BOARD OF STUDIES
NEW SOUTH WALES

2013 HSC
Personal Development, Health and Physical Education
Marking Guidelines

Section I, Part A

Multiple-choice Answer Key

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

Section I, Part B

Question 21

Criteria	Marks
• Indicates the main features of TWO indicators of morbidity and provides examples	3
• Identifies TWO indicators of morbidity OR • Sketches in general terms about morbidity through the use of examples	2
• Identifies an indicator or an example of morbidity	1

Sample answer:

Prevalence is the proportion of a population found to have a disease at a specific point in time (eg 1 in 4 adolescents suffer from a mental illness). Incidence is the number of new cases arising in a population within a specified period of time (eg in 2007 there were 1.8 million reported cases of mental illness in Australia).

Answers could include:

- Prevalence
- Incidence
- Hospital use
- Medicare statistics eg. GP visits
- Health surveys

Question 22

Criteria	Marks
• Provides characteristics and features of what consumers need to consider before choosing complementary and/or alternative health care approaches	4
• Sketches in general terms what consumers need to consider before choosing complementary and/or alternative health care approaches	2–3
• Provides an example of complementary and/or alternative health care approaches OR • Provides an example of a consumer consideration when choosing complementary and/or alternative health care approaches	1

Sample answer:

It is important for consumers to ensure that alternative and complementary health care practitioners have a formal education and are certified by a registered authority. Consumers of these approaches need to know whether they can be combined with conventional medicines and treatments and whether they are likely to improve or decrease health outcomes. A consumer should know there are risks (including death) that may occur by using some alternative and complementary approaches.

Answers could include:

- Cost – health insurance cover
- Accreditation and qualifications of provider
- Benefits/risks/side effects of treatment
- Safety and reliability
- Research with GPs, internet (government sites), friends and family with previous experience
- Range, type and examples of complementary and alternative health services eg. chiropractic, iridology, aromatherapy, naturopathy, osteopathy

Question 23

Criteria	Marks
• Clearly explains why it is important to prioritise particular health issues in Australia • Provides examples which clearly support the prioritising of health issues	5
• Explains why it is important to prioritise particular health issues in Australia • Provides examples	4
• Sketches in general terms reasons for identifying health priority issues OR • Provides characteristics or features of some of Australia's health priority issues	2-3
• Names some health priority issues in Australia OR • Provides facts or information about health priority issues	1

Sample answer:

It is important to prioritise health issues in Australia to ensure fair allocation of resources and funding to those who need it (bulk billing/PBS), essential to meet the needs of a diverse range of people (CALD/low SES) and to ensure supportive environments to empower individuals to take ownership/actions to improve their own health (*Social justice principles*).

Certain groups suffer greater health burdens and it's essential that these groups are identified and provided for as they have the greatest need (ATSI, lower SES, elderly) *(Priority Population Groups)*. It's also vital to target health promotion, funding and resources towards lowering mortality/morbidity issues which affect society the most (CVD/Cancer) *(Prevalence).*

Answers could include:

- Cost to individual/community
- Prevalence
- Social justice principles
- Priority population groups
- Early intervention/prevention

Question 24

Criteria	Marks
• Makes the relationship clearly evident between the principles of social justice and the FIVE action areas of the Ottawa Charter • Provides examples that support the relationship and demonstrate a clear understanding of social justice principles	8
• Makes the relationship evident between the principles of social justice and action areas of the Ottawa Charter • Provides examples	6–7
• Provides characteristics and features of the action areas of the Ottawa Charter AND/OR • Provides characteristics and features of the principles of social justice	4–5
• Sketches in general terms the action areas of the Ottawa Charter OR • Sketches in general terms the principles of social justice	2–3
• Sketches in general terms the Ottawa Charter or social justice	1

Sample answer:

Social Justice Principles (SJP) (participation, equity, access and rights) are an essential foundation for Health Promotion (HP) strategies and are strongly linked in the Ottawa Charter.

Developing Personal Skills (DPS) – individuals use knowledge and skills to make informed decisions and positively influence those around them. SJP linked to DPS are EQUITY and ACCESS; ACCESS to the education and information necessary to develop the skills and EQUITY to ensure access is not limited by economic status, gender, race etc (NSW – compulsory education until 17 yrs).

Creating Supporting Environment (*CSE*) – increases a person's chances of making changes to benefit their health. SJP of PARTICIPATION relates to *CSE* by encouraging individuals and communities to participate in strategies which will benefit/improve their health (using QUIT helpline).

Strengthening Community Action (SCA) – HP is more effective when communities get involved/support. SJP of EQUITY and RIGHTS is reinforced by valuing an individual's/community's culture which will strengthen the success of the HP strategy (Relay for Life).

Reorient Health Services (RHS) – encourages health professionals to move beyond traditional medicine and employ diverse treatment methods. EQUITY is addressed in RHS to ensure health services cater for all, irrespective of culture, race, SE (alternative therapies). In addition, the SJP of ACCESS and RIGHTS is used to ensure every Australian has access to our health system (Medicare).

Answers could include:

- Developing personal skills
- Creating supportive environments
- Reorienting health services
- Developing healthy public policy
- Strengthening community action
- Equity
- Diversity
- Supportive environments

Question 25

Criteria	Marks
• Shows the effect of stroke volume and cardiac output on aerobic performance	3
• Sketches in general terms the effect of stroke volume and cardiac output on aerobic performance	2
• Provides features of stroke volume OR cardiac output	1

Sample answer:

Stroke volume is the amount of blood pumped out of the heart each beat. Cardiac output is the amount of blood pumped each minute. Both are increased as a consequence of aerobic training, resulting in greater aerobic performance due to an increase in oxygen-rich blood supplies being circulated to the working muscles.

Answers could include:

- Increase in stroke volume and cardiac output
- Increase in oxygen
- Increase blood supply
- Adaptations from regular aerobic training

Question 26

Criteria	Marks
• Provide features of THREE characteristics of the learner that can influence their ability to learn a new skill	4
• Provides features of TWO characteristics of the learner that can influence their ability to learn a new skill OR • Sketches in general terms THREE characteristics of a learner that can influence their ability to learn a new skill	3
• Sketches in general terms characteristics/features of the learner OR • Provides features in ONE characteristic of the learner that can influence their ability to learn a new skill	2
• Recognises and names characteristics/features of a learner	1

Sample answer:

Heredity refers to genetic characteristics which are unmodifiable. Someone who is tall and lean may be more suited to activities where height is an advantage to learn a new skill, eg reach advantage in basketball when learning a layup.

Confidence refers to the belief a person has in their ability. A beginner athlete taught a difficult skill (eg throwing a javelin) without positive feedback may have their motivation reduced due to the large number of errors typical in the early stages of learning this complex skill.

Prior experience refers to a learner having a background in a similar skill (eg a tennis player learning to perform a volleyball serve which has a similar motion to a tennis serve can be accelerated in their learning progression due to some of the basic movement elements already being learned).

Answers could include:

- **Heredity** – muscle fibre composition, somatotype, gender, intelligence
- **Personality** – motivation, concentration, aggressiveness, cooperativeness, willingness to take risks, determination, enthusiasm, dedication, patience, willingness to listen
- **Ability –** how well an athlete learns skills - sense of acuity, perception, reaction time, intelligence
- **Prior experience –** skills, fitness, age
- **Confidence**

Question 27

Criteria	Marks
• Clearly provides advantages AND disadvantages of protein AND creatine supplementation for improved athletic performance	5
• Provides the characteristics and features of protein AND creatine supplementation AND/OR • Makes the relationship evident between protein OR creatine supplementation and improved athletic performance	3–4
• Provides the characteristics and features of protein OR creatine supplementation	2
• Sketches in general terms the nature of protein and/or creatine supplementation OR • Provides facts or information regarding supplementation	1

Sample answer:

Creatine supplementation improves resynthesis of ATP and recovery of ATP stores. This recovery and improved resynthesis of ATP allows for increased repeated bouts of explosive movements as used in Basketball. A negative aspect of using creatine supplementation is sometimes experienced by endurance athletes. For example, they are more likely to experience muscle cramping when taking creatine to improve performance.

Protein intake is important for muscle recovery and increased strength, hence its importance for athletic performance for an athlete whose normal diet is lacking protein. Disadvantages of protein supplementation can involve an increase in body weight and increased stress on kidneys.

Question 28

Criteria	Marks
• Clearly explains how the use of psychological strategies can enhance motivation and manage anxiety • Uses examples that strengthen the argument or conclusion	8
• Explains how the use of psychological strategies can enhance motivation and manage anxiety • Uses examples	6–7
• Provides characteristics and features of psychological strategies that can enhance motivation and/or manage anxiety	4–5
• Sketches in general terms psychological strategies that can enhance motivation and/or manage anxiety	2–3
• Identifies psychological strategies that can enhance motivation and/or manage anxiety OR • Provides facts or information on psychological strategies	1

Sample answer:

Concentration skills involve athletes focusing and maintaining attention on appropriate stimuli during performance. Improved concentration can positively affect motivation and manages anxiety. Golfers may use set routines in their preparation for a putt to assist with focus and reduce anxiety caused by external cues. Marathon runners may concentrate on heart rate and breathing as a way to maintain their motivation to continue.

Mental rehearsal strategies involve the creation and repetition of mental pictures relating to a movement or sequence. This increases the brain's familiarity with the execution of a desired motion, reducing performance anxiety and instilling confidence in the athlete. A footballer taking a conversion might see the ball going through the posts as they stand ready to approach a conversion attempt, thus reducing anxiety from external pressure and generating confidence in their ability to achieve the performance goal.

Relaxation techniques can greatly assist athletes who are susceptible to states of over-arousal. A diver may use centred breathing as they are waiting to perform their dive to clear their mind, relax and focus on what they have to do. An archer may use progressive relaxation techniques in training to release any muscular tension and to practise using trigger words they can apply during competition.

Goals provide an athlete with a reason to persevere with training over extended periods. They can be related to the quality of performance or outcome of the result. They provide focus, give direction, and help to motivate athletes to reach their aspirations.

Section II

Question 29 (a)

Criteria	Marks
• Clearly explains a range of risk and protective factors associated with ONE health issue affecting young people • Makes the relationship clearly evident between a range of risk and protective factors associated with a health issue affecting young people • Uses examples to support the relationship	8
• Makes the relationship evident between risk and protective factors and a health issue affecting young people • Uses examples	6–7
• Provides characteristics and features of risk and protective factors associated with a health issue affecting young people	4–5
• Sketches in general terms risk and/or protective factors associated with a health issue affecting young people	2–3
• Recognises and names risk and/or protective factors associated with a health issue affecting young people OR • Provides facts or information on risk and/or protective factors	1

Answers could include:

There are a range of risk factors which can significantly increase the possibility of mental health problems and illnesses. These include:

- Social or cultural discrimination – this causes a lack of self confidence and self esteem in individuals which may lead to an increased risk of depression. People who don't experience social or cultural discrimination find it easier to gain employment and lead a productive life which reduces the risk of some mental illnesses.
- Family violence or conflict – evidence shows that individuals who suffer from family violence are significantly more likely to suffer from mental illness and engage in risk taking behaviours, eg drug abuse, which can lead to mental health illness.

There are a range of protective factors that may help to minimise the effect of these risk factors, as well as providing protection against them occurring in the first place. These include:

- Positive and secure relationships – if a young person has positive role models within the family and among their peers they are able to draw upon positive support structures that can help guide them through difficult times that could potentially increase the risk of developing a mental illness.
- Well-developed social skills – a young person who is able to communicate openly about their feelings tends to have coping strategies which will decrease the risk of mental health issues.

Question 29 (b)

Criteria	Marks
• Clearly explains the developmental aspects that affect the health of young people • Makes the relationship clearly evident between the developmental aspects and their influence on young people's priorities and values of health • Uses examples to illustrate the relationship	11–12
• Makes the relationship evident between aspects of development and their influence on young people's priorities and values of health • Uses examples	8–10
• Shows the relationship between an aspect of development and its influence on young people's priorities and values of health OR • Provides characteristics and features of a range of aspects of development that influence the health of young people	5–7
• Sketches in general terms some of the aspects of development that influence the health of young people	3–4
• Recognises and names some of the aspects of development that influence the health of young people OR • Provides facts or information on the aspects of development that influence the health of young people	1–2

Sample answer:

As adolescents grow they begin to revise their roles with family, friends and peers. This can have both a positive and negative influence on the value and priority they place on their health. Positive influences can be the social stigma attached to smoking or binge drinking. Peers could see this as unacceptable behaviour and socially ostracise the individual, causing them to question and revaluate their priorities. Equally, adolescents with a peer network that happily engages in smoking and binge drinking could influence that individual to place a low priority and value on their health and that of others.

In family relationships it's often the family culture and/or religion that influence the values and priorities adolescents place on health. An individual raised in a strict religious household could hold values which positively affect their health (eg no sexual intercourse before marriage reduces the risk of contracting a sexually transmitted disease). However, religion can also affect an adolescent's health in a negative way in that they may not have access to all medical services or treatments due to religious beliefs.

Developing self-sufficiency and autonomy will also affect an adolescent's priorities and values on health. As adolescents seek employment, learn to drive and manage their daily lives they become increasingly independent and make their own decisions for their health. Education, training and employment pathways also broaden their understanding of work, health, diet and self-esteem and can sometimes question their current understanding and therefore value they place on various lifestyle aspects (eg diet, exercise). Education can sometimes negatively impact an adolescent's health through inadequate or incomplete information delivered via the media (eg fad diets).

A major developmental stage in adolescence is when the individual begins to question and clarify their own personal identity and self-worth. This is a time of confusion and constant juggling of values and belief systems significantly affecting the mental/emotional, social and physical health of an adolescent. Some adolescents deal with this transition well, experiencing a strong social network that creates a sense of self and confidence which positively impacts on their identity and health. In contrast, a young person who is socially isolated and suffers from low self-esteem can suffer from mental health issues stemming from a lack of confidence and self-worth. An individual may place a negative value on relationships and social networking due to the harm they experience and continue to spiral into poor health which leads to a low priority of health in later years.

Question 30 (a)

Criteria	Marks
• Clearly explains how images and language used by the media can contribute to our perspectives of sport • Makes the relationship clearly evident between the use of language by the media and its influence on societal views and opinions • Uses examples to support the relationship	8
• Makes the relationship evident between the use of images and language by the media and its influence on societal views and opinions • Uses examples to support the issue	6–7
• Provides the characteristics and features of the media using images AND/OR language to influence societal views and opinions	4–5
• Sketches in general terms the images AND/OR the language used by the media to shape societal views and opinions	2–3
• Presents ideas, facts or experiences of the media using images AND/OR language in a sporting context	1

Sample answer:

The media and sport have shared a two-way relationship for generations with sport providing the content and drama and the media providing the coverage in many forms (print, television, internet, radio). Because of this relationship the media influences our thoughts, perceptions and ideals of not only sport but the society we live in.

As the media generally delivers its message through what we see (images) and hear (language) it can use the powerful tool of relating weekend sport to heroic war efforts or battle. One language technique commonly used is metaphor. Metaphors relate the current subject content to that of a past event. Images tend to support and reinforce the language. Terms such as 'State of Origin Battle' or 'Coaches at War' are used frequently. This contributes to society placing high importance on the outcomes of matches/games and elevates an individual from athlete to 'hero' thus influencing the way society views, sees and treats their athletes and sport. This of course flows into mainstream life, as we transfer weekend sport into our daily lives. This can be both positive and negative. A negative impact would be people believing they can behave with the same aggression/passion in their local club matches (State of Origin fights, inappropriate language used on the field, etc). A positive is that they idolise athletes and apply the same dedication and perseverance to their own training game play and this in turn flows into their daily lives/school or work pursuits.

Answers could include:

There is a two-way relationship between sport and the media. The language and images used by the media often reinforce stereotypes within our society.

- How the media gives meaning to sport through the use of language
- The use of metaphors to emphasise societal views
- Negative and positive influence of the media on sport and society
- Difference in male and female language and its impact on societal views/opinions

In newspaper print the media uses language and images in their headlines to attract the reader's attention. So regardless of whether people read the article or just view the imagery the media has facilitated a two way communication with the reader, absorbing this information and using it consciously or unconsciously in their daily lives. These headlines often emphasise physicality ie strength, power, size. This influences society into believing that they need the same physical attributes to succeed. This of course could be a contributor to school/workplace bullying – a common societal behaviour.

This type of language/imagery can be particularly negative towards society's views and opinions of sportswomen. The media portrays women as both feminine (photo shoots) or manly and muscular. This can influence the way the general population sees women athletes and the general female population. Countless times the media has been responsible for influencing readers and society into believing that female athletes need to be masculine (Serena Williams) to achieve success or take on male characteristics. An example of this is a newspaper heading 'Stossur Played Like a Man' – while it was a line quoted by her opponent in a post match interview it still holds negative connotations that impact the way society will perceive female tennis players. The media can also contribute and influence society into believing that a woman is not a 'true athlete' because their motherly choices or lifestyle seem a higher priority than sport.

In conclusion, the media's relationship with society is a powerful one, which impacts both positively and negatively on shaping our views, opinions and behaviours. Sport is no exception. The use of powerful language and imagery in both the headlines and articles reinforces common stereotypes within society.

Question 30 (b)

Criteria	Marks
• Clearly shows what has changed in Australian sport since the 19th century • Draws upon issues by identifying the relationships between the 19th century and now • Provides examples to support the changes and relationships	11–12
• Clearly shows what has changed in Australian sport since the 19th century • Provides examples to support changes	8–10
• Provides characteristics and features of changes to Australian sport since the 19th century • Provides examples	5–7
• Sketches in general terms some of the changes to Australian sport since the 19th century	3–4
• Recognises and names some of the changes to Australian sport since the 19th century OR • Provides facts or information relating to changes in Australian sport	1–2

Sample answer:

19th century sport mirrored Britain where it served a specific social purpose; division of class and instilling appropriate behaviour, divided into **amateur and professional status**. Amateurs were upper class, who were not paid to play sport, competing for 'the love of the game' and were considered true sportsmen. Amateurs had moral superiority. Professional players received payment for participation and were working classes and viewed as undesirable by society's pillars. For example, cricket tours – amateurs and professionals stayed in separate accommodation and entered the field from different gates.

Sport was a **manly** pursuit (boxing) that was played to display masculine power/dominance over an opponent, demonstrating courage that was valued, and reinforced the typical 'colonial' image (male, heterosexual, tough). Associated with this masculine predomination of sport was '**muscular Christianity**'– a concept of a healthy body combined with fine morals of sportsmanship. For example, cricket was played in boys' public schools to build character/discipline.

Women played a marginal role and their participation was restricted. Their role was to be motherly and decorative and expected to be fragile, feminine and always sedentary. The medical profession believed activity to be detrimental to their reproductive organs.

The **commodification** of sport in the 21st century was led by **the development of professional sport,** which improved the standard of sport. Consequently, the values associated with sport have radically changed. Sport becomes a product available to buy/sell and many athletes are paid millions for their participation and endorsement of product eg Steph Rice's partnership with Davenport boomed after her success in the 2008 Beijing Olympics. Sporting teams owned by corporations/ individuals (Nathan Tinkler – Newcastle Knights), sporting logos are used to sell products (t-shirts/caps) and the commercialisation of sport in the media involves bidding for TV rights.

Sport is now considered **big business** described as a consumer product/industry, where many clubs operate as companies; shares in the stock market, teams now have coaches, trainers, doctors, and media managers. Elite athletes are used to convince consumers to buy certain products as companies seek association with certain players who are figures of public respect and **sponsorship and advertising** have become commonplace. For example, Ian Thorpe is sponsored by Uncle Toby's – they provide him with resources and he fulfils certain corporate responsibilities. To be marketable, athletes must conduct themselves in a particular manner (fair/honourable) thus the values from the 19th century have remained.

In relation to **women**, participation progressed from the early 19th century due to advances in feminism, greater independence, and the realisation of the benefits of sport. In 1800s, the establishment of amateur tennis associations resulted in first competitive participation. The 1912 Olympics brought a breakthrough for women's sport when Fanny Durack won gold in 100 m freestyle. The first time women had competed in Olympic Games and an example of women overcoming the hurdles that restricted them from competing. Now, women are able to compete in almost all sports men do.

Most 'professional' sports are still male dominated and much of the media's coverage focuses on the fashion of women's sport. There have been developments that have enabled women's sport to secure key sponsors (Netball).

Thus it is evident that the nature of sport and physical activity in Australian society has undergone significant alteration since the 19th century.

Question 31 (a)

Criteria	Marks
• Clearly explains how skill and physical tests are used to indicate an athlete's readiness to return to play after injury • Provides examples that indicate the relationship between the tests and readiness to return to play after injury	8
• Explains how skill and physical tests are used to indicate an athlete's readiness to return to play after injury • Provides examples	6–7
• Provides characteristics and features of skill and physical tests used as indicators of an athlete's readiness to return to play	4–5
• Sketches in general terms the use of skill and physical tests used as indicators of an athlete's readiness to return to play	2–3
• Provides facts or information regarding tests or readiness to return to play protocols	1

Sample answer:

Return to play is a co-ordinated effort between the athlete and medical staff. All athletes returning to play should undertake and pass comprehensive skill and physical related tests. These tests should include a demonstration of pain-free full range of motion. For example an athlete who injures their shoulder in a game of football should be able to complete a circumduction test free of any musculoskeletal pain. Should an athlete experience any discomfort or pain, this would indicate that they are not ready to return to play.

In addition to being pain free the athlete must have a normal degree of mobility at the injury site. For example a soccer player who has a torn ligament should undergo various physical skills such as agility and mobility tests (eg Illinios Agility Test) to ensure that they can successfully bear full weight and complete all full pre injury duties.

There are a few other methods of helping to determine if an athlete is ready to return to play in terms of skill and physical tests, specifically strength and flexibility testing. Strength testing involves comparison between injured and uninjured limb. This is to ensure that the athlete has recovered full mobility and strength to prevent recurrence of injury or causing a secondary injury. It also ensures optimal performance upon return to play. To perform these tests the athlete must perform exercises that are related to the sport eg kicking a football with both inured and uninjured leg. If the athlete can demonstrate they have 90–95% of strength and range of motion returned to the injured limb they would be determined fit to play under this strength and flexibility testing protocol.

A number of the generic skills tests can be utilised to compare an athlete pre injury to post injury, for example using the vertical jump to test for muscular power in a basketball player in pre season can provide you with a guide and comparable statistics to judge their readiness to return to play for activities related to jump shots and slam dunk.

Game-specific skill tests are a traditional method for assessing if an athlete is fit enough to return to play by putting them through a series of game specific drills (like running, pivoting, passing, throwing). Athletes should be assessed by qualified staff that they can complete these specific game related skills to an acceptable level of capable of being competitive upon return to play.

Question 31 (b)

Criteria	Marks
• Demonstrates a clear understanding of acclimatisation and fluid intake strategies in regulating the body's temperature • Makes a clear judgement and determines the value of acclimatisation and fluid intake strategies being used to regulate the body's temperature • Provides examples to support the judgement	11–12
• Demonstrates an understanding of acclimatisation and fluid intake strategies in regulating the body's temperature • Provides reasons why acclimatisation and fluid intake strategies are being used to regulate the body's temperature • Provides examples	9–10
• Provides characteristics and features of acclimatisation and/or fluid intake strategies used to regulate the body's temperature	6–8
• Sketches in general terms acclimatisation and/or fluid intake as strategies used to regulate the body's temperature	3–5
• Provides facts or information about acclimatisation and/or fluid intake	1–2

Sample answer:

Acclimatisation is a key strategy athletes use to regulate their body temperature in different climatic conditions. Acclimatisation to heat is a process by which an athlete becomes accustomed to increased heat over the course of 4–14 days prior to competition. Heat acclimatisation involves both the initial acclimatisation period of being in the location where the event/sport will be competed and also the training practices employed in that location prior to competition. An example of this was the most recent Commonwealth Games held on the sub-continent of India. India's climate is much hotter and more humid than Australia. Therefore to combat the heat and humidity of India and the associated increased sweating, loss of body fluid and increased body temperature that most Australian athletes would experience a period of heat acclimatisation prior to the Games was necessary.

In order to regulate their temperature prior to the Commonwealth Games, Australian athletes while still in Australia would have trained in 'heat rooms' and during hotter parts of the day to adjust their body's regulation processes to the anticipated climate conditions. This enables the body's mechanisms to adjust and aid the athlete to experience the increased body temperature in India. While in India many athletes trained using ice vests in the early stages of their arrival in the country to allow their body to gradually adjust to the new climatic conditions. This is a well proven and vital strategy used by athletes to ensure maximum performance is not decreased through having hyperthermia and/or de-hydration/heat stroke from not adequately preparing for the climatic conditions.

Fluid replenishment during sport is a controversial topic regarding how well it allow athletes to cope with a variety of climatic conditions. There is debate over the effectiveness of water versus the popularised sports drinks and even vitamin waters. We know that athletes should at least replenish their weight loss during exercise with water ie for every kilo lost, replenish with 1 litre of water. This is important because being dehydrated decreases the body's ability to regulate core temperature. This is vitally important in areas where the climatic conditions are severe or vastly different to the areas an athlete would usually compete or train in such as higher or lower altitudes, different hemispheres etc. The body would not be used to regulating its temperature under pressure in these situations and without adequate hydration this would place the body under further stress, possible harm and reduce performance.

Acclimatisation is by far the most effective strategy an athlete can use in both hot and cold climatic conditions. This is because it promotes an internal adaptation and prevents the risk of all heat related illnesses.

Question 32 (a)

Criteria	Marks
• Clearly explains the ethical issues associated with the use of technology in sport • Makes the relationship clearly evident between the ethical implications and the use of technology to improve performance • Provides examples of the relationship between technology and improving performance	8
• Demonstrates the use of technology to improve performance • Relates the ethical implications associated with the use of technology to improve performance • Provides examples of ethical issues in the use of technology in sport	6–7
• Provides characteristics and features of technology used to improve performance • Recognises an ethical issue regarding the use of technology to improve performance	4–5
• Sketches in general terms some use of technology and/or ethical issues used to improve performance	2–3
• Provides facts or information regarding technology used OR an ethical issue in sport	1

Sample answer:

Equipment advances include: lightweight running shoes, swimsuits, golf balls, lighter and more aerodynamic bikes, broom stick handle in golf and heart rate monitors. Equipment advances have given modern athletes an advantage in terms of equipment available to improve performance. New and advanced technologies enable athletes to perform and compete at standards that were once considered impossible. For example, new materials such as stronger, lighter carbon are now being used for bikes.

While there have been benefits associated with the use of technology, there have also been some associated issues such as unfair access and competition. For example, invited athletes who attend Institutes of Sports have access to a wealth of technology to monitor adaptations, analyse and evaluate techniques, to make them the best in the world. This provides those athletes who have access to technology and equipment advances an unfair advantage in competition.
Some of the equipment advances are expensive. Unless an athlete has the financial support behind them, they may not have access to the same equipment. For example if two cyclists are racing, one with a more expensive, lighter, more aerodynamic bike compared to the other cyclist, then the athlete with the lightweight bike has a superior advantage. Hence the race is not solely about athletic ability, and therefore unfair.

Question 32 (b)

Criteria	Marks
• Demonstrates a clear understanding of the elements of a training session • Supports an argument for the use of the elements to be considered when designing a training session • Makes evident the relationship between the elements of a training session and improved performance • Provides relevant examples of the relationship between the elements of a training session and improved performance	11–12
• Demonstrates a clear understanding and draws conclusions between elements of a training session and performance • Provides relevant examples	8–10
• Provides characteristics and features of elements of a training session and/or initial planning considerations or planning a training year • Provides examples	5–7
• Sketches in general terms elements of a training session or initial planning considerations or planning a training year	3–4
• Recognises and names elements to be considered when designing a training session OR • Provides facts or information about training session planning or design	1–2

Sample answer:

There are many elements that need to be considered when designing a training session. These elements are: health and safety considerations, providing an overview of the session to athletes with specific goals, warm-up, cool down, skill instruction, skill practice, conditioning, evaluation. These are all very important since they assist with matching training with the ability of the athletes and improving performance.

Health and safety considerations are very important since they help protect the wellbeing of athletes. Recovery from training and competition is an important health and safety consideration. Communication between athletes and coach and rehabilitation staff ensures that sessions are modified to meet the needs of the athlete, considering factors such as injuries, fatigue, and muscle soreness. For an injured athlete if the session is not modified the injury could get worse leading to the athlete being unable to play in a competition.

Providing an overview of the session helps coaches prepare the athletes psychologically for training. This assists with developing objectives and goals for the session so that the athletes have focus. For example during the in-season the coach may set the objective of improving defence for the soccer team, due to poor defence in the previous game.

A warm-up physically and mentally prepares the body for training. This is essential because it reduces the risk of injury and helps with improved performance during the training session. The cool down is also essential since it assists with recovery and removal of waste products after the training session. For example a soccer team walking three laps around the oval after training to reduce muscle soreness after a high intensity, high quality session.

Skill instruction and practice involves athletes practising skills and improving both game strategies and tactics. This is an essential part of in-season training sessions. For example during the in-season soccer players may perform skills and drills in competition and game-like situations. This is important since it improves performing skills under pressure similar to in competition.

Conditioning includes the development of fitness components necessary for success in the sport. For example a swimmer who specialises in 50m sprints will focus during the in-season on developing the alactic energy system, lactic energy systems, reaction time, power, strength. This is important to assist with the athlete peaking and being in top condition to perform at his or her best.

Lastly is evaluation. This is also important. It involves providing the coach and athletes the opportunity to provide feedback and review the training session. For example the coach may ask questions to assess the rate of perceived exertion, which can be used to modify future training sessions to prevent over training and developing future workloads.

Question 33 (a)

Criteria	Marks
• Clearly explains TWO factors that contribute to health inequities in different population groups • Makes the relationship clearly evident between the factors that create health inequities and their impact on different populations • Provides examples to support the relationship between factors and health inequities	8
• Makes the relationship evident between the factors that create health inequities and their impact on different populations • Provides examples	6–7
• Provides characteristics and features of factors that create health inequities that impact on different populations	4–5
• Sketches in general terms factors that create health inequities that impact on different populations	2–3
• Recognises and names factors that create health inequities that impact on different populations OR • Provides facts or information regarding health inequities in Australia	1

Answers could include:

How a person lives their **daily life** will have a significant impact on their health. Every human needs basic living conditions to survive and these include shelter, food and clean water. Other essential items, which the lack of can contribute to health inequities, include health care, education, sanitation, adequate lighting and heating, uncrowded dwellings etc. People living in cities have access to many vital services, which rural and remote communities lack such as constant clean water, and garbage disposal services. Without these services on a consistent basis people living in these areas can become more susceptible to communicable diseases. Another such group is the homeless. These people do not have a sheltered environment and available food is not conducive to good health. They often live in overcrowded areas, suffer greater stress and are more susceptible to diseases from drug use and prostitution.

The development of a young life is essential for good overall health and life expectancy. This includes gestation care through to toddler years. Poor health from slow growth or abnormalities occurs from the health of a pregnant mother. These can result from smoking when pregnant, alcohol and drug use and nutritional deficiencies. All these will affect the health of an unborn child and thus its health later in life and potentially lead to health inequities. Groups where this is most likely to occur are: homeless (lack of nutrition, drug use etc), incarcerated mothers (drug use, smoking) HIV/AIDS (pass disease to child) and Rural and Remote (less access to health services).

Access to health services is imperative for good health. Rural and remote locations have fewer doctors (GPs), hospitals and dentists compared to urban areas. Often R&R people have to travel hundreds of km to access health services and transport is also an issue. Other groups who experience difficulties are low SES, disabled and the elderly. These populations often have difficulty using public transport or have no means of transport. If an individual cannot access the health services then their health will suffer.

Low SES populations lack the opportunities to participate and access optimal health practices. They often have fewer choices (food, health care services, preventative health care measures), mostly due to lower levels of education, employment and income. Groups experiencing the highest disadvantage are: ATSI, homeless, aged, unemployed.

A society's attitude towards populations can contribute to health inequities in the form of discrimination. Those people who do not feel connected to society tend to engage in unhealthy practices (drug use, antisocial behaviour). Population groups at greatest risk of developing this inequity are: homeless, ATSI, unemployed and the incarcerated.

All levels of government are responsible for health care and the development and implementation of policies. Such policies tend to be geared to the 'general' or wider population and as such do not meet the needs of specific groups in society experiencing health inequities. Many of these decisions are made and entered into with a private provider. An example of this was the Government's change to child care funding in the 1990s. The government paid the allowance directly to families which in turn made the child care centres increase costs. This then limited the access to this service for some populations (low SES) therefore reduced possible employment and affected income (a continuing cycle of low SES).

Question 33 (b)

Criteria	Marks
• Clearly explains how the social justice framework is used to address health inequities • Draws out and relates implications of using the social justice framework to address the causes of health inequities • Provides relevant examples that support the relationship between applying the social justice framework and addressing the causes of health inequities	11–12
• Makes the relationship evident between applying the social justice framework and addressing causes of health inequities • Provides relevant examples that support the relationship between the social justice framework and causes of health inequities	8–10
• Provides characteristics and features of the social justice framework • Provides examples of causes of health inequities	5–7
• Sketches in general terms the features of the social justice framework or causes of health inequalities	3–4
• Recognises and names the components of the social justice framework OR • Provides facts and information regarding social justice OR causes of health inequities	1–2

Answers could include:

Utilising ONE population group experiencing health inequities:

- Aboriginal and Torres Strait Islander peoples
- Homeless
- People living with HIV/AIDS
- Incarcerated
- Aged
- Culturally and linguistically diverse backgrounds
- Unemployed
- Geographically remote populations
- People with disabilities

Sample answer:

The social justice framework consists of: empowering individuals in disadvantaged circumstances, empowering disadvantaged communities, improving access to facilities and services, encouraging economic and cultural change. The social justice framework is very important in addressing the causal factors of health inequity experienced by many population groups such as Aboriginal and Torres Strait Islander peoples.

Empowering individuals in disadvantaged circumstances aims to empower or strengthen individuals to build up knowledge, understanding, motivation and the skills/expertise to enable a person to cope better with stress from external risk factors. It also encourages individuals to gain personal or social skills to change their way of life or to be more resilient when exposed to adversity. For example programs that look to strengthen disadvantaged

individuals include outreach programs to connect to hard-to-reach individuals and groups, counselling services for people who become unemployed (assisting in preventing mental health issues), and supportive alcohol and smoking cessation clinics for people on low incomes. These programs reduce health inequities by improving an individual's knowledge and skills so that better choices and decisions are made.

Empowering disadvantaged communities is important since it allows populations the freedom to live healthy and flourishing lives. It's about increasing the ability of disadvantaged communities to work together to identify and take action on priorities they define as important to their communities.

Empowerment of disadvantaged communities addresses health inequities by providing the basic material requisites for a decent life, control over their community, opportunity to voice their community opinions, large scale engagement and participation in decision-making processes. For example local government taking community health /safety concerns about drink-fuelled violence seriously and reviewing alcohol free zones.

Improving access to facilities and services leads to improved standards in everyday living, working conditions and consequently reduction in health inequities. By providing better access to adequate housing, better sanitation and uncontaminated food supplies, safer workplaces and better levels of health and welfare services, health outcomes are improved. For example having more ATSI primary health-care workers and more purpose built facilities that cater for cultural difference will improve access to health. Such measures will particularly benefit ATSI communities living in poorer conditions, and consequently reduce the health inequity gap.

Encouraging economic and cultural change is necessary for building supportive environments that promote better health for disadvantaged groups. The fundamentals for health, such as ensuring adequate incomes, rewarding employment and providing a safe living environment are necessary to address health inequities. Providing adequate health infrastructure ensures that disadvantaged individuals and groups will no longer live in conditions that maintain the cycle of ill health. An example of this may be a community group in a small town who wish to create their own local medical centre. This would assist in reducing the inequity of access to essential services. The community members may initially work towards gaining help from external trained professionals on how to set up the centre, then look to promote one of their own community members to learn the skills required and support them in possibly gaining an education in nursing or emergency first aid. This support may come from an intersectoral collaboration of a range of sectors such as local government, independent businesses and long-term funding from a large corporation.

Personal Development, Health and Physical Education

2013 HSC Examination Mapping Grid

Section I
Part A

Question	Marks	Content	Syllabus outcomes
1	1	Health expenditure	H2
2	1	Epidemiology	H1
3	1	Health status	H2, H15
4	1	Ottawa charter	H4
5	1	Private health insurance	H5
6	1	Emerging technologies	H15
7	1	Priority health areas	H1
8	1	Cancer	H2, H3
9	1	Growing and Aging population	H15
10	1	Gender health status	H3
11	1	Principles of training	H8
12	1	Types of feedback	H8
13	1	Inverted U hypothesis	H11
14	1	Skill Acquisition	H9
15	1	Resistance training	H10
16	1	Judging criteria	H9, H16
17	1	Recovery strategies	H8, H17
18	1	Energy Systems	H7
19	1	Learning Environment	H8
20	1	Skill Assessment	H9, H16

Section I
Part B

Question	Marks	Content	Syllabus outcomes
21	3	Epidemiology	H2
22	4	Comp and alternative healthcare	H16
23	5	Priority health issues	H1
24	8	Social justice principles and Ottawa Charter	H4, H14
25	3	Physiological adaptations	H7
26	4	Characteristics of a learner	H9
27	5	Supplementation	H8, H11
28	8	Psychological strategies	H11

Section II

Question	Marks	Content	Syllabus outcomes
29 (a)	8	The Health of Young People – Risk and Protective factors and one health issue	H2, H15
29 (b)	12	The Health of Young People – Developmental aspects	H5, H6
30 (a)	8	Sport and physical activity in Australian society – Sport and mass media	H12, H16
30 (b)	12	Sport and physical activity in Australian society – Nature of sport	H12, H16
31 (a)	8	Sports Medicine – Return to play	H8, H13
31 (b)	12	Sports Medicine – Acclimatisation and fluid intake	H8, H13, H17
32 (a)	8	Improving performance – Technology	H8
32 (b)	12	Improving performance – Training session	H10
33 (a)	8	Equity and health – Factors contributing to health inequality	H2
33 (b)	12	Equity and health – Social justice	H14