Student Number:

Shore

2015

HIGHER SCHOOL CERTIFICATE
TRIAL 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 student number at the top of this page

Note: *Any time you have remaining should be spent revising your answers.*

DO NOT REMOVE THIS PAPER FROM THE EXAM ROOM

Total marks – 100

Section I Pages 1 - 13

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

Section II Pages 14-15

40 marks
- Attempt TWO questions from Questions 28–32
- Allow about 1 hour and 10 minutes for Section II

Section I

Part A – 20 marks
Attempt Questions 1 – 20
Allow about 40 minutes for this section

Use the multiple choice answer sheet for Questions 1 – 20

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1. Which of the following does Medicare cover?

    A. X-Rays
    B. Dental Services
    C. Pilates classes
    D. Ambulance use

2. Which of the following is an example of a social justice principle?

    A. Equity
    B. Closing the gap
    C. Multiculturalism
    D. Socioeconomic status

3. Which of the following is an example of a Public Health Service?

    A. Dental Care
    B. Physiotherapy
    C. National Diabetes Scheme
    D. Cervical Immunisations for school students

4. Which of the following provides one definition of a carer?

    A. A person who looks after an older person
    B. A person who participates in fundraising activities.
    C. A person who receives help from volunteer services
    D. A person who offers to perform a service for the community

5. Which of the following forms of stretching would NOT feature in the routine of a beginner athlete?

A. PNF
B. Static
C. Ballistic
D. Dynamic

6. Which of the following are socioeconomically disadvantaged people more likely to experience?

A. Lower infant mortality rates
B. Better education about health
C. Being less informed about health issues
D. Increased use of preventative health services

7. Which athlete would carbohydrate loading be most beneficial for?

A. Shot Putter
B. Marathon Runner
C. Hockey Goal Keeper
D. 100m Butterfly Swimmer

8. Examine the table below.

	X	**Y**	**Z**
Fuel Source	Carbohydrates	Carbohydrates	Creatine phosphate
Cause of Fatigue	Lactic acid	Glycogen depletion	ATP depletion
By products of energy protection	Lactic acid	Carbon dioxide and water	None

Which energy system is labelled as Y?

A. ATP/PC system
B. Aerobic system
C. Alactacid system
D. Lactic acid system

9. Which of the following groups is NOT at risk of cancer?

   A. Tobacco smokers
   B. Blue collar workers
   C. People with low blood pressure levels
   D. People from socioeconomically disadvantaged groups

10. Which type of supplement would potentially benefit a Strength and Power athlete to assist with their training and recovery?

   A. Caffeine
   B. Protein
   C. Vitamin C
   D. Creatine

11. Which of the following is the main reason resting heart rate decreases in response to training?

   A. increased stroke volume
   B. decreased stroke volume
   C. increased cardiac output
   D. decreased cardiac output

12. *A basketballer watches closely his free throw attempt, to see the ball go into the hoop.*

   What type of feedback is he receiving?

   A. Knowledge of results, Internal feedback
   B. Knowledge of results, External feedback
   C. Knowledge of performance, External feedback
   D. Knowledge of performance, Internal feedback

13. Which of the following could be considered internal sources of stress?

    A. Media, spectators
    B. Self-esteem, spectators
    C. Previous success or failure, media
    D. Self-esteem, previous success or failure

14. What is Homeopathy?

    A. Deep tissues massage and the manipulation of the spine
    B. Specialised massage techniques in conjunction with different oils
    C. Inserting very fine needles into the skin along the body's meridians to release energy
    D. Substances that produce illness in healthy people curing the same illness in sick people

15. *An athlete is performing a kick for goal in Rugby League.*

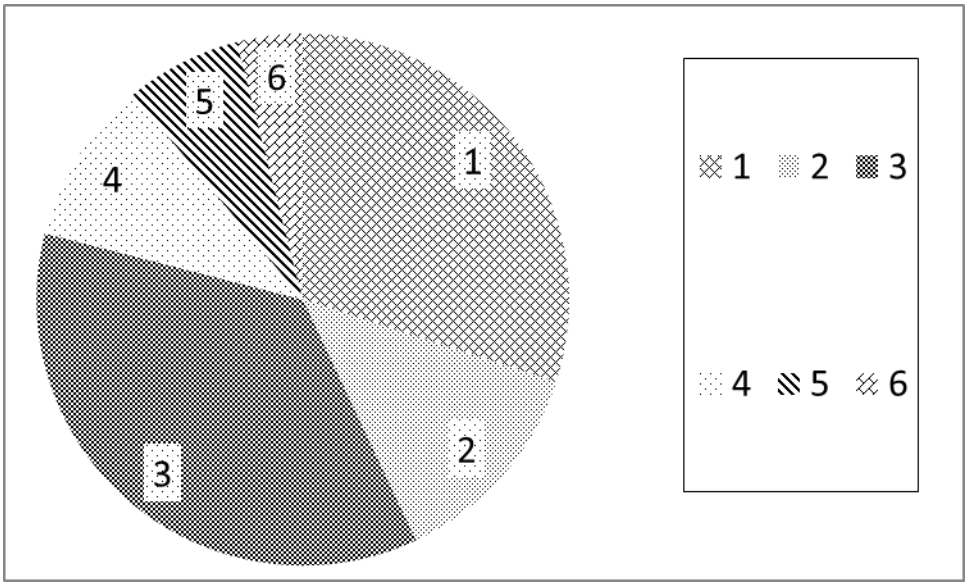
    How would this skill be classified?

    A. Self-paced, open, gross motor skill
    B. Self-paced, closed, gross motor skill
    C. Externally paced, open, gross motor skill
    D. Externally paced, closed, gross motor skill

16. Which of the following strategies provides the benefits of pooling of resources, knowledge and expertise to reduce ill health in society?

    A. Ensuring patient rights
    B. Advocating for diversity
    C. Creating a supporting environment
    D. Adopting partnerships for health promotion

17. There are a number of conditions that cause significant burden of disease and illness in Australia. The following graph represents the extent of the problem for some of these conditions



Which condition is represented by Segment 3 of the pie chart?

A. Injury
B. Illness
C. Cancer
D. Cardiovascular disease

18. Which of the following would be an example of the Ottawa Charter action area 'Developing Personal Skills?

A. A teenager calling the Quitline for assistance with giving up smoking
B. A mobile breast cancer screening van being placed at a shopping centre
C. A walk-a-thon being staged by a local council to promote physical activity
D. The Federal Government announcing increased funding for the 'Close the Gap' initiative

19. *At a sports aerobics competition judges are briefed before the competition and are allocated a component to mark during competition. They are given prescribed criteria to assist with the judging.*

What does this process assist in achieving?

A. Objective Assessment
B. Subjective Assessment
C. Reduce objective assessment with subjective measures
D. Reduce subjective assessment with objective measures

20. *A soccer coach chooses his weekend starting goal keeper by getting each of the three (3) prospective goal keepers to face 20 individual shots at goal conducted one at a time by the rest of the team. The coach records the number of saves.*

What is this type of performance assessment?

A. Valid and reliable assessment
B. Valid but not reliable assessment
C. Reliable but not valid assessment
D. Neither valid or reliable assessment

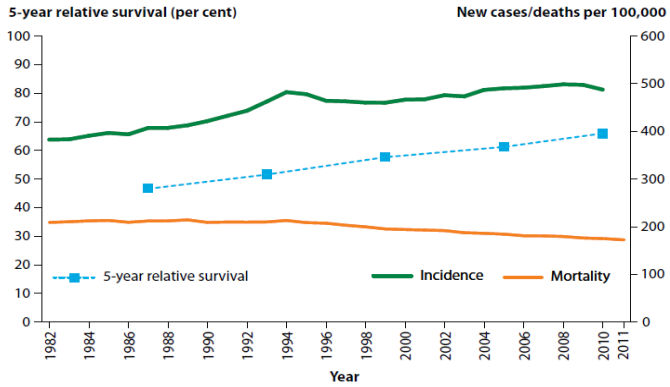
Section I continues over the page

Section I (continued)

Part B – 40 marks
Attempt Questions 21 – 27
Allow about 1 hour and 10 minutes for this part

Question 21 — 3

Consider the following graph related to cancer statistics in Australia.



Incidence (1982–2010), mortality (1982–2011) and 5-year relative survival (1982–1987 to 2006–2010) of all cancers combined, Australia

Sources: AIHW Australian Cancer Database 2010; AIHW National Mortality Database; AIHW 2012b.

What epidemiological trends are represented in the graph?

Question 22 — 4

Describe the impact of a growing and aging population on Australia's health system and services and the health service workforce.

Question 23 **5**

How do socioeconomic determinants lead to health inequities amongst Aboriginal and Torres Strait Islander people?

Question 24 **8**

Analyse the importance of the five action areas of the Ottawa Charter in delivering health promotion initiatives related to Australia's health priorities.

Question 25 a **2**

Identify the following principles of training by completing the table.

Principle of training	**Definition**
i) _____	Undertaking a range of activities to reduce boredom
Reversibility	ii) _____ _____

Question 25 b **5**

Why does an athlete apply the principles of specificity and progressive overload to a training program?

Question 26 **5**

Describe the effects of motivation on an athlete's performance.

Question 27 **8**

Explain how recovery strategies can benefit an athlete following a performance.

Section I Part B extra writing space
If you use this space, clearly indicate which question you are answering.

End of section I

Section II

40 marks

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

Answer each question in a SEPARATE writing booklet. Extra writing booklets are available

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In your answer 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 28 – The Health of Young People (20 marks)

a) (i) Why does establishing education, training and employment pathways affect the health of young people? **3**

a) (ii) Explain the current areas of ill health that are of greatest prevalence among young people. **5**

b) Assess a range of strategies that have been implemented by government and non-government agencies that target TWO major health issues impacting on young people. **12**

Question 29 – Sport and Physical Activity in Australian Society (20 marks)

a) (i) Outline instances when Australia has used sport for political purposes. **3**

a) (ii) Explain how sport has been used to promote Australian national identity. **5**

b) Evaluate the role of the media in constructing meanings around masculinity and femininity in sport. **12**

Please turn over

In your answer 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

Question 30 – Sports Medicine (20 marks)

a) (i) Outline the sports medicine considerations for children and young athletes. **3**

a) (ii) Explain the sports participation options available for aged people with medical conditions. **5**

b) Evaluate the role physical preparation plays in enhancing the wellbeing of the athlete. **12**

Question 31 – Improving Performance (20 marks)

a) (i) How can an athlete plan to avoid overtraining? **3**

a) (ii) What are the key features to consider when planning a training year (periodisation)? **5**

b) Evaluate TWO types of training methods that are suitable to improve performance in a sport of your choice. **12**

Question 32 – Equity and Health (20 marks)

a) (i) Outline how funding for specific populations attempts to bridge the gap in health status. **3**

a) (ii) Explain the actions that improve health. **5**

b) To what extent do the characteristics of a specific health promotion strategy predict its potential for success? **12**

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End of paper

SHORE HSC TRIAL EXAMINATION 2015

Personal Development, Health and Physical Education - Mapping Grid

Question	Mark	Content	Outcome	Band
1	1	Health Insurance	H5	2 – 3
2	1	Identifying priority health issues	H1	2 – 3
3	1	Range and types of health facilities and services	H5	2 – 3
4	1	A growing and ageing population	H2	2 – 3
5	1	Types of training and training methods	H8	3 – 5
6	1	Groups experiencing health inequities	H2	3 – 5
7	1	Nutritional considerations	H11	3 – 5
8	1	Energy systems	H7	3 – 5
9	1	High levels of preventative chronic disease	H2	3 – 5
10	1	Supplementation	H11	3 – 5
11	1	Physiological adaptations in response to training	H7	3 – 5
12	1	The learning environment – feedback	H9	3 – 5
13	1	Anxiety and arousal	H11	3 – 5
14	1	Complementary and alternative health care approaches	H5	3 – 5
15	1	The learning environment – nature of the skill	H9	3 – 5
16	1	The benefits of partnerships in health promotion	H4, H14	3 – 5
17	1	High levels of preventative chronic disease	H3, H16	5 – 6
18	1	Health promotion based on the five action areas of the Ottawa Charter	H4, H15	5 – 6
19	1	Assessment of skill and performance	H9, H17	5 – 6
20	1	Assessment of skill and performance	H9, H17	5 – 6
21	3	Measuring health status	H2	2 – 3
22	4	A growing and ageing population	H2, H3	3 – 4
23	5	Groups experiencing health inequities	H2, H3, H15	3 – 4
24	8	Health promotion based on the five action areas of the Ottawa Charter	H4, H5, H14	5 – 6
25a	2	Principles of training	H8	2 – 3
25b	5	Principles of training	H8, H10	3 – 4

26	5	Motivation	H11, H16	3 – 4
27	8	Recovery strategies	H8, H17	5 – 6
30ai	3	Children and young athletes	H8	2 – 3
30aii	5	Adult and aged athletes	H8	3 – 5
30b	12	Physical preparation	H13, H17	5 – 6
31ai	3	Planning to avoid overtraining	H8	2 – 3
31aii	5	Planning a training year (Periodisation)	H10, H17	3 – 5
31b	12	Training for improved performance	H7, H8, H17	5 – 6

SHORE HSC TRIAL EXAMINATION 2015

SUGGESTED ANSWERS AND MARKING CRITERIA

Section 1 – Part A

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

Core 1 – Health Priorities in Australia

Question 21
What epidemiological trends are represented in the graph? **3 marks**

Criteria	Marks
• Sketches in the general terms all the trends represented in the graph	**3**
• Provides features of some of the trends represented in the graph	**2**
• Provides some relevant information about epidemiology or cancer	**1**

Students learn about:	Students learn to:
● measuring health status – role of epidemiology – measures of epidemiology (mortality, infant mortality, morbidity, life expectancy)	– use tables and graphs from health reports to analyse current trends in life expectancy and major causes of morbidity and mortality for the general population and comparing males and females

Answers should include:

- *The graph shows an overall increase in the incidence of Cancer in Australia from 1982-2010*
- *The graph shows a slight decline in mortality rates for Cancer in Australia from 1982-2011*
- *The graph shows a steady increase in overall Cancer survival rates in Australia from 1982-1987 to 2006-2010*

Markers Comments:
Most students were able to answer this well. Some students misread the question – identifying general epidemiological terms, ie. mortality and incidence rather than what the actual graph was illustrating.

Question 22

Describe the impact of a growing and aging population on Australia's health system and services and the health service workforce **4 marks**

Criteria	Marks
• Provides characteristics or features of the impact a growing and aging population on Australia's health system, its services and its workforce	**4**
• Sketches in the general terms the impact a growing and aging population on Australia's health system, its services and its workforce	**2-3**
• Provides some relevant information about a growing and ageing population OR Australia's health system, its services and its workforce	**1**

Students learn about:	Students learn to:
● a growing and ageing population – healthy ageing – increased population living with chronic disease and disability – demand for health services and workforce shortages – availability of carers and volunteers.	● assess the impact of a growing and ageing population on: – the health system and services – health service workforce – carers of the elderly – volunteer organisations.

Sample Answer:

Australia has a growing and aging population, with the number of people aged over 65 years expected to increase by up to 30% or more by the year 2050. This is caused by families having fewer children and by the population living longer. With fewer babies being born, and more people living longer, it is inevitable that the population will become progressively older. With the population ageing and people living longer, there are more people, particularly those at older ages, who have a disability and have limited mobility and independence. As a result of this, extra strain is placed on the health system, its services and the workforce. Unlike younger Australians, when older Australian's are discharged from hospital, they are less likely to return to their place of residence, and more likely to be placed in residential aged care. Additionally, older Australian's are being diagnosed with chronic conditions such as Alzheimer's and dementia, which also require residential care as the condition progresses. As the population ages, the demand for such facilities will increase. Extra facilities also requires extra staffing, but with those working in the aged care industry being some of the lowest income earners in the country, finding people to staff such facilities can prove difficult. This forces costs up, and with many older Australian's being on pensions and unable to afford such levels of care, their descendants are often forced to quit their jobs or reduce their hours to assume the role of full/part time carer.

Markers Comments:

Mostly mid-range responses were seen for this question. Students needed to address impact on both health system/services and its workforce which wasn't evident. Many spoke about impact on volunteers/carers which the question didn't ask. Students needed to acknowledge that our growing and ageing population is living with chronic disease/disability which is placing a lot of the strain on the health system. Some students identified this. Healthy ageing is a factor to minimise this. A workforce shortage was not dealt with well – confusion with role of carers and volunteers. In a four mark question you need to be succinct, quite a few students reworded the question (wasting space and time).

Question 23

How do socioeconomic determinants lead to health inequities amongst Aboriginal Torres Strait Islander peoples? **5 marks**

Criteria	Marks
• Clearly explains the relationship between socioeconomic determinants and health inequities amongst Aboriginal Torres Strait Islander peoples • Provides a range of examples to clearly illustrate this relationship	**5**
• Demonstrates the relationship between socioeconomic determinants and health inequities amongst Aboriginal Torres Strait Islander peoples • Provides a relevant example to illustrate this relationship	**4**
• Provides characteristics or features of socioeconomic determinants and health inequities amongst Aboriginal Torres Strait Islander people OR • Sketches in the general terms about socioeconomic determinants and health inequities amongst Aboriginal Torres Strait Islander peoples	**2-3**
• Provides some relevant information about socioeconomic determinants OR health inequities amongst Aboriginal Torres Strait Islander peoples	**1**

Students learn about:	Students learn to:
● groups experiencing health inequities – Aboriginal and Torres Strait Islander peoples – socioeconomically disadvantaged people – people in rural and remote areas – overseas-born people – the elderly – people with disabilities	● research and analyse Aboriginal and Torres Strait Islander peoples and ONE other group experiencing health inequities by investigating: – the nature and extent of the health inequities – the sociocultural, socioeconomic and environmental determinants – the roles of individuals, communities and governments in addressing the health inequities

Answers may include, but is not limited to:

- Education
- Income
- Employment
- Housing

Sample Answer:

A determinant is a factor that can have either a positive (protective factor) or negative (risk factor) impact on someone's health. In the case of Aboriginal Torres Strait Islander peoples, who experience significant health inequalities compared to non-Indigenous Australians, socioeconomic determinants such as education, income, employment and housing can have an impact. Whilst there have been some improvements under the 'Close the Gap' initiatives, ATSI youth score significantly lower on educational assessments and are more likely to leave school at a younger age than non-Indigenous Australians. This lack of education leads to a reduction in health knowledge and couple with poor literacy can make health products and services difficult to access. Furthermore, the lack of general knowledge and understanding possessed by ATSI youth has implications for employment beyond school. Lack of employment leads directly to reduced income capacity, which also affects access to products and services, such as specialist dental or optometry, or unaffordability of healthy foods. Unemployment rates for ATSI peoples are significantly higher than for non-Indigenous Australians. Finally, the low socioeconomic status experienced by ATSI peoples can also leave them more likely to be living in social housing. This can create crowded living conditions, as well as geographical displacement, which could also affect access to health services.

Markers Comments:

This question was generally answered well. Most students were able to identify socioeconomic determinants and illustrate the relationship between those and health inequity. A range of relevant examples is what led to top band responses.

Question 24

Analyse the importance of the five action areas of the Ottawa Charter in delivering health promotion initiatives related to Australia's health priorities. **8 marks**

Criteria	Marks
• Demonstrates thorough knowledge and understanding of the impact the five action areas of the Ottawa Charter have in delivering health promotion initiatives related to Australia's health priorities. • Clearly makes evident the relationship between the five Ottawa Charter action areas and health promotion initiatives aimed at reducing the burden of ill-health • Uses examples to clearly demonstrate this relationship • Presents ideas in a clear and logical manner	**8**
• Demonstrates sound knowledge and understanding of the impact the five action areas of the Ottawa Charter have in delivering health promotion initiatives related to Australia's health priorities. • Explains the relationship between the five Ottawa Charter action areas	**6-7**

and health promotion initiatives aimed at reducing the burden of ill-health • Uses relevant examples OR • Explains impact the five action areas of the Ottawa Charter have in delivering health promotion initiatives related to Australia's health priorities. • Presents ideas clearly • Uses relevant examples	
• Provides characteristics and features of the impact the five action areas of the Ottawa Charter have in delivering health promotion initiatives related to Australia's health priorities. • Uses relevant examples	**4-5**
• Sketches in general terms information about the impact the action areas of the Ottawa Charter have in delivering health promotion initiatives related to Australia's health priorities.	**2-3**
• Provides some relevant information about the action areas of the Ottawa Charter OR Australia's health priorities.	**1**

Students learn about:	**Students learn to:**
• health promotion based on the five action areas of the Ottawa Charter - levels of responsibility for health promotion - the benefits of partnerships in health promotion, eg government sector, non-government agencies and the local community - how health promotion based on the Ottawa Charter promotes social justice - the Ottawa Charter in action	• critically analyse the importance of the five action areas of the Ottawa Charter through a study of TWO health promotion initiatives related to Australia's health priorities

Answer could include exploration of:
- Groups experiencing inequities
- Cardiovascular disease
- Cancer (skin, breast, lung)
- diabetes
- respiratory disease
- injury
- mental health problems and illnesses
- Australia's aging population

Sample Paragraph:

The Ottawa Charter has five action areas which include; developing personal skills, developing community action, creating supportive environments, reorienting health services and developing healthy public policy. Each of these five action areas has an important role to play in ensuring health promotion initiatives targeting chronic health conditions such as diabetes are effective.

Developing personal skills refers to helping individuals to acquire the necessary knowledge, decision making, problem solving, communication and inquiry skills to assist them to effectively manage their health. The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK) was developed by the Commonwealth Government in consultation with Diabetes Australia. This self-assessment checklist is designed as a quick an easy way for individuals to complete an initial health screen to determine how at risk they may be for developing Type 2 Diabetes. By reflecting on many of the questions in the checklist, individuals are forced to consider their present health behaviours and consider what they might do to rectify an concerns, hence developing their personal skills.

Markers Comments:
Many students did not answer this well. Most knew the five action areas of the Ottawa Charter and gave examples. Very few analysed the importance of the five areas in delivering health promotion initiatives. Most students just applied the OC action areas to a health promotion initiative they studied. eg. National Tobacco Strategy (this was not what the question was asking). Most students were awarded a mark in the 2 – 5 range.

Core 2 – Factors Affecting Performance

Question 25 a
Identify the following principles of training by completing the table **2 marks**

Principle of training	**Definition**
i) Variety	Undertaking a range of activities to reduce boredom
Reversibility	**ii) the detraining effect following a period of reduced or halted training. (May include reference to injury)**

Criteria	**Marks**
• Identifies both aspects of the table	**2**
• Identifies one aspect of the table	**1**

Students learn about:	**Students learn to:**
• principles of training – progressive overload – specificity – reversibility – variety – training thresholds – warm up and cool down	• analyse how the principles of training can be applied to both aerobic and resistance training

Markers Comments:
No issues here. Vast majority of students awarded full marks.

Question 25 b
Why does an athlete apply the principles of training of specificity and progressive overload? **5 marks**

Criteria	**Marks**
• Clearly links the principles of specificity and progressive overload to the training of an athlete • Provides relevant examples	**5**
• Outlines the principles of specificity and progressive overload • Provides an example	**3 – 4**
• Provides some relevant information about the principles of training	**1 – 2**

Students learn about:	**Students learn to:**
• principles of training – progressive overload – specificity – reversibility – variety – training thresholds – warm up and cool down	• analyse how the principles of training can be applied to both aerobic and resistance training

Answer could include;

Progressive overload – the gradual increase in workload over time allowing for the adaptation of the body to a higher work load
Specificity – targeting the actual muscle groups and energy systems required for performance of an activity.

Sample Answer:

The principle of progressive overload is required by an athlete so that they can gradually improve their fitness over time. A middle distance runner will not be able to run at a fast pace for 10 km straight away but needs to build up their endurance by running 5 kms first and then as their body adapts they increase this to 6 kms and so on until they can complete the 10 kms at the pace they want. Without progressive overload the athlete would not improve their current level of fitness.

Specificity is the targeting of muscle groups and energy systems required for a sport. It means that what you train for you get. For example a sprinter needs to build up their leg power through fast contraction weight training. They also need to focus on developing their ATP – PC energy system, which is the main source of energy for them. They can do this through short interval training.

Markers Comments:
Most students were able to answer this well. Some lacked depth in linking how each principle works and a strong example to improve performance

Question 26
Describe the effects of motivation on an athlete's performance. **5 marks**

Criteria	Marks
• Provides the characteristics and features of the effect of motivation on performance • Provides a range of relevant examples	**5**
• Sketches in general terms the effect of motivation on performance • Provides some examples	**3 – 4**
• Provides some relevant information about motivation OR performance	**1 – 2**

Students learn about:	Students learn to:
• motivation – positive and negative – intrinsic and extrinsic	– evaluate performance scenarios to determine the appropriate forms of motivation, eg golf versus boxing

Answers may include but not be limited to;
Intrinsic motivation – coming from within the athlete. May include; feelings of self-satisfaction, enjoyment, fear of losing
Extrinsic motivation – coming from outside of the athlete. May include; praise, trophy, money, social rebuke
Positive motivation – recognition of good performances. May include; applause, rewards, coaches complement
Negative motivation – consequences of a poor performance. May include; being dropped from a team, extra or harder training, loss of a contract
Reinforcement – the reward which is supplied to encourage performance.

Sample Answer:
Motivation is the drive somebody has to succeed in what they are attempting and it is very important for performance. Without motivation an individual will train less often or with lower intensity and as a result will not be able to improve the performances they produce. There are 4 categories of motivation;

Positive motivation is the recognition of a good performance. It encourages athletes or a team to reproduce or improve what they have already achieved. For example a crowd cheering for a good tackle motivates the team to continue to pressure the opposition while they have the ball leading to more turnovers and a better chance of winning.

Negative motivation occurs as a result of poor performance. Athletes try to improve performance to avoid this type of motivation. The fear of being dropped from a team can lead to an individual training harder and applying themselves more during a game. It can also lead to people quitting if there is only negative reinforcement being given to the athlete.

Intrinsic motivation comes from within the athlete and is often the most powerful form of motivation. The desire to improve and be satisfied with their own performance leads to higher levels of training and performance for example running a personal best time will motivate the athlete to continue to try to beat this in the future.

Extrinsic motivation comes from sources outside the athlete such as the crowd, coaches and parents. It can include trophies for winning or a higher paying contract and encourage the individual improve their performance so that they can receive more of this type of reinforcement.

Markers Comments:
A mixed response**.** Most students knew four types but quite a few didn't describe effect on performance (as per the question) or use strong sporting examples.

Question 27
Explain how recovery strategies can benefit an athlete following a performance. **8 marks**

Criteria	Marks
• Clearly explains how recovery strategies can assist an athlete • Provides examples which highlight the link between a range of recovery strategies and the next performance • Presents ideas in a clear and logical manner	**7 – 8**
• Sketches in general terms how recovery strategies can assist an athlete • Provides relevant examples	**5 – 6**
• Outlines a range of recovery strategies used by athletes • Provides some examples	**3 – 4**
• Identifies some recovery strategies	**1 – 2**

Students learn about:	Students learn to:
• recovery strategies – physiological strategies, eg cool down, hydration – neural strategies, eg hydrotherapy, massage – tissue damage strategies, eg cryotherapy – psychological strategies, eg relaxation.	• research recovery strategies to discern their main features and proposed benefits to performance.

Answers may include but not be limited to;

Physiological strategies – Cool down
Physiological strategies – Passive recovery
Physiological strategies – hydration
Neural strategies - Hydrotherapy
Neural strategies – Massage
Tissue Damage Strategies – Cryotherapy
Tissue Damage Strategies – Compression garments
Psychological strategies – Relaxation
Psychological strategies – Sleep

Sample Answer:

Recovery strategies are designed to allow the body to return to pre-exercise levels as quickly as possible. By undertaking these strategies the individual will be able to train harder and perform at a higher level than if they didn't complete any recovery activity.

Physiological strategies bring the physical state of the muscles back to normal quickly and include the cool down. In this strategy the athlete will perform low intensity exercise such as jogging and stretching to assist in the clearing of lactic acid from the muscles also bring the body back to normal slowly. For example a football team will undertake a range of stretches on the field following a game and as a result will be able to train a higher level in the next session.

Neural recovery strategies are those that allow the nervous system return to normal levels. An example is massage which involves the rubbing and shaking of muscles. This increases blood flow and reduces lactic acid levels and also decreases muscle tension which provides not only a physical benefit but also a psychological benefit following exercise and allows the individual to return to training and performance at higher levels.

Tissue damage strategies are designed to repair the minor muscle fibre tears which occur during exercise. Cryotherapy is an example of this where the athlete sits in an ice bath after exercise. The cooling of the muscle fibres reduces swelling and bleeding and this leads to reduced feelings of muscle soreness. Lower feelings of soreness lead to higher levels of activity in the days following the event.

The final type of strategy is psychological strategies such as relaxation. When the body is given time to recover with no extra work being placed on it the process can occur quicker. As a result periods of relaxation allow the athlete to get their mind and body prepared for the next training session.

Markers Comments:

Most students did well in this question – they knew their content. Those that scored a mark in the mid-range tended to outline the strategy and not create the link to the next performance.

The range of marks for this section by the cohort was 36 – 14 out of 40.

Option 3 – Sports Medicine

Question 30 a (i)
Outline the sports medicine considerations for children and young athletes. **3 marks**

Criteria	Marks
• Sketches in general terms considerations that can affect children and young athletes • Provides relevant examples	**3**
• Identifies considerations that affect children and young athletes	**2**
• Identifies some relevant information about children and young athletes	**1**

Students learn about:	Students learn to:
• children and young athletes - medical conditions (asthma, diabetes, epilepsy) - overuse injuries (stress fractures) - thermoregulation - appropriateness of resistance training	• analyse the implications of each of these considerations for the ways young people engage in sport and how each is managed - assessment for medical attention - immobilisation

Answers may include but not be limited to;
- medical conditions (asthma, diabetes, epilepsy)
- overuse injuries (stress fractures)
- thermoregulation
- appropriateness of resistance training

Sample answer
Sports medicine considerations for children and young athlete (C&YA) include medical conditions which need to be considered for safe participation. Medical conditions include asthma e.g. swimming is better to reduce risk of an asthma attack because of the warm moist environment, epilepsy – avoid contact sports, rock climbing and SCUBA diving; and diabetes – ensure adequate breaks and keep hydrated to reduce the risk of hypoglycaemia occurring. Overuse injuries can occur to C&YA if poor techniques and/or ill-fitting equipment are used e.g. stress fractures from poorly fitted shoes for a runner. C&YA have poorer thermoregulation due to undeveloped bodies e.g. sweat glands, therefore frequent rest & drinks breaks, playing in the morning and monitoring of athletes need to occur to keep them safe. C&YA should only use their own body weight, develop technique rather than strength if they are engaging in resistance training.

Markers Comments:
Overall this question was well done. However, many students simply listed the medical conditions for children and young athletes. The best answers (3/3) also provided examples of how a coach needs to consider these in their planning. For example poor thermoregulation amongst children and young people means that a coach must schedule more rest/drinks breaks, avoid heat of the day and monitor athletes carefully.

Question 30 a (ii)
Explain the sports participation options available for aged people with medical conditions **5 marks**

Criteria	Marks
• Make the relationship between a range suitable sports participation options and aged people with medical conditions evident • Provides a range of relevant examples	**5**
• Outlines the relationship between various sports participation options and aged people with medical conditions • Provides relevant examples	**3 - 4**
• Identifies appropriate sports options for aged people OR • Provides some relevant information about adult and aged athletes	**1 - 2**

Students learn about:	**Students learn to:**
• adult and aged athletes - heart conditions - fractures/bone density - flexibility/joint mobility.	• explain the sports participation options available for aged people with medical conditions

Answers may include but not be limited to;

Heart conditions	Medical clearance e.g. stress test → aerobic exercise e.g. walking, cycling, jogging and swimming Begin slowly and progress gradually Intensity steadily increases then levels off i.e. moderate intensity exercise Tailored program, needs to be sustainable Benefits from moderate strength training using light loads and include major muscle groups e.g. Quads, abdominals
Fractures / bone density	Aim to ↓ risk of falls and subsequent fractures Should be safe, beneficial and not cause pain Improve fitness especially balance, strength, coordination, aerobic capacity and flexibility through endurance activities such as walking, cycling (stationary bike may be better to ↓ risk of falling) and swimming. Low impact and balance activities e.g. aerobics, lawn bowls Low range strengthening exercises focusing on the limbs, trunk and back.
Flexibility / joint mobility	Exercise has a positive effect on flexibility and joint mobility Focus on safe stretching and improving ROM Progress needs to be low impact, specific to the person's physical limitations and consider existing medical conditions Activities include walking, cycling, swimming, flexibility classes, aqua aerobics, tai chi

Markers Comments:
Probably the best answered question in this Option. Students must ensure that they use a variety of examples to present their point, ie don't use walking/swimming as an exercise example for each medical condition explained.

Question 30 b

Evaluate the role physical preparation plays in enhancing the wellbeing of the athlete **12 marks**

Criteria	Marks
• Demonstrates a clear understanding of the role physical preparation plays in enhancing the athletes wellbeing • Makes judgements about the role physical preparation plays enhancing the wellbeing of the athlete (both +ve and –ve) • Provides a range of relevant examples	**10 - 12**
• Demonstrates an understanding of the role physical preparation plays in enhancing the athletes wellbeing • Provides points for and/or against the use of physical preparation • Provides relevant examples	**7 - 9**
• Provides characteristics and features of physical preparation • Provides examples	**4 - 6**
• Sketches in general terms the role of physical preparation OR • Provides some relevant information about enhancing wellbeing of the athlete	**1 - 3**

Students learn about:	Students learn to:
• physical preparation - pre-screening - skill and technique - physical fitness - warm up, stretching and cool down.	• analyse different sports in order to determine priority preventative strategies and how adequate preparation may prevent injuries

Sample answer

Physical preparation including pre-screening, skill & technique development, physical fitness and warm-up, stretching & cool down procedures play a vital role in enhancing the wellbeing of the athlete. Pre-screening assesses the individual's health status before they begin training. This allows any issues e.g. heart conditions to be identified and the proper precautions to be taken before an individual even begins an exercise program. It also enables a specific program to be developed which meets the needs of the individual athlete e.g. a starting point for the program. Pre-screening plays a significant role in enhancing the wellbeing of the athlete by ensuring safety first, that an individual's needs are met and catered for. For example, medical clearance for cardiovascular problems and tailored supervised exercise programs.

The efficiency with which we perform the required activity i.e. skill and technique, plays a crucial role in enhancing the athlete's' wellbeing. This is shown in rugby league and union where the players must know how to tackle properly, therefore having the correct skill and technique. If they don't this increase the likelihood of hurting themselves and other players e.g. twist incorrectly in tackle to sprain knee ligaments. In the lineout in union if the players do not know how to lift their team mate properly they can hurt themselves (e.g. back) and the teammate who lands on their head after being dropped. These examples exemplify the role physical preparation has in enhancing the wellbeing of athletes.

To be able to meet the demands of competition an athlete requires a suitable level of physical fitness for their sport. For example a gymnast would need high levels of flexibility and balance. The 'optimal' level of physical fitness needs to be gained before an athlete competes in full competition or else the risk of injury significantly increases, e.g. the number of players injured in pre-season competitions due to lack of fitness. Physical fitness as a physical preparation is vital in enhancing the wellbeing of the athlete. If an athlete becomes fatigued because of lack of fitness, their skill and technique will drop and the ability to perform will be significantly hindered e.g. hold a hand stand. This leads to increased risk of injury and is detrimental to the wellbeing of the athlete; therefore physical fitness is imperative for wellbeing.

The fourth area of physical preparation, warm up, stretching and cool down is probably the most important injury prevention feature of a training program. The role of the warm up is to prepare the athlete both physically (increase blood flow and muscle temperature) and mentally (positive, arousal level ready for activity) for exercise. This assists to decrease the risk of injury and increase successful participation in activity, which is essential for an athlete's wellbeing. A general stretching program using static and PNF stretches (at least 4 times per week) which includes specific flexibility for the chosen sport e.g. sprinter working on hamstrings and hip flexors; plays a significant role in enhancing

athlete wellbeing by ensuring they have a suitable range of motion (ROM) and are able to meet the demands of their chosen sport without becoming injured. The cool down plays an important role in the athlete's wellbeing by ensuring worked muscles are lengthened, lactic acid is removed decreasing the risk of delayed onset muscle soreness (DOMS) and blood pooling is reduced. This active recovery tool allows the athlete to recover more effectively so that they can continue to compete without risking soreness or injury.
The components of physical preparation are very important in enhancing the wellbeing of athletes. However, all preparation needs to be carried out effectively to gain the desired results. If pre-screening doesn't have enough depth then this increases the risk to the athlete. If the athlete is not trained properly in skill & technique and fitness the risk to the athletes wellbeing is significant. If the warm up, stretching and cool down are inadequate e.g. too short, they too will hinder an athlete's wellbeing.
Physical preparation is effective and plays a very important role in enhancing the wellbeing of the athlete.

Markers Comments:
The vast majority of students knew the syllabus for this question. The best students were able to clearly show how each type of physical preparation enhanced the ability of the athlete to avoid injury and thereby enhance wellbeing.

Option 4 - Improving Performance

Question 31 a (i)
How can an athlete plan to avoid overtraining? **3 marks**

Criteria	Marks
• Demonstrates a clear understanding of overtraining • Briefly outlines each relevant syllabus dash point • Includes relevant examples specific to overtraining	3
• Demonstrates a sound understanding of overtraining • Outlines some syllabus dash points • Includes limited examples	2
• Limited understanding of overtraining • Does not include examples • Poorly structured response	0-1

● planning to avoid overtraining – amount and intensity of training – physiological considerations, eg lethargy, injury – psychological considerations, eg loss of motivation.	● analyse overtraining by considering questions such as: – how much training is too much? – how do you identify an overtrained athlete? – what do you do if you identify an overtrained athlete? – how can overtraining be avoided?

Answer may include but not limited to:

- Students required to briefly outline each of the three strategies which may be implemented by athletes to avoid overtraining – amount and intensity of training, physiological factors, psychological factors.
- Throughout their response, students must refer to specific sporting examples relating to overtraining.

Sample answer:
Overtraining is a chronic psychological and physiological condition caused by training loads that are too demanding for an athlete to manage. Adjustments to the amount and intensity of training are necessary to overcome the problem. Overtraining is characterised by certain physiological considerations such as lethargy and injury, together with psychological considerations such as loss of motivation. Identification of the overtrained state is essential and often recognised by poor performances and lack of motivation. Further specific examples of how athletes can plan to avoid overtraining include incorporation of video sessions into a weekly rugby schedule after a particularly heavy contact week or giving players a mental break with a change in training after a heavy loss (e.g. game of paintball instead of field session).

Question 31 a (ii)

What are the key features to consider when planning a training year (periodisation)? **5 marks**

● planning a training year (periodisation) – phases of competition (pre-season, in-season and off-season phases) – subphases (macro and microcycles) – peaking – tapering – sport-specific subphases (fitness components, skill requirements)	● develop and justify a periodisation chart of the fitness and skill-specific requirements of a particular sport.

Criteria	Marks
• Demonstrates an extensive understanding of periodisation and the key features to be considered when planning a training year • Briefly outlines each of the five relevant syllabus dash points • Relevant and sport-specific examples included	4-5
• Demonstrates a sound understanding of periodisation and the key features to be considered when planning a training year • Briefly outlines some of the five relevant syllabus dash points • Limited examples included	2-3
• Demonstrates a limited understanding of periodisation and the key features to be considered when planning a training year • Limited understanding of periodisation and no discussion of key features to include in planning a training year • No examples included	0-1

Answer may include and not limited to:

- Students required to state and briefly outline each of the five components which should be incorporated in the construction and planning of a training year (periodisation)
- Students required to include examples in their response

Sample answer:
Effective planning requires that a training year be divided into manageable areas, making establishing and measuring targets or goals a realistic proposition. The process of structuring training into phases or phases that can be managed independently of other periods is called periodisation. The key features to consider when planning a training year include:

Phases of competition – There are three phases of competition which include off season, pre-season and in season. Each of these phases have specific demands in terms of goals, needs and training performance requirements. Examples of phases of competition include: Rugby players engaging in an off season heavy weights hypertrophy program, a pre-season conditioning program and an in-season strength maintenance program.

Subphases (macro and micro cycles) – Preparation for competition can be divided into manageable blocks called macrocycles, mesocycles and microcycles. Examples of subphases include: A macrocycle might include preseason preparation for a soccer team lasting a 12 week period as a major block of a season. A mesocycle might include a four week period dedicated to training in the gym aimed at achieving hypertrophy in players. A microcycle might include a seven day focus on tackling in rugby.

Peaking – is the phase of training in which performance is optimised to meet the demands of a race, competition or series. An example of peaking is a coach manipulating the volume of training to ensure their runner is prepared for the 100m final at the Olympics.

Tapering – is the period immediately before competition when the volume and intensity of training is reduced. A tapering period is fundamental for allowing tissue to rebuild and for the full replacement of energy stores. An example of tapering is a rowing crew decreasing the intensity and volume of training leading into a major rowing regatta.

Sports-specific subphases – subphases provide an opportunity to target specific areas that require further development. There are many areas that could be the subject of specific examination and additional work testing, monitoring, evaluation, specialisation, loading, unloading, volume.
E.g. A focus on a specific skill such as kicking for backs in a rugby team.

Question 31 b
Evaluate TWO types of training methods that are suitable to improve performance in a sport of your choice. **12 marks**

Criteria	Marks
• Demonstrates a clear understanding of TWO types of training methods in relation to ONE team sport • Makes evident the relationship between the training methods and improved performance. • Makes regular judgements on the suitability of the training methods to the sport to improve performance • Provides relevant examples throughout the response in reference to ONE team sport. • Presents ideas as a logical and cohesive response	**11 – 12**
▪ Demonstrates an understanding and draws conclusions between TWO training methods and improving performance in ONE team sport. OR ▪ Demonstrates a clear understanding of ONE types of training methods in relation to ONE team sport and makes regular judgements on the suitability of the training methods to the sport to improve performance AND ▪ Provides relevant examples in reference to ONE team sport. ▪ Expresses ideas in a clear, concise manner.	**8 – 10**
▪ Relates the cause of various training methods and the related effect of improving performance in sport. ▪ Provides examples	**5 – 7**
▪ Provides characteristics and features of training methods ▪ May make reference to improving performance in sport with examples OR ▪ Sketches in general terms training methods	**3 – 4**
▪ Recognises and names training methods for improved performance OR ▪ Provides some relevant information regarding training to improve performance	**1 – 2**

Students learn about:	Students learn to:
• strength training – resistance training, eg elastic, hydraulic – weight training, eg plates, dumbbells – isometric training • aerobic training – continuous/uniform – fartlek – long interval • anaerobic training (power and speed) – developing power through resistance/weight training – plyometrics – short interval • flexibility training – static – dynamic – ballistic	• analyse TWO of the training types by drawing on current and reliable sources of information to: – examine the types of training methods and how they best suit specific performance requirements

• skill training – drills practice – modified and small-sided games – games for specific outcomes, eg decision-making, tactical awareness.	

Answers may include and not limited to

- Students need to address TWO types of training ONLY.
- Content should come from the OPTION not just Core 2 information on types of training.
- Throughout the response students must refer back to ONE team sport.

S*trength training* –

- resistance training,
    - Isotonic Training – free weights, body weight
    - Elastic resistance training, - most resistance at the end of the movement, will not build bulk, but great for improving weak spots and assisting with rehab of an injury.
    - hydraulic – isokinetic training – resistance throughout the whole movement. Relevant to sports requiring great strength and for athletes in rehab from injury requiring controlled movement.
- weight training, eg plates, dumbbells, bars – relevant to all sports, but the weight, reps and speed of contraction will vary depending on the sports requirements
- isometric training – held movements for sports involving a goal keeper who may need to hold positions, otherwise may not be needed in team sports *(more common in sports like rock climbing, gymnastics)*
- Should consider – specificity, overload, progressive resistance, safe procedures
- Not all methods required, only those suitable to the sport used.

Aerobic training -,

- continuous/uniform – essential for base fitness, most teams will use pre-season. Some team sports that have players who require continual movement will include this type of training (eg midfield players in soccer/hockey), AFL players,
- fartlek – most relevant to teams sports due to the change of speed seen throughout most games,
- long interval – may not be as relevant to team sport application. May be used by players who get rest between efforts – eg defensive players.
- Relevant to all sports (even anaerobic) to build a base fitness like in pre-season, and to maintain fitness during in season.
- Not all methods required, only those suitable to the sport used.

Anaerobic Training (power and speed) –

- developing power through resistance/weight training –
    - using fast speed of contraction with heavier weights
    - Also use of resistance like parachutes, sleds, elastics to create resistance while attempting to move fast, enhancing fast twitch muscle fibres. Great for explosive speed required in many team sports
- plyometrics –
    - will develop reactive power essential in many team sports (ie for jumping for ball/intercept)
    - activities generally begin low impact – hopping/stepping/bounding then high impact like reactive drop jumps
- short interval – important in many team sports for short explosive sprints and powerful throws.
- Not all methods required, only those suitable to the sport used.

Flexibility training –

- Static – required in all sports, especially as a component of warm up/cool downs to all training sessions and games to prevent injury
- Dynamic – may be included after static stretching to improve specific flexibility related to sports requirements

- Ballistic – usually won't be required by team sport athletes, although goal keepers may use to resemble some sport specific movements of jumping and landing in split positions to attempt to save goals (hockey)
- Not all methods required, only those suitable to the sport used.

Skill Training –

- drills practice – to improve skills for improved game play performance
- modified and small-sided games – to put skills into practice in pressure type situations
- games for specific outcomes, eg decision-making, tactical awareness (defensive moves, set attacking plays)
- Most relevant to team sports (easiest to justify)
- Not all methods required, only those suitable to the sport used

Sample paragraph

In a team sport like HOCKEY there are a number of training methods that will occur. TWO essential training types are Skill Training and Aerobic Training. To be able to improve throughout a season as an individual and as a team Hockey players will require to participate in regular skill training. A skill training session will need to have a variety of elements. One important element is drills practice. Drills practise involves repetition of skills specific to the sport. In hockey this would include dribbling, passing, hitting, shooting and tackling. Beginners would spend a lot of time focusing on this method of training, in an individual and low pressure situation. Advanced athletes would still need to focus on this, but may spend less time on individual practise and have the skills practised in drills requiring combinations like in a game situation with higher pressure. This would allow the application of these skills to come more naturally with less errors, therefore improving performance in weekly competitions resulting in the team progressing to finals towards the end of the season. . .

Marker's Comments

- Generally well answered with most students referring to key syllabus points and citing appropriate and relevant examples.
- It was clearly evident in responses that stronger candidates had an excellent knowledge of the Improving Performance syllabus. Each question was heavily syllabus based and if candidates were able to draw on their syllabus knowledge, they achieved excellent results.
- A number of candidates failed to include examples in their responses – after 12 months studying the PDHPE course this is unacceptable.
- A number of candidates failed to write with an answer plan and their responses subsequently lacked structure and shape. Conversely, candidates who constructed answer plans wrote clearly and sequentially and ultimately achieved the highest marks.
- Candidates should underline key syllabus points and examples in their responses.
- Handwriting from some candidates was very difficult to read.
- Some candidates missed entire syllabus sections and subsequently achieved lower marks.
- As this was the last question, time management proved to be an issue for some candidates who ran out of time and were unable to finish the final 12 mark question.

End of paper