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2012
HIGHER SCHOOL CERTIFICATE
TRIAL EXAMINATION

Personal Development, Health & Physical Education

General Instructions

- Reading Time - 5 minutes.
- Working Time - 3 hours.
- Write using blue or black pen.
- Write your student number on every page.

Total Marks (100)

Section I

60 Marks

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 - 28
- Allow about 1 hour and 10 minutes for this part

Section II

40 Marks

- Attempt **TWO** questions from 29 - 33
- Allow about 1 hour and 10 minutes for this section

This paper must not be removed from the examination room

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SECTION 1**Part A - Objective Response Questions - 20 Marks****Attempt Questions 1- 20****Answer questions on the grid provided****Allow about 20 minutes for this part**

1. Which of the following is an indicator of *morbidity* in the Australian population?
 - A. Infant mortality
 - B. The difference between death rates for males and females
 - C. The incidence and prevalence of disease
 - D. The birth rate in a population group

2. Which of the following describes *health inequities* experienced by *Indigenous peoples* in Australia?
 - A. Indigenous Australians have a higher mortality rate from preventable disease compared to non-indigenous Australians
 - B. Indigenous Australians have a lower mortality rate from preventable disease compared to non-indigenous Australians
 - C. Indigenous Australians have the same infant mortality rate as non-indigenous Australians, however overall mortality rates increase as they age
 - D. Indigenous Australians have lower infant mortality rates than non-indigenous Australians, however their mortality rates increase as they age

3. Observe the following image.



Which of the following conditions is characterised by *chest pain* during *physical exertion* or *excitement*?

- A. Chronic Obstructive Pulmonary Disease (COPD)
- B. Stroke
- C. Peripheral vascular disease
- D. Angina pectoris

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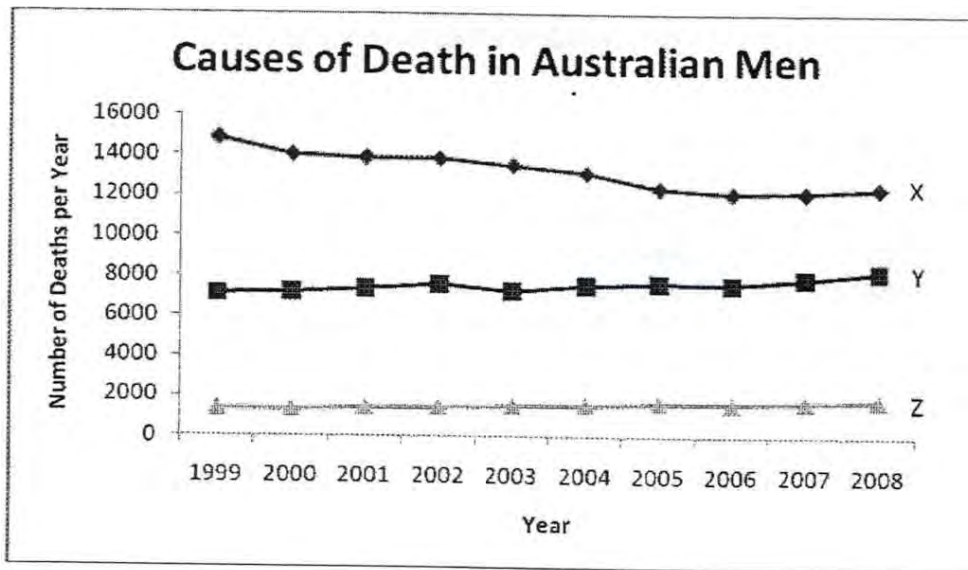
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4. Which of the following groups are most at risk of developing *breast cancer*?
- A. Females who smoke and are exposed to high levels of air pollution
 - B. People with fair hair and moles on their skin
 - C. Females who have not given birth and consume a high fat diet
 - D. People who have a family history of cancer and reside in high sun exposure areas
5. What is meant by the term *healthy ageing*?
- A. Reducing the risk of illness and disease by maintaining physical, dietary and mental health as you age
 - B. Ageing at a healthy rate and trying to look younger than you actually are
 - C. Reducing the number of people who die at a young age from illnesses related to hereditary and genetic factors
 - D. Increasing the number of people who consume healthy foods throughout their life
6. In Australia, which of the following priority issues are decreasing in mortality but increasing in morbidity?
- A. Stroke and CVD
 - B. Skin cancer and CVD
 - C. CVD and skin cancer
 - D. CVD and stroke
7. Which factors contribute to health inequities for people living in rural and isolated locations?
- A. Lower life expectancy, greater participation in physical activity and lower levels of education
 - B. Lower levels of harmful alcohol use, lower socioeconomic status and higher incidence of cancer
 - C. Greater smoking rates, reduced access to healthcare services and increased risk of injury
 - D. Greater infant mortality rate, decreased health screening services and lower levels of obesity

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8. Which of the following are risk factors for preventable chronic disease?
- A. Maintaining a healthy weight range, not smoking, eating healthily, having regular health checks
 - B. Maintaining a healthy weight range, smoking, hypertension, having regular mammograms
 - C. Being male, smoking, family history, hypertension
 - D. Maintaining a healthy weight range, not smoking, family history, being over the age of 40 years
9. Observe the following graph that represents the number of men, who die as a result of *lung cancer*, *skin cancer* and *cardiovascular disease* each year.



Which *risk factors* were likely to have contributed to the number of deaths caused by disease Y?

- A. Infectious diseases, high saturated fat diet, abdominal obesity
- B. Exposure to asbestos, air pollution, tobacco smoking
- C. Exposure to UV rays, overweight, high saturated fat diet
- D. Accidents, tobacco smoking, overweight

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10. The role of Australia's health care system is to provide:
- A. Diagnosis and treatment only
 - B. Diagnosis, treatment, rehabilitation and care for people with long term illness or disability
 - C. Illness prevention, diagnosis and health promotion only
 - D. Illness prevention, diagnosis, health promotion, treatment and rehabilitation
11. What is the cause of *fatigue* in the *alactacid* energy system?
- A. Depletion of carbohydrate supplies and the body's increased reliance on fat as a fuel source
 - B. Depletion of creatine phosphate stores, which are used to resynthesise ATP
 - C. A build up of lactic acid in the muscles
 - D. The depletion of glycogen in the liver
12. Observe the following plan for an athlete's training session.

Training Session:

5 – 10 minute warm up consisting of easy running
Hard running for approx 2 km
Rapid walking for 5 minutes
Easy running interspersed with 10 x 50 – 60 m sprints
Easy running for 5 minutes
Sprint uphill for 200m

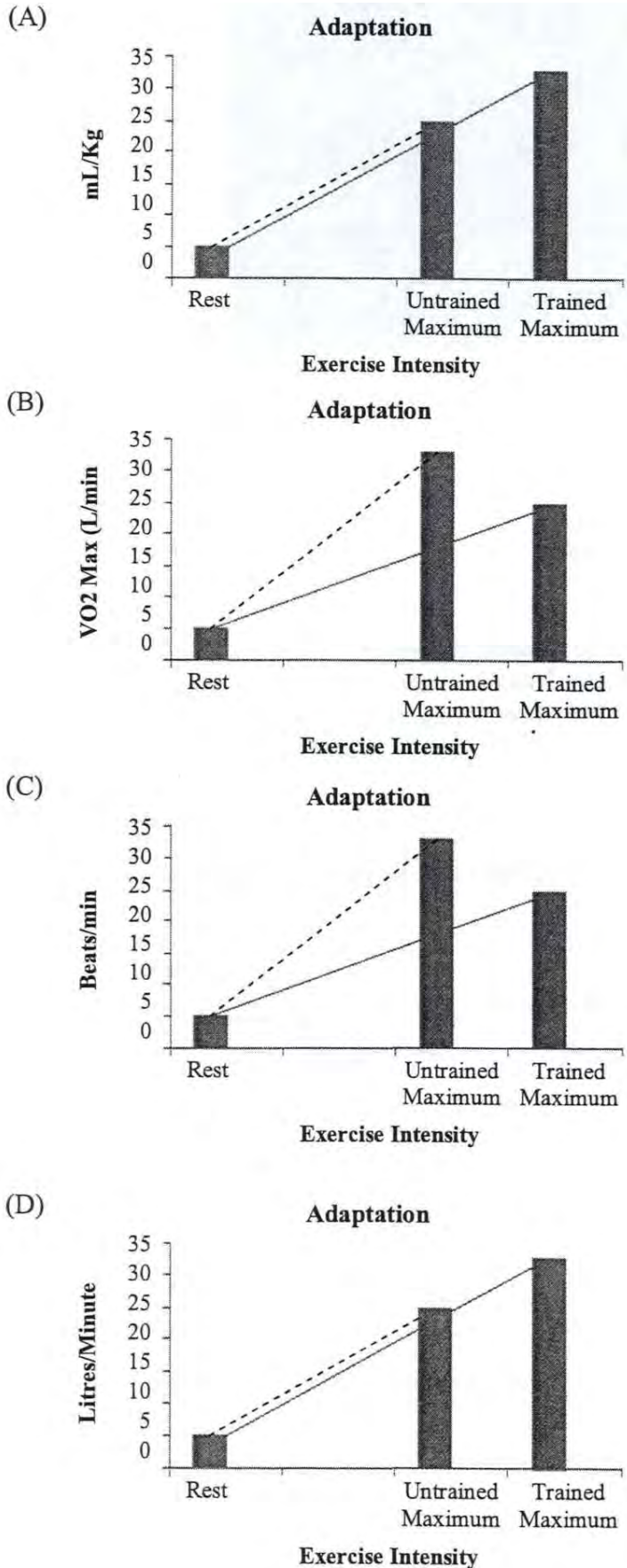
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What *type* of training is being used in this athletes program?

- A. Circuit training
- B. Ballistic training
- C. Fartlek training
- D. Anaerobic interval training

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13. Which of the following graphs shows the physiological adaptation of *cardiac output* to aerobic training?



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14. Observe the following image.

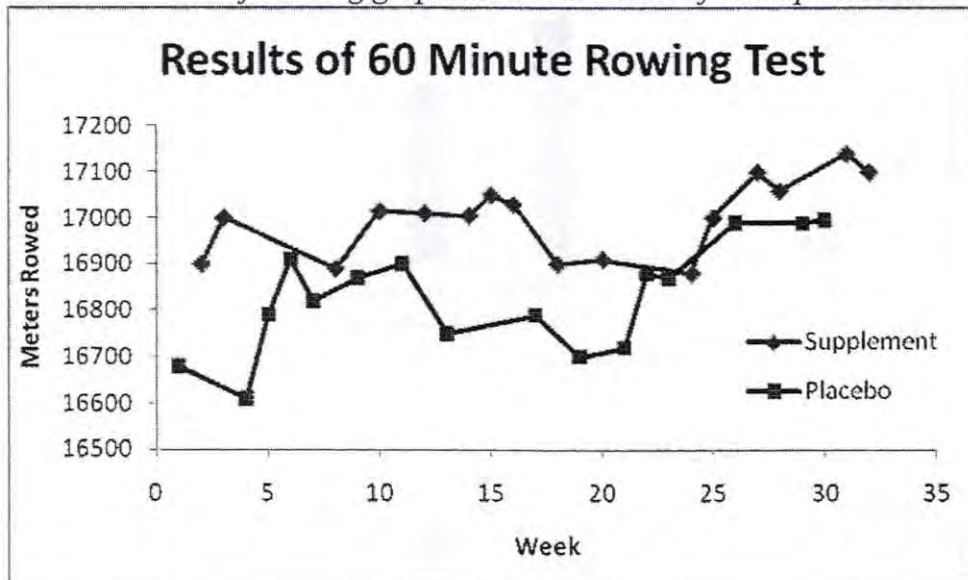


What kind of *motivation* is the NSW team receiving from supporters?

- A. Positive extrinsic motivation
 - B. Positive intrinsic motivation
 - C. Negative extrinsic motivation
 - D. Negative intrinsic motivation
15. An experiment was conducted to measure the effect of a supplement on the performance of ONE athlete. The experiment involved the athlete taking *either* the *supplement* or a *placebo*, one hour prior to the test, then rowing as far as possible in 60 minutes.

Tests were conducted one week apart and training was controlled between tests.

The following graph shows the results of the experiment.



What *supplement* was likely being tested, based on the results?

- A. Creatine products
- B. Vitamin B supplementation
- C. Protein supplementation
- D. Caffeine

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16. Observe the following image of a tomato based pasta meal.



For an athlete about to compete in a triathlon, at what *stage of performance* would this meal be most appropriate?

- A. Three hours pre-performance
 - B. One hour pre-performance
 - C. During performance
 - D. Immediately post-performance
17. Observe the following image showing a young girl learning a new skill in gymnastics.



In what *stage* of skill acquisition is the young gymnast?

- A. Dominant
 - B. Associative
 - C. Cognitive
 - D. Autonomous
18. A coach wants to improve his Rugby team's *kicking* performance, by examining past performance footage, to determine when to use each type of kick in competition.

What *performance elements* is the coach trying to improve?

- A. Strategic understanding and technical efficiency
- B. Decision making and strategic understanding
- C. Game centred approach and skill development
- D. Tactical awareness and aesthetic appreciation

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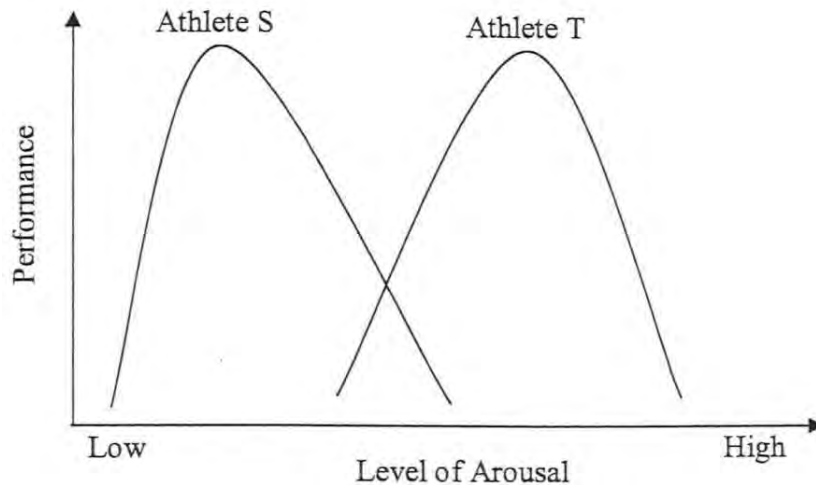
19. An athletics coach wants to test the VO_2 max of his athletes, while they are training away from their normal testing facilities. He decides to develop a new method of testing VO_2 max, which only requires a heart rate monitor and athletics field.

The athletes VO_2 max was tested in the laboratory and was then measured once a week using the coach's new method. The results for three athletes are shown below.

Judge	Laboratory Tested VO_2 max	Coach's New Method of VO_2 max Testing		
	Week 1	Week 2	Week 3	Week 4
Athlete 1	68 ml/kg/min	63 ml/kg/min	59 ml/kg/min	72 ml/kg/min
Athlete 2	74 ml/kg/min	79 ml/kg/min	70 ml/kg/min	68 ml/kg/min
Athlete 3	65 ml/kg/min	59 ml/kg/min	63 ml/kg/min	55 ml/kg/min

Which of the following describes the *validity* and *reliability* of the coach's new VO_2 max testing method?

- A. Poor validity, poor reliability
 - B. Good validity, poor reliability
 - C. Good validity, good reliability
 - D. Poor validity, good reliability
20. Observe the following graph showing the level of arousal for two different athletes about to compete in a golf tournament.



Which of the following statements is CORRECT?

- A. Athlete S is under-aroused; a coach can improve arousal by eliminating distractions and getting the athlete to concentrate on the task
- B. Both athletes are under-aroused a coach can increase arousal by encouraging the athlete to meet the crowd and playing motivational music
- C. Athlete T is over-aroused; a coach can decrease arousal through relaxation techniques such as centred breathing and mental rehearsal
- D. Both athletes are over-aroused; a coach can decrease arousal through goal setting and decreasing the importance placed on this event

END OF SECTION 1 - PART A

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SECTION 1

Part B – 40 Marks

Attempt Questions 21 - 26

Allow about 1 hour and 20 minutes for this section

Answer questions in spaces provided. These spaces provide guidance for the expected length of response.

Marks

Question 21 (8 Marks)

a. Define and briefly explain the value of THREE measures of epidemiology.

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b. Describe how priority health issues are identified in Australia.

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Question 21 continues on the next page

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Question 21 continued

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Marks

Question 23 (3 Marks)

List and briefly explain the fatiguing factors, by-products and the overall efficiency of ATP production in the body's alactacid energy system.

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Question 24 (4 marks)

Outline how the principles of variety and overload can be applied to a circuit training program.

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SECTION 2 (OPTIONS)

40 Marks

Attempt TWO questions from questions 27 – 33

Allow about 1 hour and 20 minutes for this section.

Answer each question in a SEPARATE writing booklet.

In your answers you 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
-

Marks

Question 27 The Health of Young People (20 marks)

- a. Discuss individual *developmental factors* that affect the health of young people.

8

- b. Observe the following image of a group of young people.



Analyse the nature and extent of ONE *major* issue affecting the health of young people. In your answer, outline strategies implemented to target this issue.

12

AND/OR

Section 2 continues on the next page

Section 2 continued

Marks

Question 28 Sport and Physical Activity in Australian Society (20 marks)

- a. Discuss the role of *mass media* in developing people's beliefs, values and understanding of sport.

8

- b. Observe the differences between the following images.



Analyse how the *meaning* of sport and physical activity has *changed* in Australia's history.

12

AND/OR

Question 29 Sports Medicine (20 marks)

- a. Discuss the role of physical preparation in reducing the risk of sports injuries occurring. Use examples to support your discussion.

8

- b. Justify a range of rehabilitation procedures that can be used for soft tissue injuries to accelerate the recovery process.

12

AND/OR

Section 2 continues on the next page

Section 2 continued

Marks

Question 30 Improving Performance (20 marks)

- a. Discuss the different elements to be considered when designing a training session for junior athletes.

8

- b. Examine TWO types of training methods and justify how they best suit the specific performance requirements of a triathlete.

12

AND/OR

Question 31 Equity and Health (20 marks)

- a. Discuss characteristics of effective *health promotion strategies*.

8

- b. Observe the following image.



Analyse how a range of *factors* contribute to *health inequities*, experienced by ONE population group in Australia.

12

END OF SECTION 2

END OF EXAMINATION