needs of ONE special population in Australia. | 10 |
| (b) | Inequalities exist in the prevalence of risk factors between special population groups. Discuss the reasons for these inequalities. | 10 |

QUESTION 26 Sociology of Games and Sport

- | | | |
|-----|--|-----------|
| (a) | Explain how EITHER mass media OR sponsorship has contributed to the rise of professional sport in Australia. | 12 |
| (b) | ‘Participation in sport in Australia today is influenced by a variety of factors.’ | 8 |

Discuss this statement with reference to:

- equality of access and opportunity through sport; and
- physical activity patterns of different groups.

QUESTION 27 Two Social Health Issues—Drug Use and HIV/AIDS

- | | | |
|-----|--|----------|
| (a) | Outline the role of the government as a support structure in reducing the harms of illegal drug use. | 4 |
| (b) | ‘Drug problems are people problems.’ | 6 |

Discuss this statement in relation to the implications of drug use for the individual.

- | | | |
|-----|--|-----------|
| (c) | Discuss how the modes and principles of transmission of HIV have challenged social mores and practices in Australia. | 10 |
|-----|--|-----------|

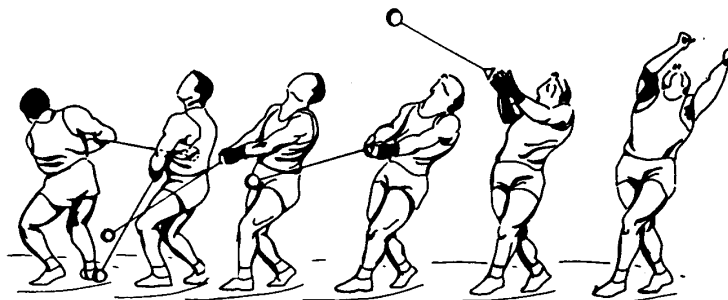
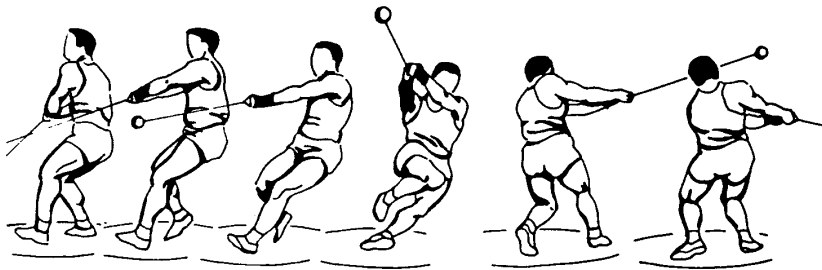
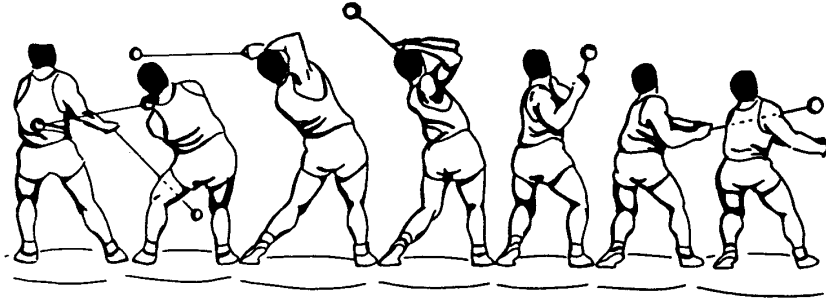
QUESTION 28 Human Movement Analysis**Marks**

Attempt EITHER Part A OR Part B.

EITHER

Part A Biomechanics of Human Movement

- (a) A hammer thrower spins around several times with a 7.26 kg weight attached to a wire, prior to releasing the weight.



Hay, J G, The Biomechanics of Sports Techniques, Englewood Cliffs, N J: Prentice-Hall, 1978

- (i) Explain the biomechanical principles that apply to the athlete in maximising the distance thrown. **10**
- (ii) Explain why the hammer thrower could never achieve the same distance with the same weight if performing the shot put. **4**
- (b) Describe the principles of fluid mechanics that determine how efficiently an individual is able to swim freestyle through saltwater. **6**

OR

QUESTION 28 (Continued)

Marks

Part B Applied Anatomy, Exercise Physiology, Principles of Training, Fitness-testing Protocols

- (a) An athlete completes a vertical jump test. Identify: 7
- the major muscles and muscle types used in the movement
 - their points of origin and insertion
 - the types of muscle contraction
- that occur during the test.
- (b) Compare the differences between resistance training schedules for absolute strength and lean body mass. 8
- (c) Describe the differences between muscle fibre, myofibrils, actin and myosin in the contraction of skeletal muscle. 5

QUESTION 29 The Art and Science of Coaching

- (a) Discuss the factors that can affect the motivation of players in team sports. 7
- (b) (i) Outline the individual needs of the performer that should be considered by a coach. 5
- (ii) Discuss how a coach would structure training sessions to cater for these individual needs. 8

End of paper

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