

Student Name: \_\_\_\_\_

Trial HSC Examination

# PERSONAL DEVELOPMENT, HEALTH AND PHYSICAL EDUCATION

## General Instructions

- ☐ Reading Time – 5 minutes
- ☐ Working Time – 3 hours
- ☐ Write using blue or black pen
- ☐ Write your name at the top of this page

**Total marks – 100**

### Section I – Multiple Choice

**20 marks**

- ☐ Attempt Questions 1–20
- ☐ Allow about 40 minutes for this part

### Section II – Core Topics

**80 marks**

- ☐ Attempt Questions 21–24
- ☐ Allow about 2 hours and 20 minutes for this part

## Section 1

### Part A – 20 marks

#### Attempt Questions 1–20

Allow about 40 minutes for this part

Place answers on the multiple choice answer sheet

1. Cerebrovascular disease is characterised by which of the following signs and/or symptoms?
  - A) Pain and discomfort down the left side of the body
  - B) Poor blood supply to the brain
  - C) Poor blood supply to the heart
  - D) Poor blood supply to the heart and brain
2. What are the two major causes of hospital admissions for children 14 years and under?
  - A) Respiratory disease and injury
  - B) Injury and type I diabetes
  - C) Type I diabetes and poisoning
  - D) Poisoning and respiratory disease
3. Answer the following question from the graph below:



The shaded area on the graph above represents which priority area?

- A) Cancer – lung
  - B) Injury – drownings
  - C) CVD – ischaemic heart disease
  - D) Cancer – prostate
4. Infant mortality is a measurement of what part of an individual's life?
    - A) 0 – 1 year
    - B) 0 – 5 years
    - C) 3 – 5 years
    - D) 0 – 12 years

5. Which of the following groups have hospitalisation rates two to five times higher than for the total population as well as higher death rates from heart disease and stroke than the total population?
- A) The elderly
  - B) People in rural and remote areas
  - C) Australians from non-English speaking backgrounds
  - D) Indigenous Australians
6. A doctor's surgery providing pamphlets on Diabetes in many languages would be putting into practice which action area of the Ottawa Charter?
- A) Developing personal skills through improving English language skills
  - B) Reorienting health services through improved diabetes diagnosis techniques
  - C) Building healthy public policy through compulsory diabetes testing for Australians born overseas
  - D) Creating supportive environments through meeting sociocultural needs
7. A healthy, active 40 year old individual who earns \$45,000 per year and does not have private health insurance would pay approximately what percentage of their income towards the Medicare levy?
- A) 0% – as Medicare is optional
  - B) 1.7% – the standard Medicare levy
  - C) 2.5% – an additional 1% because they do not have private health insurance
  - D) 3.5% – additional penalties due to no private health insurance and being over 30 years old
8. Aromatherapy, naturopathy and acupuncture would all be regarded as which of the following forms of health care?
- A) Alternative health care only
  - B) Traditional health care only
  - C) Alternative or complementary health care
  - D) Traditional or alternative health care
9. The Individual Lifestyle Approach differs from the New Public Health Approach in which of the following ways?
- A) The New Public Health Approach considers underlying environmental factors that affect health
  - B) The Individual Lifestyle Approach ensures equity and access to health care
  - C) The New Public Health Approach focuses on containing the development of infrastructure to improve environmental conditions
  - D) The Individual Lifestyle Approach focuses on disease prevention and lifestyle factors

10. Which of the following statements is true regarding The Jakarta Declaration on health?

- A) It preceded the Ottawa Charter
- B) It contains a principle to consolidate and expand partnerships for health
- C) It was the fifth international conference on health promotion
- D) It contains a principle to re-orient health services

11. Which of the statements beneath the table below is most accurate?

Nutrient	Kilojoules
Fat	37
Protein	17
Carbohydrate	16

- A) Fats are the most efficient source of energy as they provide the greatest amount of energy
- B) Carbohydrates are the least efficient source of energy as they provide the least amount of energy
- C) Carbohydrates contain a smaller amount of energy but are more efficient due to the lower amount of oxygen used in their digestion, absorption and use as an energy source
- D) Proteins contain a moderate amount of energy but the body has no capacity to use them as an energy source

12. A resistance training program has the following features present:

- 2–10 repetitions
- Fast muscle contraction
- Moderate – heavy loads

Which aspect of strength training is most likely to be developed?

- A) Muscular strength
- B) Power
- C) Muscular endurance
- D) Lean body mass

13. What causes the slight increase in heart rate and ventilation rate immediately prior to commencing physical activity?

- A) Increased need for oxygen to be stored for later in the activity
- B) Increased need for lactic acid levels to be broken down prior to activity beginning
- C) The body's preference for establishing a gradual increase of heart rate and ventilation rate
- D) The body's response to increased adrenaline secretion

14. During a training session, a coach has athletes perform the following fitness activities in the exact same order.

Activity	Time	Intensity
1. Stair climb	3 minutes	Moderate
2. Agility circuit	1 minute	High
3. Skill drill	5 minutes	High
4. Partner work	1 minute	High
5. Jog	3 minutes	Moderate

After 3 weeks the coach decides to change the order so that athletes start on the 5th activity and work their way back to the first. The coach also makes the athletes complete each activity in a reduced time. Which principles of training are being addressed by the coach?

- A) Reversibility and variety
  - B) Reversibility and progressive overload
  - C) Variety and progressive overload
  - D) Specificity and warm up / cool down
15. Why is cardiac output at rest likely to be similar for both trained and untrained athletes?
- A) The stroke volume of the trained athlete is much higher and the resting heart rate lower
  - B) The resting heart rate of the trained athlete is much higher and the stroke volume lower
  - C) The left ventricle of the trained athlete is now smaller but stronger
  - D) Lung capacity of the trained athlete is much higher and resting heart rate lower
16. In which of the following circumstances would the massed practice method be most suitable?
- A) A cognitive learner struggling to grasp the tennis serve
  - B) A group of unmotivated learners who are not performing to their potential
  - C) A camp for a representative team comprising players from around the country
  - D) Upon arriving at high altitude
17. How is a serve in volleyball best classified as a skill?
- A) Open, gross, discrete, externally paced
  - B) Open, fine, continuous, self paced
  - C) Closed, gross, discrete, self paced
  - D) Closed, gross, continuous, externally paced

18. In which circumstance would kinaesthetic sense be most appropriate and effectively used?

- A) An autonomous learner utilising knowledge of performance feedback
- B) An autonomous learner utilising knowledge of results feedback
- C) A cognitive learner utilising knowledge of performance feedback
- D) A cognitive learner utilising knowledge of results feedback

19. What information is derived from reviewing a traditional learning curve?

- A) Performance changes in relation to time
- B) Performance changes in relation to practice
- C) Performance changes in relation to fitness
- D) Performance changes in relation to age

20. Which of the following statements is true in relation to effective hydration practices during aerobic activities?

- A) Sports drinks are always a more effective alternative than water
- B) Sports drinks with high amounts of sugar and salt are valuable for replacing lost energy and salt
- C) Some sports drinks are the best alternative for hydration in activities of low intensity lasting less than one hour
- D) Some sports drinks may provide additional benefits to water in moderate – high activities lasting over one hour

## Section 11

## 80 Marks

### Attempt Questions 21 and 22 – Health Priorities in Australia

### Attempt Questions 23 and 24 – Factors affecting Performance

**Allow about 2 hours and 20 minutes for this part**

**Answer the questions in the spaces provided**

In your answers you will be assessed on how well you:

- demonstrate an understanding of health and physical activity concepts
- apply the skills of critical thinking and analysis
- illustrate your answers with relevant examples
- present ideas in a clear and logical way

### Question 21

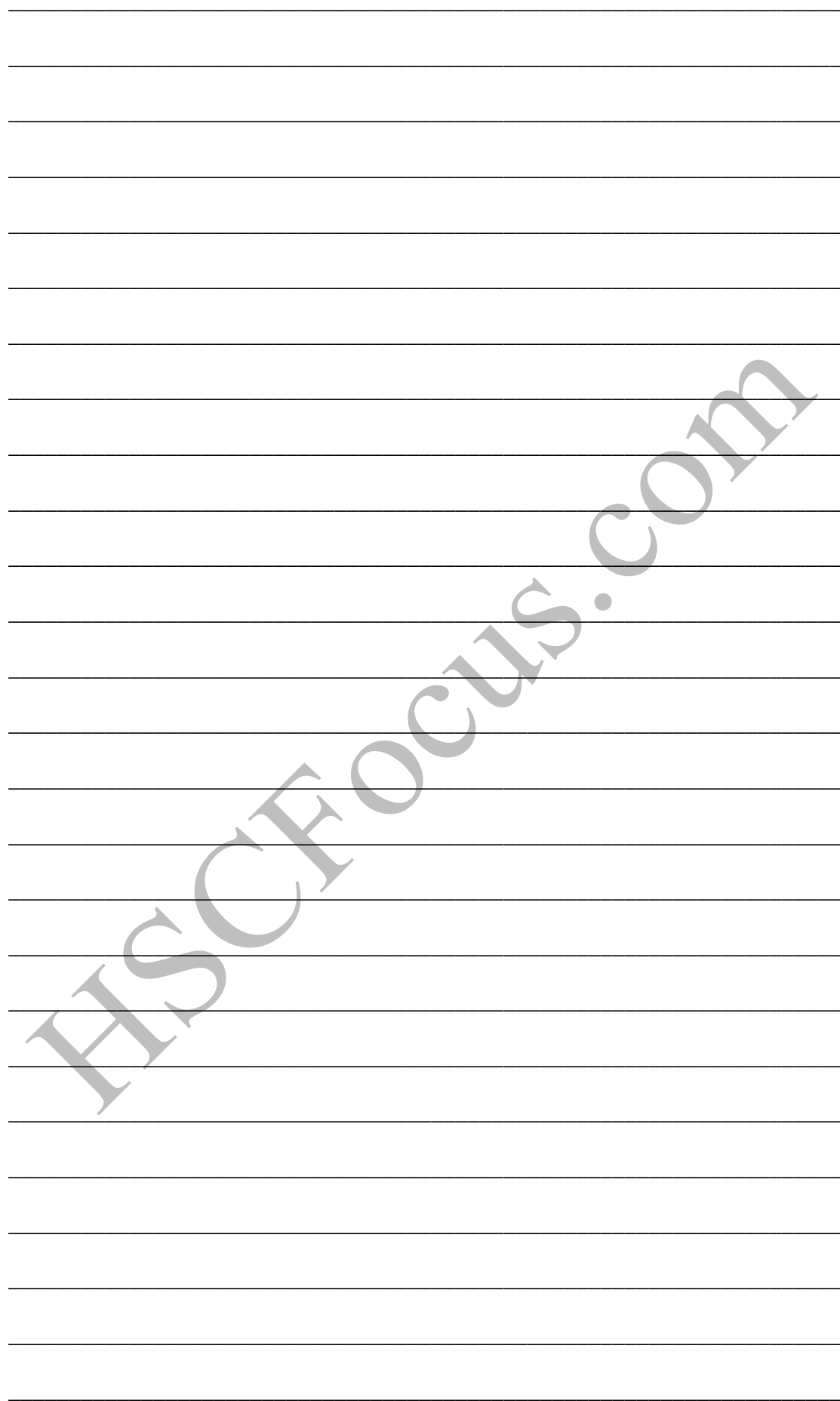
(4marks)

a) Identify reasons why Australians born overseas experience health inequalities.

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c) Describe how the Australian Government has attempted to reduce health care costs in recent years. Assess the likely impact of these strategies. (10marks)

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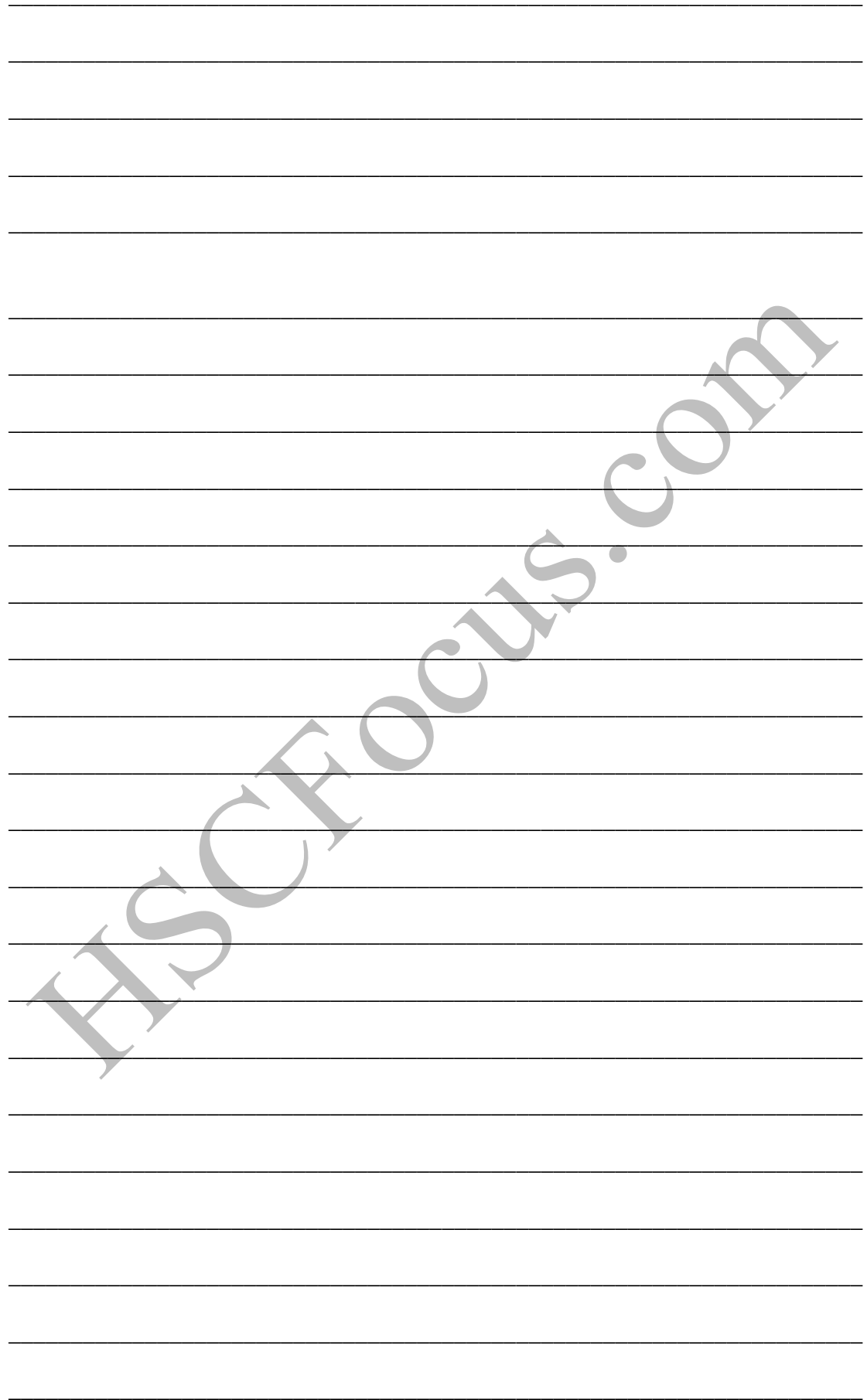
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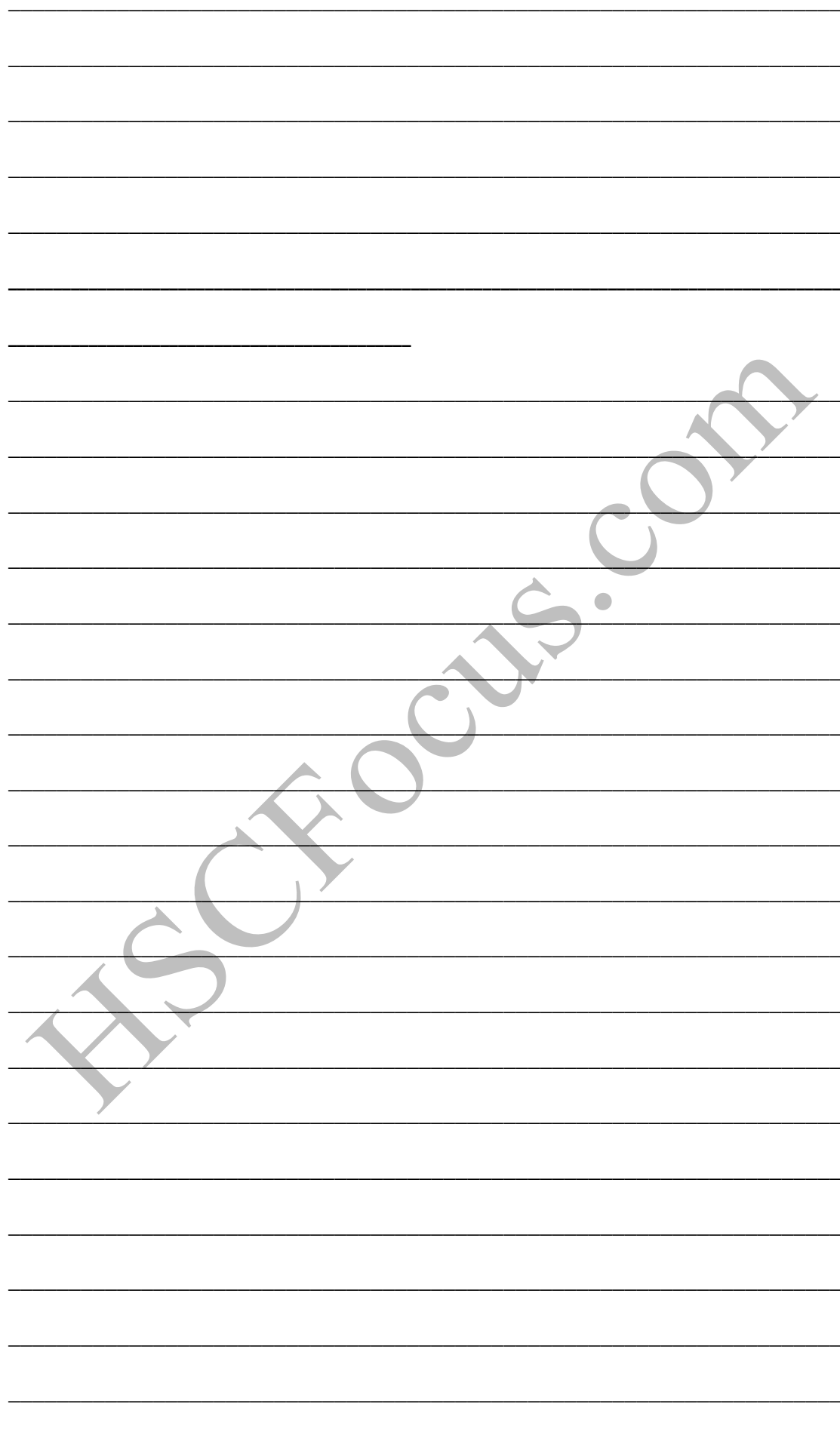
### Question 22

(a) Describe the ways in which health status can be measured. (4 Marks)

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(c) Analyse the application of the action areas of the Ottawa Charter on the National Health Priority Area of Cancer and one other area you have studied. **(10 Marks)**





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### Question 23

a) Evaluate the impact of relaxation techniques on movement performance. (8 marks)

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b) Examine the roles played by oxygen in each of the 3 energy systems. (12marks)

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### Question 24

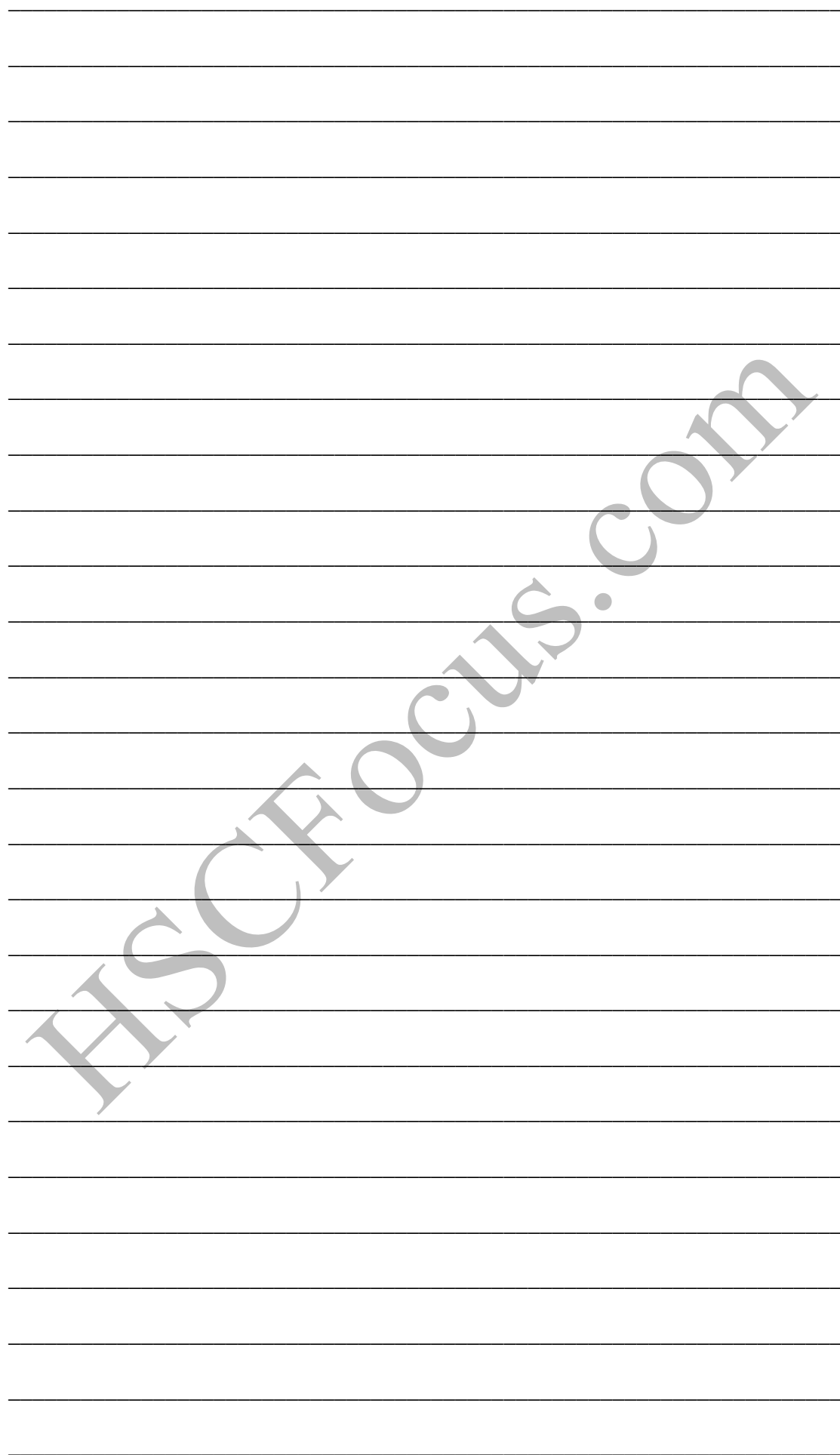
(a) Explain the immediate physiological response to aerobic training. (8 Marks)

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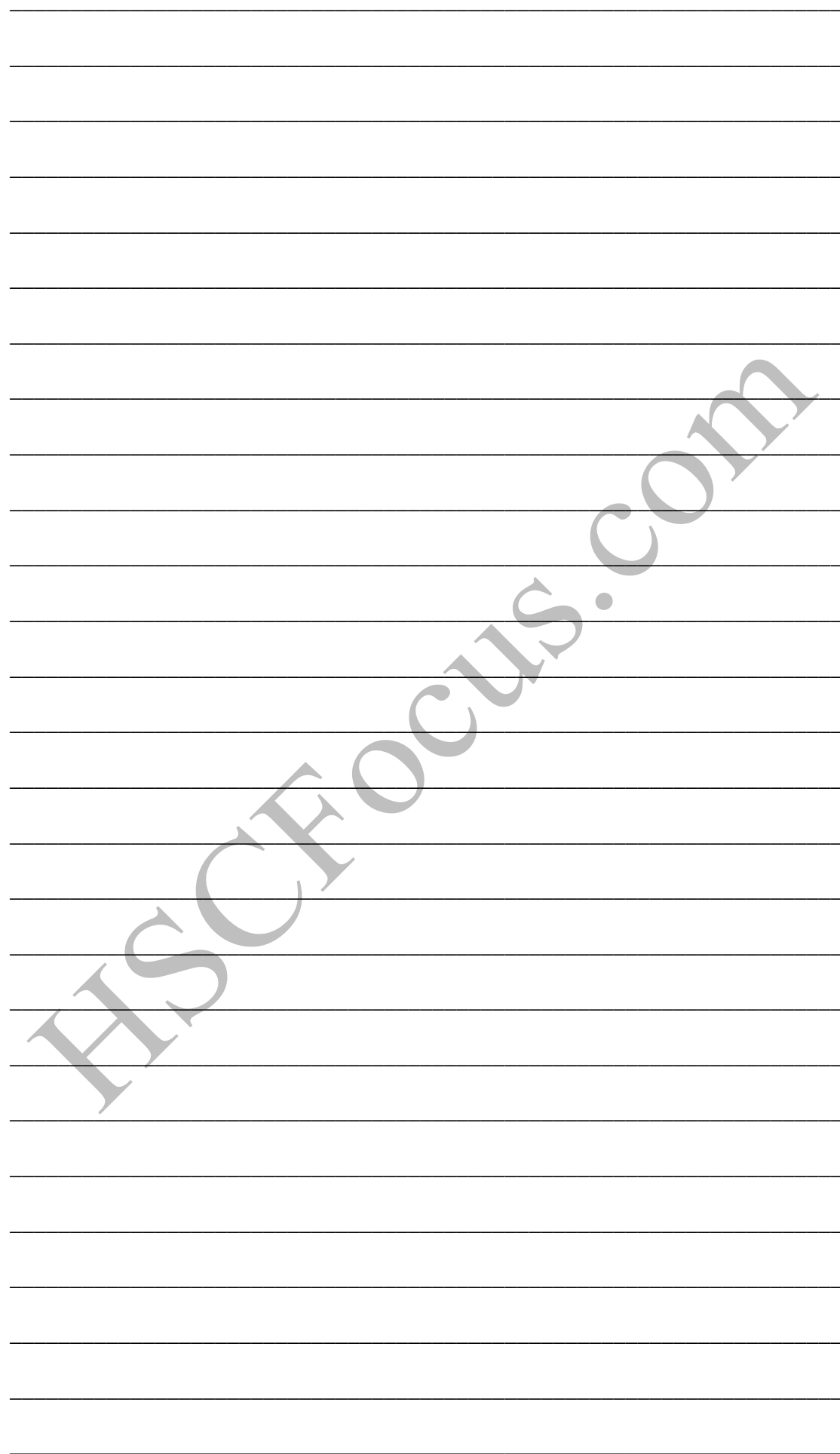
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(b) Critically analyse how the characteristics of the learner affects progression through the stages of skill acquisition. **(12 Marks)**

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2007  
PDHPE – MULTIPLE CHOICE, ANSWER SHEET

	A	B	C	D
1				
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### PDHPE TRIAL HSC MAPPING GRID

QUESTION	MARKS	OUTCOMES ASSESSED	TARGETTED PERFORMANCE BAND	RELEVANT CONTENT AREA
1	1	H1	2–6	Priority areas
2	1	H2	2–6	Health status of Australians
3	1	H2, H3	2–6	Priority areas
4	1	H2	2–6	Epidemiology
5	1	H2	2–6	Inequalities
6	1	H2, H5	2–6	Ottawa Charter
7	1	H5	2–6	Funding of health care
8	1	H14	2–6	Alternative health care
9	1	H4	2–6	Health promotion
10	1	H5	2–6	Jakarta Declaration
11	1	H11	2–6	Nutrition
12	1	H8	2–6	Strength training
13	1	H7	2–6	Immediate responses
14	1	H10	2–6	Principles of training
15	1	H7	2–6	Physiological adaptations
16	1	H8	2–6	Practice methods
17	1	H8	2–6	Nature of skill
18	1	H9	2–6	Feedback
19	1	H9	2–6	Learning curves
20	1	H11	2–6	Hydration
21 (a)	4	H1, H2, H3	2–4	Inequalities
(b)	6	H1, H2	4–6	Priority Areas
(c)	10	H4, H5, H14, H15	4–6	Health Promotion
22 (a)	8	H8, H10, H11	2–4	Managing anxiety
(b)	12	H7	4–6	Energy systems
23 (a)	8	H6	2–4	Social problem-solving skills
(b)	12	H2, H5, H15	4–6	Social factors impacting health
24 (a)	8	H12, H16	2–4	Sport and the media
(b)	12	H12	4–6	Sport as a commodity
25 (a)	8	H13, H17	2–4	Injury classification and management
(b)	12	H8, H17	4–6	Use of drugs
26 (a)	8	H8, H16, H17	2–4	Technology

(b)	12	H7, H8, H17	4–6	Training for power and speed
27 (a)	8	H2, H3, H15	2–4	Factors creating health inequities
(b)	12	H2, H3	4–6	Rural and remote communities

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## SUGGESTED ANSWERS AND MARKING CRITERIA

### Multiple Choice

1. B	6. D	11. C	16. C
2. A	7. B	12. B	17. C
3. D	8. C	13. D	18. A
4. A	9. A	14. C	19. B
5. D	10. B	15. A	20. D

### Question 21 – Health Priorities in Australia

21. a) Identify reasons why Australians born overseas experience health inequalities. (4 marks)

#### Suggested Answer

- Language barriers
- Low SES after immigrating
- Inability to read and understand health messages
- Different health beliefs resulting in not accessing Australia's health care services
- Change in dietary and lifestyle habits compared to their native country

Marks	Criteria
3–4	Identifies a range of reasons why Australians born overseas experience health inequalities. Uses relevant and accurate examples.
1–2	Outlines reasons why Australians born overseas experience health inequalities.

b) Justify why diabetes has been identified as a priority area.

(6 marks)

#### Suggested Answer

Diabetes meets the criteria for being recognised as a Priority Area. These areas include:

- Social justice principles – equity, access, participation and rights
- Priority population groups – diabetes is more prevalent in low SES groups and Aboriginal and Torres Strait Islanders
- Prevalence of condition – There has been a significant increase in prevalence in recent years, particularly in young people
- Costs to individuals – diabetes places additional health risks on individuals such as reduced life expectancy, eye, kidney, nerve and artery problems, as well as impotence in men, pregnancy complications in women and slow healing wounds.
- Costs to community – costs relating to health care/treatment, loss of productivity within the workforce and costs of retraining and sick leave.
- Potential for change – most diabetes is Type II which is related to lifestyle; particularly inactivity and diets high in fat.

Marks	Criteria
5–6	Justifies a broad range of reasons why diabetes has been included as a priority area. Uses relevant examples to develop answer.
3–4	Outlines reasons why diabetes has been included as a priority area OR discusses some reasons why diabetes has been included as a priority area. Uses limited examples.
1–2	Identifies some reasons for diabetes' inclusion as a NHPA OR Describes the nature / extent of diabetes

21. c) Describe how the Australian Government has been attempting to reduce health care costs in recent years. Assess the likely impact of these strategies.

(10

marks)

### **Suggested Answer**

The Australian Government has been involved in the following in order to reduce health care costs in recent years:

- Offering a 30% rebate / discount on private health care
- Penalising individuals over 30 years old, who do not have private health insurance by adding a further 2% per year to private health insurance costs if and when taken out.
- Individuals earning more than \$50,000 (or \$100,000 for couples) who do not have private health insurance pay an additional 1% onto their Medicare Levy.

Assessing the likely impact:

- If more people move towards private health insurance it will ease the pressure on the public health care system (Medicare), allowing more funds to eventually be moved towards prevention and promotion instead of health care.
- This in turn is likely to have the effect of reducing the incidence of NHPA, since prevention and promotion are effective tools for reducing lifestyle diseases.
- Increasing health demands of our aging population can be more effectively addressed.

Marks	Criteria
9–10	Describes a range of Government attempts to reduce health care costs. Uses relevant and accurate examples to enhance this description. Accurately assesses the likely impact of this. Presents ideas in a clear and logical way.
7–8	Describes some Government attempts to reduce health care costs and provides some assessment of the likely impact of this.
5–6	Describes Government's involvement in attempting to reduce health care costs with limited assessment of the likely impact of this OR outlines attempts with some assessment of impact.
3–4	Outlines some ways to reduce health care costs OR provides some assessment of the likely impact of this.
1–2	Identifies some ways to reduce health care costs OR Identifies benefits of reduced health care costs

## Question 22 – Factors Affecting Performance

22.a) Evaluate the impact of relaxation techniques on movement performance.

(8 marks)

### Suggested Answer

- Relaxation techniques include centred breathing exercises, progressive muscular contraction & relaxation, stretching based activities, visualisation and many others.
- The purpose of relaxation strategies is to reduce anxiety and its effects, thus improving movement performance.
- Relaxation strategies can be effective at improving performance by: reducing heart rate (thus preventing unnecessary energy loss); reducing muscle tension (thus preventing handling errors or incorrect movements during performance); preventing overheating (thus avoiding dehydration); and maintaining focus on relevant issues over which the athlete has control. These physical responses occur when athletes are anxious due to the increased secretion of adrenaline. Relaxation strategies can reduce the extent to which adrenaline is released.
- Relaxation strategies have the potential to harm performance if they are performed at inappropriate times or if they are poorly chosen. For example, undertaking a relaxation strategy that involves listening to calming music and reaching a peaceful mental and physical state is not conducive to high levels of performance in circumstances where a high level of arousal and aggression is needed. Some individuals may perform best in a highly aroused state and some activities such as weightlifting may be better suited to more aggressive mental states.

Marks	Criteria
7–8	Evaluates the impact of a range of relaxation techniques on movement performance. Uses examples that address both potential positive and negative influences on performance. Presents ideas in a clear and logical way.
5–6	Explains the impact of relaxation techniques on movement performance. Uses examples that address either potential positive or negative influences on performance. OR Discusses the impact of relaxation techniques on movement performance. Uses some examples that address potential positive and negative influences on performance.
3–4	Describes the impact relaxation techniques can have on performance.
1–2	Identifies the impact relaxation techniques can have on performance OR Outlines relaxation techniques.

22. b) Examine the roles played by oxygen in each of the 3 energy systems.

(12

marks)

### Suggested Answer

- In the ATP-PC system oxygen ( $O_2$ ) plays no role in the production of energy since it is anaerobic in nature.  $O_2$  does however play a role in recovery. Replenishment of PC stores must occur in the presence of  $O_2$ . This is one reason why athletes are breathing heavily after a high intensity – short duration activity. This is a contributing factor to the oxygen debt – oxygen deficit graph. PC stores can be replenished to approx 50% in 30 seconds and 100% in 2-5 minutes. Training

adaptations can enhance the body's capacity to absorb and utilise O<sub>2</sub> thus ensuring shorter recovery times.

- In the Lactic Acid system O<sub>2</sub> plays no role in the production of energy since it is anaerobic in nature. O<sub>2</sub> does however play a role in recovery. Breakdown of lactic acid can occur only in the presence of O<sub>2</sub>. This is another reason why athletes are breathing heavily after a high intensity – short duration activity. It is also another contributing factor to the oxygen debt – oxygen deficit graph. Training adaptations can enhance the body's capacity to make O<sub>2</sub> available for breaking down lactic acid thus ensuring shorter recovery times.
- In the aerobic system O<sub>2</sub> is needed to produce energy via aerobic glycolysis. Glycogen is broken down in the presence of O<sub>2</sub> thus producing energy as well as by products such as pyruvic acid and carbon dioxide that do not inhibit performance. The capacity for the body to supply sufficient O<sub>2</sub> at a fast enough rate determines the extent to which the aerobic energy system can be used. Usually the aerobic system can only remain dominant up to approx 85% HR Max. Aerobically trained athletes can perform at relatively high intensities and remain around 85% HR Max because they have trained their cardiorespiratory system and their muscles to efficiently take up and use O<sub>2</sub>. VO<sub>2</sub> max, which is the maximal oxygen uptake, is considered to be a reliable indicator of aerobic fitness and potential for aerobic performance. Note: since the aerobic system is dominant while we are at rest, O<sub>2</sub> plays an important role at these times too.

Marks	Criteria
10–12	Examines the roles played by O <sub>2</sub> in each of the 3 energy systems. Uses relevant and accurate examples, such as energy production and recovery, to enhance the examination. Presents ideas in a clear and logical way.
7–9	Discusses roles played by O <sub>2</sub> in each of the 3 energy systems. Includes examples in the discussion.
4–6	Describes roles played by O <sub>2</sub> in energy systems OR Outlines a range of relevant examples for each of the 3 energy systems
1–3	Identifies some roles of O <sub>2</sub> OR Outlines the nature of energy system(s) OR Lists examples

### Question 21(a)

#### Marking guidelines

Criteria	Marks
<ul style="list-style-type: none"> <li>• Describes each measure of health status.</li> <li>• Uses examples to highlight each measure.</li> </ul>	4
<ul style="list-style-type: none"> <li>• Outlines measures of health status.</li> </ul>	3
<ul style="list-style-type: none"> <li>• Identifies some measures of health status.</li> </ul>	2
<ul style="list-style-type: none"> <li>• Provides some relevant information.</li> </ul>	1

Answers may include:

Epidemiology measures such as:



mortality, morbidity, infant mortality and life expectancy

**Question 21(b)**

**Marking guidelines**

Criteria	Marks
<ul style="list-style-type: none"><li>• Discusses the funding of health care services through the use of health insurance.</li><li>• Presents ideas in a clear and logical way and uses a range of relevant and accurate examples to support the answer.</li></ul>	5–6
<ul style="list-style-type: none"><li>• Describes how health services are funded and includes health insurance as a means OR</li><li>• Outlines the role of health insurance in funding health services.</li></ul>	3–4
<ul style="list-style-type: none"><li>• Identifies how health services can be funded. OR</li><li>• Identifies different types of health insurance.</li></ul>	1–2

*Answers may include:*

Public health insurance through Medicare (Medicare levy, Medicare rebates for medical services, provision of free public hospital treatment, bulk billing by GPs).  
Private health insurance (30% rebate, options cover, private hospital fees, choice of doctor).

**Question 21(c)****Marking guidelines**

Criteria	Marks
<ul style="list-style-type: none"><li>Analyses how each action area of the Ottawa Charter can be applied to BOTH cancer and another NHPA.</li><li>Provides clear examples to highlight response.</li><li>Presents answer in a clear and logical manner.</li></ul>	9–10
<ul style="list-style-type: none"><li>Analyses how some of the action areas of the OC can be applied to cancer and another NHPA.</li><li>Provides examples to highlight response. OR</li><li>Discusses how the action areas can be applied to BOTH cancer and another NHPA.</li><li>Provides examples to highlight response.</li></ul>	7–8
<ul style="list-style-type: none"><li>Describes how some of the action areas can be applied to both cancer and another NHPA. OR</li><li>Analyses how action areas can be applied to EITHER cancer OR another NHPA.</li></ul>	5–6
<ul style="list-style-type: none"><li>Outlines how some of the action areas can be applied to cancer and another NHPA.</li></ul>	3–4
<ul style="list-style-type: none"><li>Some relevant information.</li></ul>	1–2

*Answers may include:*

Applying the action areas of the Ottawa Charter: (Developing personal skills, reorienting health services, creating supportive environments, building public policy, strengthening community action) to either skin or lung cancer AND one of asthma, diabetes, cardiovascular disease, road and traffic accidents or depression.

**Question 22(a)****Marking guidelines**

Criteria	Marks
<ul style="list-style-type: none"><li>• Explains why a variety of responses of the body occur as a result of aerobic training.</li><li>• Illustrates answers with relevant examples.</li><li>• Presents ideas in a clear and logical way.</li></ul>	7–8
<ul style="list-style-type: none"><li>• Describes a variety of responses to aerobic training.</li><li>• Provides some examples.</li></ul>	5–6
<ul style="list-style-type: none"><li>• Outlines some responses to aerobic training.</li></ul>	3–4
<ul style="list-style-type: none"><li>• Identifies some responses of the body.</li></ul>	1–2

*Answers may include:*

Immediate physiological responses include:

- Increased heart rate
- Increased blood pressure
- Increased stroke volume
- Increased cardiac output
- Increased blood lactate levels
- Increased ventilation rate.

**Question 22(b)****Marking guidelines**

Criteria	Marks
<ul style="list-style-type: none"><li>• Critically analyses how the characteristics of a learner affects progression through each stage of skill acquisition.</li><li>• Provides examples to highlight response.</li><li>• Presents ideas in a clear and logical way.</li></ul>	10–12
<ul style="list-style-type: none"><li>• Discusses, with some analysis, how the characteristics of a learner affects progression through the stages of skill acquisition.</li><li>• Supports discussion by using relevant examples.</li><li>• Presents ideas in a clear and logical way.</li></ul>	7–9
<ul style="list-style-type: none"><li>• Describes how the characteristics of a learner affects progression through the stages of skill acquisition. OR</li><li>• Discusses the characteristics of the learner OR the stages of skill acquisition.</li></ul>	5–6
<ul style="list-style-type: none"><li>• Outlines how the characteristics of a learner affects progression through the stages of skill acquisition. OR</li><li>• Describes the characteristics of the learner. OR</li><li>• Describes the stages of skill acquisition.</li></ul>	3–4
<ul style="list-style-type: none"><li>• Some relevant information.</li></ul>	1–2

*Answers may include:*

The characteristics of the learner (personality, heredity, confidence, prior experience, ability) and how these affect transition through the stages of skill acquisition (cognitive, associative, autonomous).