



NSW Education Standards Authority

**2020** HIGHER SCHOOL CERTIFICATE EXAMINATION

# Personal Development, Health and Physical Education

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**General  
Instructions**

- Reading time – 5 minutes
- Working time – 3 hours
- Write using black pen

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**Total marks:  
100**

**Section I – 60 marks** (pages 2–16)

This section has two parts, Part A and Part B

Part A – 20 marks

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

Part B – 40 marks

- Attempt Questions 21–27
- Allow about 1 hour and 10 minutes for this part

**Section II – 40 marks** (pages 17–18)

- Attempt TWO questions from Questions 28–32
- Allow about 1 hour and 10 minutes for this section

**Section I**  
**60 marks**

**Part A – 20 marks**

**Attempt Questions 1–20**

**Allow about 40 minutes for this part**

Use the multiple-choice answer sheet for Questions 1–20.

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- 1** Which type of cancer are people who work outdoors most at risk of developing?
- A. Bowel
  - B. Breast
  - C. Cervical
  - D. Skin
- 2** Which of the following identifies the measures of epidemiology?
- A. Diversity, life expectancy, morbidity, quality of life
  - B. Infant mortality, life expectancy, morbidity, mortality
  - C. Health status, incidence of disease, morbidity, mortality
  - D. Infant mortality, mortality, prevalence of disease, quality of life
- 3** A player is motivated when, following a pre-season tournament, he is presented with a trophy for being the highest goal scorer and receives cheers and encouragement from the crowd.
- Which of the following identifies both the source and type of motivation for this player?
- A. Extrinsic and positive
  - B. Extrinsic and negative
  - C. Intrinsic and positive
  - D. Intrinsic and negative

- 4 Which recovery strategy would be most effective for an athlete who experiences a significant loss of weight during a competition game?
- A. Cool down
  - B. Cryotherapy
  - C. Hydration
  - D. Hydrotherapy
- 5 All Australian children are expected to have received specific immunisations by a certain age.
- Who is responsible for funding these immunisations?
- A. Local government
  - B. Commonwealth government
  - C. State and Territory governments
  - D. Private health insurance companies
- 6 Which of the following best describes the nature of the skill when an athlete performs a long jump?
- A. Open, self-paced, gross
  - B. Open, externally paced, continuous
  - C. Closed, self-paced, gross
  - D. Closed, externally paced, continuous
- 7 Which of the following refers to poor blood supply from the heart to the limbs?
- A. Angina
  - B. Coronary heart disease
  - C. Cerebrovascular disease
  - D. Peripheral vascular disease

- 8 An athlete has an awareness of where her body is in space and can perform a range of skills successfully on repeated occasions.

Which pair of characteristics of a skilled performer does this athlete best demonstrate?

- A. Anticipation and ability
  - B. Anticipation and consistency
  - C. Kinaesthetic sense and ability
  - D. Kinaesthetic sense and consistency
- 9 Which risk factor contributes to the leading cause of cancer death in males in Australia?
- A. High-fat diet
  - B. Tobacco smoking
  - C. Physical inactivity
  - D. High blood pressure
- 10 Which row in the table identifies the training method and type of training that is most appropriate for improving the performance of an elite 50-metre swimmer?

|    | <i>Training method</i> | <i>Type of training</i> |
|----|------------------------|-------------------------|
| A. | Interval training      | Anaerobic               |
| B. | Interval training      | Aerobic                 |
| C. | Continuous training    | Anaerobic               |
| D. | Continuous training    | Aerobic                 |

- 11 An athlete is competing in an endurance event.

What is the best nutritional intake for this athlete three hours prior to this event?

- A. A simple carbohydrate meal that is high in fat and low in fibre
- B. A complex carbohydrate meal that is low in fat and low in fibre
- C. A simple carbohydrate meal that is low in protein and high in fibre
- D. A complex carbohydrate meal that is high in protein and high in fibre

- 12** The Australian Men's Shed Association was established in 2007 to provide men with health information and opportunities for increased social interaction within their local community.

Which two priority action areas of the Ottawa Charter are best reflected in this initiative?

- A. Developing personal skills and reorientating health services
  - B. Building healthy public policy and reorientating health services
  - C. Developing personal skills and creating supportive environments
  - D. Building healthy public policy and creating supportive environments
- 13** An endurance athlete might consider using caffeine supplementation to improve performance because caffeine
- A. relaxes the muscles to improve recovery time.
  - B. increases the amount of creatine stored in muscles.
  - C. promotes growth, repair and maintenance of muscle tissue.
  - D. reduces the perception of fatigue and may promote glycogen sparing.
- 14** Which of the following statements is correct in relation to General Practitioner medical services in Australia?
- A. Medicare covers the entire cost for all General Practitioner consultations.
  - B. The number of General Practitioner consultations has increased steadily over the past 10 years.
  - C. People living in rural locations have greater access to a General Practitioner than those living in urban areas.
  - D. The number of people attending after-hours General Practitioner services has decreased over the past 10 years.
- 15** Which group of physiological adaptations is likely to occur in athletes who have participated in an aerobic training program at sub-maximal levels for 8 weeks?
- A. Increased cardiac output, decreased stroke volume, muscle atrophy
  - B. Increased cardiac output, increased lung capacity, muscle hypertrophy
  - C. Decreased resting heart rate, increased stroke volume, increased haemoglobin level
  - D. Decreased resting heart rate, increased oxygen uptake, decreased haemoglobin level

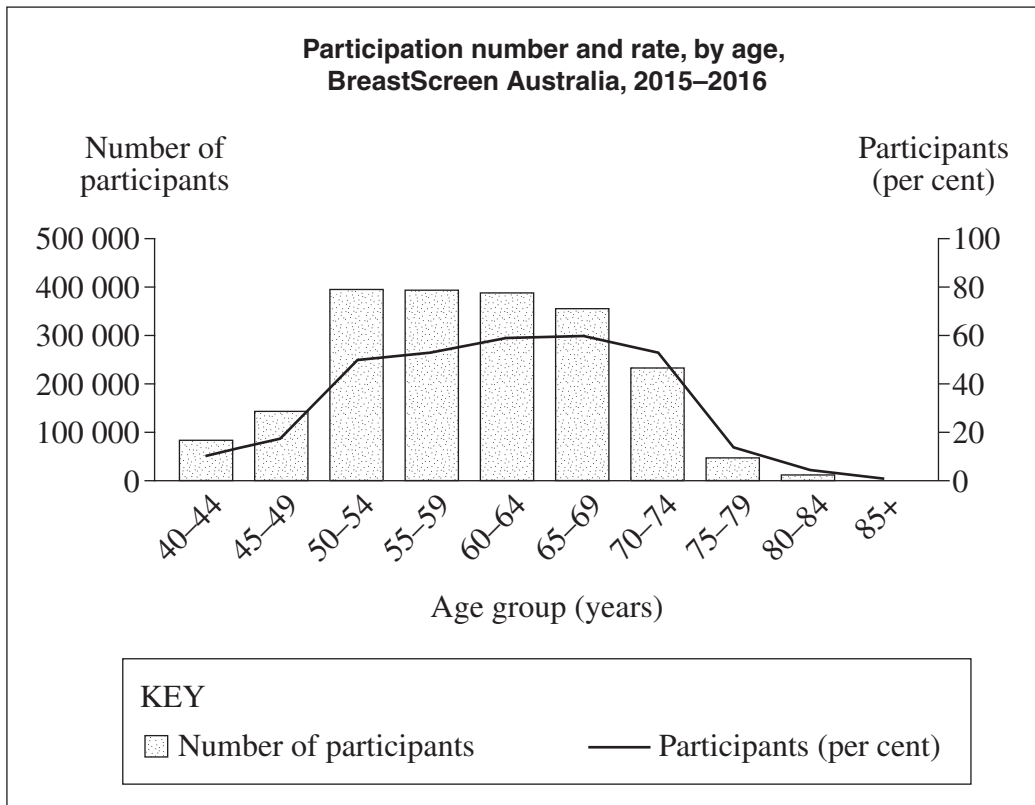
- 16** Which of the following identifies the health inequities experienced by Aboriginal and Torres Strait Islander peoples when compared to non-Indigenous Australians?
- A. Lower life expectancy, higher mortality rate from diabetes, higher incidence of lung cancer
  - B. Lower life expectancy, lower morbidity rate from diabetes, higher incidence of breast cancer
  - C. Higher infant mortality rate, lower mortality rate from diabetes, higher incidence of lung cancer
  - D. Higher infant mortality rate, higher morbidity rate from diabetes, lower rate of hospitalisation due to injury
- 17** Which of the following best demonstrates a strategy to improve equity of access to medical services for people living in a remote location in Australia?
- A. Providing an interpreter at a medical consultation
  - B. Providing medical appointments in the late afternoon
  - C. Providing culturally appropriate staff at a medical centre
  - D. Providing a telephone or video consultation with a specialist
- 18** The following table shows features of the strength training programs that Athlete A and Athlete B completed over an 8-week period.

| <i>Athlete</i> | <i>Weight</i> | <i>Sets</i> | <i>Repetitions</i> | <i>Exercise speed</i> |
|----------------|---------------|-------------|--------------------|-----------------------|
| A              | Very heavy    | 5–6         | 2–5                | Slow                  |
| B              | Light/medium  | 3–6         | 15–20              | Moderate              |

Which row in the table identifies what has most likely increased as a result of the training program for each athlete?

|    | <i>Athlete A</i>   | <i>Athlete B</i>   |
|----|--------------------|--------------------|
| A. | Absolute strength  | Muscular endurance |
| B. | Power              | Lean body mass     |
| C. | Muscular endurance | Power              |
| D. | Lean body mass     | Absolute strength  |

- 19 The graph shows the number of women who participated in BreastScreen Australia services, by age, in 2015–2016. The graph also shows the participation rate which is based on the number of women screened as a percentage of the eligible female population.



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Which of the following conclusions is best supported by the data provided?

- A. The breast cancer mortality rate decreases with age.
- B. The incidence of breast cancer will increase for women aged over 75 years.
- C. The participation rate of women aged under 50 years may result in increased risk of breast cancer mortality for this age group.
- D. The participation rate of women aged 50–69 years may result in lower rates of hospitalisation for breast cancer for this age group.

20 An athlete participated in an 8-week training program.

The table shows the physiological adaptations for the athlete at the completion of the training program.

| <i>Physiological adaptation</i> | <i>Results for the athlete</i>                               |
|---------------------------------|--|
| Resting heart rate              | Decreased  |
| Stroke volume                   | Substantially increased                                      |
| Cardiac output                  | Increased  |
| Muscle hypertrophy              | No significant change  |
| Fast/slow twitch muscle fibres  | Increased number of capillaries in slow twitch muscle fibres |

Which of the following shows the most likely features of the training program?

- A. Anaerobic interval training for 30 minutes, 3 sessions per week, gradually increasing the work–rest ratio each week
- B. Aerobic continuous training for 60 minutes, at an intensity of 80% maximum heart rate, progressively increasing the number of sessions each week
- C. Aerobic circuit training for 30 minutes, at an intensity of 90% maximum heart rate, progressively decreasing the number of sessions each week
- D. Aerobic interval training for 60 minutes, 4 sessions per week, at an intensity of 60% maximum heart rate, progressively increasing the work–rest ratio within each session



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Centre Number

**Personal Development,  
Health and Physical Education**

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Student Number

**Section I Part B  
Answer Booklet**

**40 marks**

**Attempt Questions 21–27**

**Allow about 1 hour and 10 minutes for this part**

**Instructions**

- Write your Centre Number and Student Number at the top of this page.
- Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.
- Extra writing space is provided at the back of this booklet. If you use this space, clearly indicate which question you are answering.

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**Please turn over**

**Question 21** (3 marks)

Outline how a growing and ageing population can affect volunteer organisations.  
Provide an example to support your answer.

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**Question 22** (4 marks)

Complete the table for THREE current leading causes of mortality for males and females in Australia.

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| <i>Current leading cause of mortality</i> | <i>Trend in mortality rate for males over the last 10 years</i> | <i>Trend in mortality rate for females over the last 10 years</i> |
|---|---|---|
|   |   |   |
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Do NOT write in this area.

**Question 23** (7 marks)

An athlete ran in the 100-metre final at an Olympic Games.

- (a) In the table below, identify the predominant energy system used by the athlete, and the features of that energy system. **3**

|  |  |
|--|--|
| Predominant energy system used by this athlete |  |
| Source of fuel                                 |  |
| Energy system duration                         |  |
| Cause of fatigue                               |  |
| Rate of recovery                               |  |

- (b) Compare how anxiety and arousal may have affected the athlete's performance when competing in this 100-metre final. Provide examples to support your answer. **4**

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## Personal Development, Health and Physical Education

### Section II

**40 marks**

**Attempt TWO questions from Questions 28–32**

**Allow about 1 hour and 10 minutes for this section**

Answer both questions in the Section II Writing Booklet. Extra writing booklets are available.

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Your answers will be assessed on how well you:

- demonstrate knowledge and understanding of health and physical activity concepts relevant to the question
  - apply the skills of critical thinking and analysis
  - communicate ideas and information using relevant examples
  - present a logical and cohesive response
- 

#### **Question 28 — The Health of Young People (20 marks)**

- (a) (i) Outline the current patterns of mortality for young people. **3**
- (ii) Compare the health status of young people with the health status of individuals in a different age group. **5**
- (b) Analyse how young people can attain better health by developing connectedness, resilience and coping skills, and health literacy skills. **12**

#### **Question 29 — Sport and Physical Activity in Australian Society (20 marks)**

- (a) (i) Outline how media coverage reflects which sports are valued in Australia. **3**
- (ii) Discuss the influence of the media in the emergence of extreme sports as a form of entertainment. **5**
- (b) Sport can be seen as a commodity when a major event is being held. **12**

Analyse the consequences of this for spectators and participants, and the city hosting the event.

**Please turn over**

**Question 30 — Sports Medicine (20 marks)**

- (a) (i) Outline how the indicators of readiness to return to play are used following an ankle injury. **3**
- (ii) Discuss the ethical issues to consider before an athlete returns to play following an injury. **5**
- (b) To what extent can sports policies and the sports environment promote safe participation for athletes? **12**

**Question 31 — Improving Performance (20 marks)**

- (a) (i) Outline how equipment advances have been used to improve performance. **3**
- (ii) Explain how training innovations can improve an athlete's performance. **5**
- (b) Three days before a competition, a coach of a group of athletes wants to implement a 60-minute training session. **12**

Select a sport and justify ONE activity the coach could include for EACH element of this training session.

**Question 32 — Equity and Health (20 marks)**

- (a) (i) Outline how the quality of the early years of life can contribute to health inequities in Australia. **3**
- (ii) Explain how socioeconomic factors can contribute to health inequities experienced by different population groups in Australia. **5**
- (b) Explain how the social justice framework can be applied to address factors which may cause health inequities in Australia. **12**

**End of paper**