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## **EXAMINATION REPORT**

**Personal  
Development,  
Health and Physical  
Education**

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# **PERSONAL DEVELOPMENT, HEALTH AND PHYSICAL EDUCATION**

## **Introduction**

In 1997, 8389 students presented for the examination in 2 Unit Personal Development, Health and Physical Education. This was an increase of 410 on the number of students who presented for the examination in 1996.

Students were generally well prepared for the examination, the number of non-attempts being significantly less than in previous years.

The better candidates were able to:

- demonstrate their knowledge and understanding as it related to the requirements of the question. This was usually preceded by a planning phase of identifying the key issues and points to be covered before commencing the response;
- include a broad understanding of the factors related to health issues;
- present opinions, interpretations and options with well developed discussion that clarified their relevance; and
- support arguments by including examples.

This report gives a general commentary of student performance in each of the Core and Option questions. It provides some key factors that characterised the best, average and poor responses.

Examples of student scripts from the three categories and representative of each question are contained in the Board of Studies publication HSC Sample Answers 1997 — PDHPE. This book provides a range of scripts with appropriate examiners' comments and may be purchased by contacting Customer Service at the Board of Studies on Tel: 9367 8178.

The following figures indicate the number of candidates who attempted each option:

Option	No of Candidates
First Aid and Sports Injuries	3471
Community Health Issues	71
Sociology of Games and Sport	694
Two Social Health Issues: Drug Use and HIV/AIDS	951
Human Movement Analysis: Biomechanics	113
Applied Anatomy, Exercise Physiology, Principles of Training and Fitness Testing	230
The Art and Science of Coaching	2859

Students showed the benefit of their extensive study of the options by producing a significant number of outstanding answers. A cause for concern is the length of some of the excellent responses. Students may be concentrating on this one part of the paper at the expense of allowing sufficient time for other parts of the paper. As a general guide students should allow only 35–40 minutes for the option and their response should be 4–6 pages in length.

Other students attempted options for which they were ill-prepared or attempted more than one option. This resulted in answers that were notable for their brevity and failure to demonstrate breadth and depth of understanding when compared with better responses.

**Students and teachers should note that 1997 was the final examination in which the First Aid and Sports Injuries Option was examinable.**

**It is now part of the Preliminary Course only.**

## HSC Marking Procedure

### The Marking Process

Multiple Choice answers to Section I of the 2 Unit Personal Development Health and Physical Education examination are computer-processed. Sections II and III are marked by at least two independent markers at different stages of the marking process.

Prior to commencement of marking Senior Markers read a wide sample of student responses in order to develop a marking scheme. Markers participate in an extended briefing session in order to gain a shared understanding of the marking scheme. This phase of the process involves detailed discussion, sampling of further scripts, and negotiating modifications to the scheme as appropriate.

When all markers are comfortable with their understanding of the marking scheme and have shown consistency of interpretation in marking a range of control scripts, the piloting phase commences. During piloting, markers adopt full marking procedures.

Three major procedures are used to test the accuracy and consistency of markers :

- I       Markers record the marks they award on a tally card that is analysed statistically each night
- II      Senior Markers check-mark sample scripts of each of their team members
- III     A range of control scripts is examined by all markers each night.

When Senior Markers consider that the criteria are appropriate and that all markers are able to interpret them correctly, marking is commenced in earnest. During real marking each paper is marked twice by independent markers. Should there be a discrepancy of  $\frac{1}{4}$  of the total marks for questions with parts, ie a discrepancy of 5 marks for a question worth 20 marks, the paper is marked again by Senior Markers until resolution of the correct mark is reached.

Throughout the marking process the statistical operation continues, allowing the Supervisor of Marking to monitor progress in each question. Where concerns arise, these are discussed with the relevant Senior Markers. Statistics also provide Senior Markers with an indication of the performance of individual team members. When some variation in marking patterns is observed, the Senior Marker discusses this with the marker concerned to determine if this is due to difficulties with the criteria or due to marking a large number of scripts from above or below average examination centres.

The marking operation includes measures to ensure that markers do not mark scripts from their own school or that of a close relative who has sat for the examination.

## Written Paper

### Section I Multiple Choice

#### Questions 1—20

The following table gives, for each question, the percentage of candidates who chose each response. The correct answer for each question is marked in the table with the symbol \*.

Question	% Response A	% Response B	% Response C	% Response D
1	5.20	19.47*	24.14	50.75
2	48.96*	31.50	18.64	.66
3	13.43	11.37	8.52	66.42*
4	19.56	.33	.83	79.11*
5	10.29	3.27	78.59*	7.58
6	9.46	8.01	82.08*	.31
7	36.92	60.17*	1.03	1.77
8	48.07	9.94	29.54*	12.23
9	59.92*	7.48	13.05	19.25
10	3.01	2.81	9.96	84.09*
11	32.12*	5.06	9.52	53.01
12	70.65*	19.27	8.29	1.65
13	3.43	19.68	66.93*	9.68
14	24.75	10.94	5.23	58.91*
15	53.57*	24.45	5.75	15.88
16	71.52*	2.89	4.40	20.94
17	10.78	24.15	39.78*	25.06
18	7.91	70.24*	16.86	4.79
19	22.88	48.37*	12.69	15.44
20	23.68	9.38	30.38	36.29*

## Section II Core

### Question 21

#### Core 3: Analysis and Management of Community Health

This question was generally poorly answered. A number of candidates failed to answer part

(a) of the question; in some ways this reflects its complexity. Many candidates knew about two health promotion initiatives but did not fully understand how to relate them to the interaction of biological, environmental and lifestyle factors.

In part (b) most candidates were able to identify advantages and disadvantages of private health insurance for individuals. Only the better answers, however, included a broad range of relevant advantages and disadvantages for the community as a whole.

- (a) One characteristic of successful health promotion initiatives is that there is an interaction between biological, environmental, and lifestyle factors.**

**Discuss how two health promotion initiatives have taken account of this interaction.**

This question required students to be able to describe two health promotion initiatives and to discuss how each of these involves an interaction between biological, environmental and lifestyle factors.

Many candidates used *Slip, Slop, Slap, Life Be In It* or *Drink, Drunk, the Difference is You* as examples of health promotion initiatives. A number of students used the *Ottawa Charter* or *Goals and Targets* as examples of initiatives; many, however had considerable difficulty in clearly relating them to biological, environmental and lifestyle factors.

Most candidates were able to discuss two health promotion initiatives and make some attempt at showing the interaction between the biological, environmental and lifestyle factors. The better candidates did this exceptionally well and were able to provide a number of examples for each factor related to the strategies used in each health promotion initiative. For example:

*The 'Slip, Slop, Slap, Wrap' health promotion initiative involves a direct interaction between biological, environmental and lifestyle factors. Biological factors include the damage that ultraviolet radiation does in causing cellular changes which lead to the development of skin cancer. Education and the media have been used to warn people of this as well as other biological factors such as the higher risk to people with fair skin and during the hours 11–3 when the risk of skin damage is greatest. Education and the media have also focussed on how to detect changes in a sunspot or mole.*

Excellent responses included similar discussion for environmental and lifestyle factors for both health promotion initiatives.

Average responses discussed two health promotion initiatives and made some relevant but straightforward links to the biological, environmental and lifestyle factors. In many cases these links tended to be of a general nature and discussion was not supported by clearly relevant examples. For example:

*'Quit for Life' promotes a healthy lifestyle because if you quit you decrease the chances of disease such as lung cancer and heart disease. Environmental factors include reducing passive smoking by the establishment of non-smoking areas in restaurants and banning smoking in other public places and work places.*

The poorer responses described two health promotion initiatives, but failed to identify clearly how biological, environmental and lifestyle factors related to, or underpinned, the initiative or strategies used. Many of these responses simply included a discussion of the health promotion initiative and how it has been advertised through the media. For example:

*The 'Life Be In It' campaign used the cartoon character, Norm, to show people that they needed to get out in the fresh air and exercise (improve lifestyle). Advertisements on television were used to show him sitting watching TV instead of being active. There was also a catchy jingle that went with the campaign.*

**(b) Discuss the advantages and disadvantages of private health insurance for both the individual and the community.**

This question required students to discuss a number of advantages and disadvantages of private health insurance for both individuals and the community.

The better responses clearly indicated the advantages for individuals, the advantages for the community as well as the disadvantages for both individuals and the community. These responses included a number of well considered advantages and disadvantages as well as the more obvious ones. Examples of such responses included:

- *Because private health insurance allows people to be treated quicker for elective surgery (eg knee reconstruction) and often covers physiotherapy for rehabilitation, this means less time during which people are unable to work as well as a healthier, more productive community in general.*
- *One disadvantage to the community is that private health insurance may lead to even greater inequality in health status between those of low SES and the rest of the community, since only those able to afford private health insurance will have increased access to services.*

Average responses identified advantages and disadvantages for both the individual and the community, but few, if any, more advanced concepts were included. For example:

- *There is a wider range of services available under private health insurance and some companies allow you to choose the services you want.*
- *You still have to pay a gap between what doctors/hospitals cost, on top of Medicare levy and private insurance costs.*
- *If more people are privately insured the cost to the government decreases, so more money can be spent on other things eg education.*
- *The demand for services from the public system will be less if a lot of people have private insurance.*
- *If doctors are over-used by private patients they may have less time to give to the public system.*



Poorer responses identified the obvious advantages and disadvantages for individuals but failed to include any relevant discussion of the advantages or disadvantages for the community. For example:

*Advantages for the individual include decrease in waiting time for surgery, choice of own doctor and you can go to the hospital you want. Disadvantage for the individual is that it costs a lot.*

## Question 22

### Core 3: Analysis and Management of Community Health

**(a) Discuss how TWO of the following factors relate to the emergence and impact of a social community health issue you have studied.**

- **Influence of the media**
- **Health care access**
- **Greater independence of young people**

In this question the students discussed a wide range of social community health issues. Many discussed alcohol abuse, domestic violence, HIV/AIDS, the impact of drugs, suicide and injuries. There were also some very good responses using examples such as immunisation of children, skin cancer and smoking as the identified issue.

The majority were able to discuss two of the factors and identify the link between these factors and the emergence and impact of their selected issue. The better students were able to link these factors to both the **emergence** and **impact** of the social community health issue.

For example:

- *The media have the ability to influence whole populations and influence their attitudes. It can be a positive or negative impact. The media played a great role in people believing that being tanned was healthy but more recently it has been used to inform and persuade people that this is not the case (eg, Slip, Slop, Slap and the No Fry campaigns). As more people adopt the messages contained in these campaigns the incidence will be reduced. People who are aware of risk signs can detect skin cancers and have them treated before their impact becomes greater.*
- *The media influence people's lifestyle decisions as well as serving as an educational tool.*

**(i) The Influence of the Media**

The majority of students selected the influences of the media as one of the factors they discussed.

Better candidates showed how the media influence behaviours and are also used to promote changes in behaviours that reduce the impact of their selected issue. For example:

*The media have been a driving force in increasing awareness of HIV/AIDS in the community and indeed the population as a whole. Media campaigns have been launched to try and reduce the increasing incidence of infection, they have increased awareness about the dangers of unprotected sexual activity and given attention to the needle-sharing issue.*

Average responses tended to cite examples of media campaigns without discussing how they influence the population. An example included:

*The influence of the media relates to presenting the community with advertisements giving shock messages showing the consequences of drink-driving. For example, the TV advertisement in which a father comes home to explain to his wife that he has run over a child.*

Poorer responses tended to focus on just one aspect of the media with examples such as references to drink-driving advertisements or events such as the Rock Eisteddfod.

(ii) Greater Independence of Young People

Better candidates who discussed the increased independence of young people were able to identify the impact of various aspects of youth independence. Factors such as increased income, increased freedom, less parental supervision and family breakdown were linked to examples such as motor vehicle accidents, risk-taking behaviour, increased drug and alcohol use, peer pressure, suicide and unsafe sex practices. For example:

*Young people today have greater independence. Part-time jobs, increased income and greater freedom have led to more young people on the road and greater levels of risk-taking. Inexperienced drivers in more powerful cars, combined with drink-driving, have led to increasing levels of road related morbidity.*

Average responses did not discuss the link between increased independence of young people and the social issue. Many responses consisted of general statements such as:

*Because young people have greater independence they are using drugs and alcohol.*

*Young people have much greater pressure which leads to suicide.*

Poor responses showed a lack of understanding of what was meant by *greater independence of young people*.

(iii) Health Care Access

Students who discussed health care access focussed on the positive impact health care facilities can have on improving health status. For example:

- *Access to health care is another factor which has an impact on the emergence of violence. Families affected by violence may be unable to access domestic violence support groups and the health care system itself, thus leading to an escalation of the problem. Areas with least access to health care (often low socio-economic areas) have greater incidence of domestic violence.*
- *It can be argued that if everyone had equal and sufficient health care access the severity and impact of violence would be lessened.*

Average responses showed a very limited link between health care access and the selected issue. Most responses discussed general statements relating to the location of hospitals and doctors.

Poorer responses lacked an understanding of the meaning of health care access.

On the whole there were some very good responses to part (a). Students showed a very good understanding of social health issues and the factors that influence them. The better candidates showed greater understanding of the issues involved. For example:

- *Often the media set social norms and people who see violence come to accept it as being OK. Often people who are abused are made to feel that somehow they deserve it. This may be reinforced by media images.*
- *Teenagers tend to be particularly influenced by images created in the media. Failure to follow these images often results in a sense of isolation, failure and hopelessness. Images of perfect bodies, perfect relationships and stereotypical happy families can increase a teenager's sense of failure and contribute to suicidal thoughts.*

**(b) Select ONE of the major causes of sickness and death in Australia. Outline the major determinants that contribute to its incidence. What steps could be taken to manage this major cause?**

This question was well answered by the majority of candidates, with most identifying a major cause of sickness and death and giving an appropriate list of determinants of that cause of sickness and death. Answers commonly related to cardiovascular disease, cancer or injury.

The better candidates were able to identify the broad groupings of determinants identified in the Syllabus such as non-medicinal use of drugs, environmental health hazards and social determinants. These better responses also included some additional information outlining the link between the determinants and the cause of sickness and death. For example:

*Non-medicinal use of drugs, eg tobacco, are strong causes of cardiovascular disease. One in four Australians smoke which doubles the risk of CVD. Stress and poor dietary factors such as high salt intake and high fat intake also contribute to hypertension.*

Most candidates identified some steps that could be taken to manage the cause of sickness and death. The better candidates were able to identify management steps applicable to different levels of responsibility. They identified necessary changes in personal behaviour and also recognised the role of government action, community action, non-government organisations and environmental change, saying, for example:

*To manage cardiovascular disease there is a need for **personal behaviour change** by increasing physical activity and improving diet (more fibre, less fat, less salt), **interpersonal change** by improving social, medical and educational networks and developing cooperation between interested groups, as well as **environmental change** such as legislation to prevent smoking and promotion of parkland and exercise facilities.*

Average responses focussed on changes to personal behaviour, listing steps such as *Stop smoking; Exercise more; Protect yourself from the sun; Obey speed limits.*

Poor responses paid very little attention to the steps needed to manage the cause of sickness and death and often failed to address this part of the question.

The better responses generally selected an appropriate cause of sickness and death, gave a descriptive account of the major related determinants and demonstrated a broad understanding of management steps needed.

### Question 23 Core 4: Movement Skill and Performance

- (a) **An elite athlete's performance has plateaued for three months. This has caused the athlete to become frustrated and to consider giving up the sport. Discuss how this individual can apply psychological strategies to renew confidence and direction.**

The format of this question required candidates to use process skills in order to demonstrate specific knowledge of a broad Syllabus Area and discuss it in relation to a particular situation.

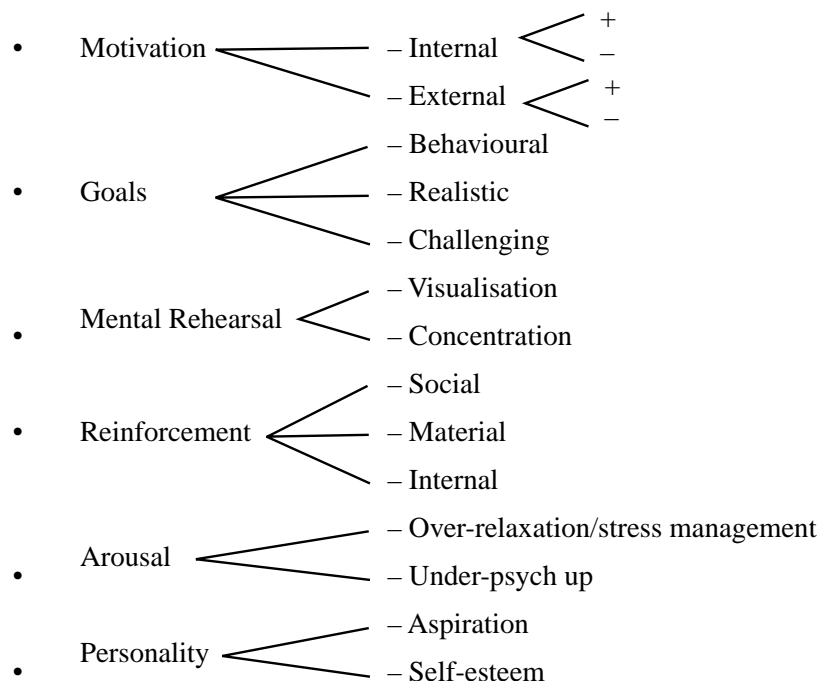
The very low non-attempt rate indicated that most candidates were conversant with the relevant Syllabus areas.

Many candidates possessed an impressive depth of knowledge, identifying and defining most of the psychological factors affecting performance, and relating them well to renewing confidence and direction.

Some candidates focussed more on listing and describing psychological factors while failing to related these to the situation outlined in the question.

In many cases the better responses were preceded by a plan as a basis for their answer which then ensured that a considerable number of points were discussed in broader detail. These responses provided clear examples to show how psychological samples may be applied and the outcomes that might result.

#### Example



Above average answers were based on logical reasoning and were well structured. They identified at least five psychological strategies, discussing each with reference to renewing confidence and direction. For example:

*Motivation is the athlete's ability and willingness to achieve goals. Motivation can come from the athlete (intrinsic) through self-talk, or external sources such as the coach, parents or friends (extrinsic). Motivation can be both positive, in the form of rewards for success, and negative through fear of failure. Some strategies for increasing motivation may include listening to stimulating music, positive feedback of knowledge of results and knowledge of performance from the coach, and encouragement from friends. Increased motivation will enhance confidence and desire to achieve.*

Average responses to this question generally followed two distinct patterns. In the first, candidates identified some of the psychological strategies which affect performance, eg goals, motivation, arousal, mental rehearsal. They provided a definition but failed to link the strategy to improved performance and direction, saying, for example:

*Another strategy is establishing realistic goals for the athlete. It is important to plan a number of short-term goals first, then a long-term goal to work to. These goals need to be realistic and achievable.*

The second type of average response identified a number of psychological strategies which were linked to enhancing performance but were discussed in general terms only. For example:

*By setting goals for himself/herself the individual has direction and motivation to achieve something. The athlete may reward himself/herself when these goals are achieved. This would improve his/her attitude to training and increase confidence, thus improving performance.*

The poorer responses to this question had difficulty in identifying psychological strategies, and generally did not show an understanding of Syllabus terminology. They provided general discussion with only poor links to renewed confidence and direction. For example:

*The athletes who have plateaued for three months should take a break from sport and have a rest. They shouldn't give up their sport because they are an elite athlete. They should come back and train in a different sport for cross training or follow the FITT principles. They should listen to their coach and friends for feedback and to motivate them in order to improve their confidence.*

**(b) Name one skill from a sport of your choice. Explain the types of practice that a group of unskilled players could use to learn this skill.**

This question was generally well answered, with a large number of candidates demonstrating sound knowledge of the Syllabus Area.

The result of this was a low non-attempt rate since most candidates were able to name a skill and apply some types of practice.

The better candidates showed clear planning prior to answering the question.

Example

Mass	vs	Distributed
Whole	vs	Part
Speed	vs	Accuracy
Mental	vs	Physical

Variability

Such candidates were able to identify all of the types of practice and provide an excellent explanation relating each type to both the chosen skill and to unskilled learners, saying for example:

*One skill is a Basketball lay-up. This complex skill is best learned, by an unskilled learner, through the whole-part method of practice. This involves an excellent demonstration of the whole lay-up, enabling visualisation for the learner, then breaking the skill into sub-routines, eg the dribble, step and ball transfer, and the jump shot. These sub-routines would then be linked to performance of the whole skill ...*

Average responses mentioned two or three practice types but were unable to relate them effectively to the skill chosen or to unskilled learners. They often lacked a detailed explanation or understanding of the types of practice, saying for example:

*One skill in the game of Hockey is dribbling. Firstly the unskilled player needs to understand the fundamentals and technique surrounding the dribble such as hand position, stick skills, body position (part method). This is called the cognitive stage. Whole practice combines all the parts into the whole skill ...*

Some average responses discussed practice types, but failed to link the practice method clearly to the chosen skill. For example:

*One skill in the game of Netball is goal-shooting. I would teach this to a group of unskilled players through the distributed type of practice. Because they are a group of unskilled players they would benefit from a period of practice followed by a rest interval. Practising the skill en masse would become boring for an unskilled performer ...*

Poor responses either

- (1) listed practice types without an explanation of those that would be most appropriate;  
or
- (2) made general statements about skills practices, giving general descriptions of a training session rather than *types of practice*. For example:
  - (1) Passing a football to another person. Unskilled players would use these types of practice to learn the skill.



Whole	vs	Part
Mass	vs	Distributed
Speed	vs	Accuracy
Mental		

(2) A tennis serve

*Firstly you would make sure the athlete does a thorough warm up and stretching routine. You would introduce a demonstration of the serve. Line up all the players on the base line. Have them throw the ball up in line with their front foot, take the racquet back behind their body and up behind their head. Swing the racquet over the top of the shoulder and make contact with the ball. The ball must go over the net and land in the service square. Players can practise serving onto a wall or without a ball.*

**Question 24 Core 4: Movement Skill and Performance**

Question 24 covered a diverse range of content from the Syllabus and gave students the opportunity to display the depth and breadth of their knowledge. Most candidates were able to demonstrate a good working knowledge of each part of the question, but the better answers provided clear and detailed explanations.

**(a) Describe how the nutritional requirements of an athlete may vary from that of the general population. Give examples to illustrate your answer.**

The better candidates were able to demonstrate an in-depth understanding of at least four of the nutritional requirements of the athlete. Most commonly identified was the percentage of nutrients, with particular reference to carbohydrates and the role they play in energy syntheses.

Discrimination between candidates was achieved through their ability to distinguish the nutritional differences between the athlete and the general population.

In addition to nutrients, good answers included discussion of fluid replacement and hydration, the role of diet-planning in specific sports and their particular nutritional needs. Also included were limitations to diet that athletes must consider, eg limitations on salt, fats and oils, alcohol intake.

Iron and calcium requirements, for the female athlete in particular, were common features of answers that gave a comprehensive coverage of the question.

*Athletes may use carbohydrate loading in an attempt to increase glycogen stores prior to their competition event. The general population has no need to follow this regime.*

*An athlete can lose up to 2–3 litres of fluid during prolonged intense exercise so adequate hydration is essential. Athletes require 150 – 200ml of fluid every 15 min during exercise and 250 – 300ml every 15 min post exercise until they reach pre-exercise weight. An athlete who is training and exercising at a high intensity will require a much larger energy intake eg a marathon runner requires much more energy and, therefore, kilojoule intake than the general population.*

*The recommended daily intake of protein is 1g per kg of body weight, whereas the athlete can require up to twice this amount.*

Average candidates lacked the ability to draw on a range of nutritional requirements and tended to focus on only one or two main areas. For example:

*Athletes undertake a large amount of physical activity and therefore need a larger consumption of carbohydrates as their main source of fuel. Some athletes use a strategy called ‘carbohydrate loading’ because it helps with the energy stores eg a marathon runner would need considerably more carbohydrates than the general population. Athletes also need to drink large amounts of water which replace the large amounts of water lost during physical activity.*

Poorer responses either included lists of differences rather than explanations or mentioned general dietary guidelines without reference to the specific requirements of athletes.

Other guidelines presented were generally either unqualified or inaccurate. For example:

*An athlete would stay away from fatty foods such as ‘take aways’. They would not drink much alcohol either. They would eat lots of carbohydrates both to repair and strengthen their muscles and bones.*

**(b) Training for sport at an elite level can be enhanced by including a variety of approaches. Briefly outline the types of training that would provide this variety when developing the energy systems used by an elite tennis player.**

The majority of candidates were able to recognise that tennis uses a combination of aerobic and anaerobic energy systems. Not all, however, were able to relate the types of training required to develop these specific systems with particular relevance to tennis.

The better candidates successfully identified the most relevant types of training and were able to illustrate their discussions with related examples. In addition they clearly outlined the interplay between the energy systems used in the course of a tennis match. For example:

*The game of tennis is a fast game that relies on all 3 energy systems, eg a serve uses the ATP–PC system, a long rally uses the lactic acid system, whilst the game itself can last up to 4 hours which utilises the aerobic glycolysis system.*

*To train using the ATP–PC system the tennis player could use methods such as high intensity resistance training or plyometrics.*



*For the lactic acid system, the tennis player could use interval training. This type of training utilises repetitions of high intensity interspersed with varying rest periods to develop lactate tolerance. The intensity level takes the athlete into the anaerobic threshold. To train using the aerobic system the athlete could use continuous training where the intensity is in the aerobic zone (70 – 85% MHR). Fartlek training can also be used where the intensity is changed at regular intervals. This helps to condition both the aerobic and lactic acid systems which are important to the game of tennis.*

*The use of aerobics and circuit training including related exercises can add to the specificity of the workout. All aspects of the overall program design must observe the FITT and overload principles of training.*

Average students were able to identify the training types but failed to link them to the energy systems used.

- Interval training: running at high intensity then walk/jog intervals which are used as recovery.
- Fartlek (speed play): varying intensity of exercise – jog, sprint, walk depending on the situation requirements.
- Continuous: continuous activity for at least 30 minutes – running, cycling, swimming – good for providing variety of training.

Poorer responses listed types of training or energy systems. Some students also discussed types of practice rather than types of training.

*To train for tennis an elite player would need to run over distances that could build up their stamina. Cross-training is needed as all parts of the body are used and variety is needed to keep training interesting.*

**(c) Explain the outcomes of skilled performance for both the performer and the audience.**

This question was generally well answered with the candidates explaining a variety of outcomes. Most were also able to distinguish between the outcomes from both an audience point of view and that of the performer. Answers tended to be grouped into categories of extrinsic (sponsorship, contracts, travel, trophies etc) and intrinsic (self esteem, success, motivation, goal setting etc) factors.

Excellent answers were able to include a number of audience outcomes (appreciation, aesthetics, role models, aspiration) and a number of possible negative outcomes (pressure, invasion of privacy, drug-use etc). For example:

*For the performer there are feelings of success, achievement of goals, increase in self-confidence and self-esteem, experience of competition and success. There are extrinsic rewards such as applause, trophies, position of esteem and prize money.*

*Attainment of targets and goals causes reinforcement and increases motivation.*

*The main outcome for the audience is enjoyment. They will also be educated by the performance and may be motivated to participate in that sport themselves. Some performers may feel the pressure of unrealistically high expectations and may lose motivation, or turn to banned substances to enhance their performances.*

Average responses lacked the depth of explanation and only listed points or gave a brief explanation of a couple of outcomes. For example:

*If a performer has completed a skilled performance the outcome is a feeling of happiness. The good performance motivates the competitor to gain further results. Awards or money gain further recognition.*

*For the audience the outcomes are positive or negative and this is demonstrated by applauding or booing the performance.*

Poorer responses listed less than four outcomes or failed to outline the outcomes for the audience.

A number of students did not address the requirements of the question, detailing the characteristics of skilled performance or focussing exclusively on knowledge of results and knowledge of performance, saying for example:

*The outcomes of a skilled performance are that the performer appears to be coordinated so that they have a smooth, free-flowing action. He will have all the time in the world and can anticipate the plays in a game.*

### **SECTION III Options**

#### **Question 25 First Aid and Sports Injuries**

Most of the candidates were able to describe a number of strategies relating to the safety, management and rehabilitation of sports injuries. This option on the whole, however, was not well handled. Many candidates had difficulty in applying their Syllabus knowledge to real situations. Their answers lacked depth and failed to link health behaviours to consequences.

##### **(a) A school cross-country carnival is to be held during summer.**

- (i) Discuss the safety strategies the carnival manager would need to implement prior to, and on the day of, the carnival.**

This question required the candidates to describe and discuss a broad range of safety strategies, focussing on hydration, environment and protective equipment/clothing. Additional relevant safety aspects included preparation/training, warm up and cool down, rules/regulations, taping, course supervision, provision of first aid and the competitors' medical history.

In the better responses candidates differentiated between strategies required prior to and on the day of the carnival, as follows:

*Safety strategies the manager would need to implement prior to the carnival include:*

- (1) *Environment*
  - *For the safety of the competitors the venue chosen must be suitable eg no dangerous obstacles, uneven ground, or slippery conditions if wet.*
  - *To avoid placing the competitors in danger of heat stress illnesses, the manager must consider the time of day at which the event is run ie avoid the hottest part of the day.*
  - *Make sure there is adequate shade available for the competitors and spectators.*
- (2) *Newsletter* – *Send a newsletter home to parents detailing the event. Include in it a medical questionnaire/form so you can be informed of any known condition that may affect the runners. Also detail equipment necessary for the event ie protective equipment – hat and sunscreen to protect from sunburn, lightweight clothing that breathes to allow for thermo-regulation, footwear – comfortable and supportive. The newsletter should also include details about necessary hydration – before, during and after the event to counteract fluid lost through sweat to avoid dehydration and appropriate nutrition leading up to event – complex carbohydrates for energy and avoiding spicy foods.*
- (3) *Preparation/training* – *encourage competitors to undertake regular training to prepare for the rigours of cross-country running, utilising progressive overload and specificity.*
- (4) *Organise medical kits, trained first aiders and staff for supervision – these need to be prepared for any emergency that may arise.*

*On the day:*

- (1) *Check the weather conditions – if it is too hot, humid or wet, postpone carnival as it becomes dangerous.*
- (2) *Hydration – have drink stations to encourage students to rehydrate before, during and after the event.*
- (3) *First-aid Station placed in obvious site with trained personnel to supervise.*
- (4) *Someone to organise a warm-up and cool-down to prevent any soft-tissue injuries and to promote recovery after exercise.*
- (5) *Double-check that students have protective equipment such as hat, appropriate footwear, sunscreen and there is ample shade available for competitors and spectators.*

Average responses briefly outlined most of the above without going into details. Many candidates showed an inability to link the behaviour with the health consequence as shown below:

*Make sure water is available to students, and that they wear hats, sunscreen and clothing that breathes.*

Some candidates mentioned fewer strategies or discussed strategies from only one area such as environment or hydration. A typical average response when looking at safety strategies relating to the environment included only the condition of the track and failed to discuss the appropriate time of day for such an event and/or the provision of adequate shade.

The poorer candidates provided weaker coverage or only limited discussion of safety strategies, such as:

*Wear a hat and drink plenty of water. Make sure there are no snakes on the track.*

Some also failed to recognise the necessary provisions for a cross-country carnival and confused these with a swimming or athletics carnival.

- (ii) **On the day of the carnival, two competitors cross the finishing line at the same time. One has signs and symptoms of an asthma attack, the other complains of severe chest pains. Explain the management practices and priorities you would implement to deal with this situation.**

Candidates were required to provide information regarding first-aid treatment for an asthmatic and a person complaining of severe chest pains.

The better candidates were able to give clear steps for the treatment of both conditions. They recognised that the chest pains of the second competitor could have been related to either heat stroke or, which is less likely, a heart attack. These candidates recognised that both competitors might also be suffering from heat-stress due to activity and therefore would require rehydration and appropriate treatment for hypothermia. An example of a better response for the treatment of an asthmatic was:

- *reassure the person*
- *rest in shade sitting up*
- *assist with medication*
- *monitor breathing*
- *provide water*
- *encourage controlled breathing and relaxation*
- *seek medical help if the condition does not improve*

The average response tended not to mention heat as a factor and had brief information or listings that omitted some important steps in the treatment.

Many answers explained the DRABC strategy at length but did not relate it to the treatment of these competitors. Some candidates explained the treatment for one condition very well but discussed the other only briefly.

Poorer responses omitted important management steps or mentioned only one or two management practices that could have related to any condition, for example:

*DRABC, place in recovery position. Send for an ambulance*

Some candidates failed to distinguish between the two competitors. Casualties were, in some cases, sent straight to the hospital without any first-aid treatment.

Many of the poorer candidates had problems in differentiating between managing and assessing the conditions. As a result, much of their discussion focussed upon diagnosing the conditions described in the question rather than discussing the necessary management strategies.

**(b) After an injury, an athlete undergoes a rehabilitation program. What would be the indicators that the athlete is ready to return to competition?**

Candidates were required to discuss the indicators that an athlete would exhibit to demonstrate his/her readiness to return to competition following a rehabilitation program. Generally this section was poorly answered, with many candidates failing to link the steps required in rehabilitation with indicators that an athlete was ready to return to his/her sport.

The better responses indicated an extensive understanding of the outcomes of the rehabilitation process, discussing the specific indicators as follows:

- *The athlete has regained the full strength that was evident before injury. This should include specific muscular strength required eg isometrics for football scrums, isotonic for running.*
- *The athlete has regained general fitness conditioning. This refers to both the injury site and total body fitness.*
- *Medication is no longer required eg pain-killers or anti-inflammatories.*
- *The athlete is mentally prepared to return ie the athlete is confident and motivated to return.*
- *The athlete is able to complete a full-training session without pain.*
- *Flexibility and full range of movement should be re-established.*

The average responses identified fewer specific indicators and/or failed to describe each in detail saying, for example:

*Improved strength and no pain at injury site, total body fitness.*

*Ability to perform game skills or cope in game-like situations in training.*

The weaker responses focussed on the rehabilitation process but failed to link it with specific indicators that an athlete is ready to return to competition.

Other poor responses included a brief list of some relevant factors. A typical poor response was:

*When the coach or physio says I'm ready. When there is no discomfort or swelling.*

Indicators were often repeated in different forms by using different terminology, for example, *flexibility* and *ROM*.

## Question 26 Community Health Issues

On the whole, this question was answered poorly. It was obvious that many students decided to answer this question even though they had not studied Community Health Issues as their option.

- (a) You have been appointed to a committee to plan health services for children in your local area. Describe the fieldwork techniques that you would use to identify the health needs of children. Justify your approach.**

This question required students to have a good understanding of fieldwork techniques and to discuss which would be most relevant to identifying the health needs of children. To do this well students also needed to have a clear understanding of the specific health needs of children.

The better answers referred specifically to field techniques such as observations, surveys, questionnaires, consultation and interviews and acknowledged the fact that, in relation to the health needs of children, these techniques should be focussed on parents, GPs, health centres and schools. The better responses also included discussion of the process of obtaining documentary evidence. For example:

*Conducting interviews in the community, aimed especially at parents, could provide information about the health needs of children. Interviews with parents and local doctors would be more appropriate than interviewing the children themselves as more reliable and accurate information could be obtained.*

*Collecting documentary evidence on infant mortality rates and hospitalisation rates for children would provide an adequate basis for a basic analysis of the health status of children.*

Average responses included a general discussion of the health needs of children and discussed at least two or three different fieldwork techniques that could be used to identify these needs formally.

*The fieldwork techniques required in order to understand children's health needs and get information to write up a report are observation, consultation, and interviews/questionnaires. The way I would use these techniques is as follows...*

The poorer responses showed little or no understanding of fieldwork techniques. These responses centred around health needs; the discussion presented, however, was poor or very brief.

*Once the health problem has been identified then you can research the way it is caused. Children may not have been fully immunised or they are interacting with others when they are ill.*

- (b) Evaluate the provision of health services in a specific community or region you have studied. What strategies would you recommend to rectify gaps in these services?**

Many students were unable to discuss the evaluation of health services in a specific community or region. They relied on a general knowledge of health services and were able to identify only generic strategies in relation to perceived gaps in services.



The better responses clearly identified the community studied, showed a good knowledge of the services available, identified gaps and discussed relevant strategies and solutions to rectify the lack of specific services, saying for example:

*An evaluation of health services indicated that some services are very well provided eg access to Drs and hospitals, however, other services are lacking eg services especially targeted at the elderly.*

(Students then went on to elaborate and discuss the evaluation and strategies to rectify the problems in the area.)

The better responses also included information about the nature of the community studied such as location, SES and age structure.

Average responses tended to provide a general discussion of factors which included some gaps in health services and/or strategies to rectify them linked to a particular community. For example:

*The local area offers very solid programs for the aged so that they are not left feeling alienated. ...much of these services are offered by the council. A community bus is something that may help pensioners with transport to services and activities.*

The poorer responses failed to identify a specific community and gave a brief or very general discussion about health services. Some of these responses also mentioned general health promotion strategies.

## **Question 27 The Sociology of Games and Sports**

694 candidates answered this question. Responses, however, generally showed a little or no depth of understanding of aspects of the Syllabus content, ie Australia's Sporting Identity.

### **(a) What influence might the Sydney 2000 Olympics have on patterns of physical activity within the community?**

When answering this part, the better candidates discussed in detail a variety of both positive and negative influences of the Sydney 2000 Olympics on patterns of physical activity. For example:

*With the extensive high tech media coverage and promotion of the Olympic games, people will become 'armchair athletes'.*

*Increased exposure by the media will lead to increased funding into facilities, which may benefit junior sport participation schemes.*

Candidates clearly identified links or cause/effect relationships between these influences. For example:

*With the increased media coverage of the Olympics children will become more motivated to participate in physical activity, as there will be a greater abundance of positive role models and children will want to emulate their sporting heroes.*

*The increased media coverage leading up to the Olympics will result in corporate interest, therefore supporting sport through sponsorship and providing funds for equipment and facilities. These quality facilities will attract new participants to sport.*

Such candidates used the opportunity to draw upon examples from a variety of areas of content within the option, linking them to the changing patterns of physical activity. For example, candidates linked increased participation patterns in physical activity to mass media, sponsorship, women in sport and sport as a socialising agent.

Average responses comprised basic or extensive lists of positive influences on patterns of physical activity. These responses provided no links between influencing variables. For example:

*Due to the Sydney Olympics women will be encouraged to play more sport.*

Poorer candidates either:

- (i) provided a limited number of influences, or
- (ii) made superficial generalisations regarding the influences of the Sydney 2000 Olympics on patterns of physical activity.

These responses provided no justification or cause/effect relationships for increased or decreased patterns of physical activity. For example:

*Everyone will want to play sport because of the Olympics.*

**(b) Both the negative and positive aspects of competition have helped to define the Australian sporting identity.**

Discuss this statement in relation to ONE of the following:

- children and competitive sport
- aggression and violence in sport
- drugs in sport

This part provided candidates with the opportunity to explore fully the interrelated nature of three areas of study within the option: aspects of competition, an associated example (children and competitive sport, aggression and violence in sport or drugs in sport) and Australia's sporting identity. From the responses it was evident that candidates were challenged by the task of linking Australia's sporting identity to these contemporary issues.

When answering this part the better candidates fully discussed both aspects of competition and supported their discussions with a broad range of relevant references to their chosen example, saying for example:

*As children play competitive sport, so they acquire socially desirable characteristics such as cooperation, leadership and teamwork. Participation in competition may also lead to a 'win at all cost' attitude, which is encouraged by over-zealous parents and coaches.*



These candidates further established distinct links between the aspects of competition and the definition of Australia's sporting identity. By providing these links candidates demonstrated a thorough understanding of the historical perspective of competition in Australia. For example:

*The Australian sporting identity is linked with manly courage, a sense of aggression, a determination to persevere in the face of adversity and a thirst for success. Competition provides children with the opportunity to develop these qualities; the sense of aggression from our colonial past, however, has turned into violence on today's sporting field.*

Average candidates responded to the question in two ways. Firstly, average responses discussed both positive and negative aspects of competition, but were unable to provide a definite link to show how competition defined Australia's sporting identity. For example:

*Australians see themselves as a sporting nation. From a young age sport and competition becomes part of our children's everyday life. Competition provides children with physical skills, new friends and helps teach them how to act in groups. Competition can also make children bad losers.*

These candidates' discussions were dominated by generalisations promoted by the media, regarding children and competitive sport, aggression and violence in sport or drugs in sport. For example:

*The Australian bobsled team were found guilty of taking drugs.  
Australia's athletes are forced to take drugs to stay on top.*

Alternatively, average candidates responded by focussing their discussion on one of the examples ie children and competitive sport, aggression and violence in sport or drugs in sport. The discussion used limited supporting statements associated with either aspects of competition or Australia's sporting identity.

*There are two types of aggression: positive or goal oriented and negative or reactive aggression. Aggression contributes to the competitive spirit.*

Poorer candidates provided a limited discussion which, using basic statements discussed either Australia's sporting identity, aspects of competition or the examples of children, aggression or drugs. These responses showed a lack of depth of understanding of Syllabus content in regard to this option. Such candidates did not appear to be conversant with the historical perspective of Australia's sporting identity or the implications of this identity for contemporary issues. For example:

*Australians all love sport so we all play in team competitions.*

## **Question 28 Two Social Health Issues – Drug Use and HIV/AIDS**

In this question the candidates who performed well were those able to display a sound knowledge of drug-use and HIV/AIDS, but, more importantly, who were also able to relate their understanding across a broader range of issues. Average responses were very general in their discussions and were unable to present a broad range of issues. There was clear evidence that a number of poorer responses were from candidates who had not studied this option.

### **(a) Identify changes to work practices that have occurred in order to reduce risk of HIV infection.**

The better candidates provided a very broad range of changes to work practices in several settings. Their ability to identify a range of changes reflected a thorough knowledge of the modes of HIV transmission and workplace procedures. Changes identified included the use of gloves and other protective clothing in the medical setting, the sterilisation of medical equipment, the use of masks for expired air resuscitation, the use of condoms by sex workers, the screening of blood by blood banks and the use of blood bins in sport. These candidates supported such changes with a brief discussion linked to the reduction in HIV infection.

*In the sex industry, the use of condoms by prostitutes will prevent HIV infection by eliminating the exchange of semen and vaginal secretions.*

Average responses displayed a sound knowledge of the modes of HIV transmission but applied them to only a limited range of workplace practices. In many cases they provided examples from the medical-care setting only, eg the use of gloves and needle bins. Such responses often identified prevention strategies without applying them to changes in workplace practices eg the use of condoms during sexual intercourse.

*Safe sex has been promoted through the installation of condom vending machines in public places.*

Many average candidates identified changes to work practices based on transmission myths. These included the transmission of HIV through food and poor food preparation and compulsory testing in the workplace setting.

Poorer responses presented only general statements that were lacking in range and usually provided only one or two changes to work practices. Myths relating to HIV transmission were also evident. Typical general statements included:

*Doctors wear gloves when dealing with patients.*

### **(b) Describe how community initiatives provide support to people with HIV/AIDS and to their families and friends. In your answer, refer to TWO specific community initiatives.**

The better responses provided a very good description of two specific community initiatives. The initiatives selected in these responses usually provided the opportunity to identify a broad range of services offered. For example, the Albion Street Centre provides counselling and self-help groups, a library and information centre, financial assistance etc. Some of the initiatives discussed included ANKALI, WORLD AIDS Day, AIDS Council of NSW, AIDS QUILT Project and Red Ribbons.

*The AIDS Council of NSW provides a range of programs that examine emotional, social and economic needs of people with HIV and their families.*

Average responses took a more general approach, in many cases indicating that they have not studied specific support structures for people with HIV/AIDS and their families. Many of these candidates identified counselling and self-help groups as supporting community initiatives. Another popular initiative was the needle-exchange program. The benefits that these initiatives provide were identified in general terms only and often showed little/no understanding of the range of needs of a person living with HIV/AIDS.

*Counselling for people with HIV/AIDS gives them someone to talk to and provides support in what is a very difficult time.*

Average responses identified mainly prevention strategies (eg condom use) but not community initiatives as such. Many discussed only one community initiative, but did so in a very general sense.

*Counselling helps the victim and their families.*

- (c) (i) **Discuss the patterns of use of illegal drugs in Australia and their impact on the community.**
- (ii) **How might governments assist the community to reduce the impact of illegal drugs?**

The better responses to this part were able to examine all areas of the question well. In part (i) they displayed a thorough knowledge of the patterns of drug-use. These patterns were either discussed in terms of age/gender/SES or by context (eg situational, social, experimental, dependency). Those who discussed patterns using the latter usually presented the better response. These patterns were supported with a range of both social and economic impacts. Candidates based this section of their answer on the information provided in the Syllabus. These impacts included reduced productivity in the workplace, provision of resources and support agencies, increased health-care costs, drug-related crime and drug-related trauma and injuries.

In part (ii) candidates who performed well were able to identify and discuss a broad range of government initiatives, in many cases at different levels of government. Examples of government initiatives were the needle-exchange program, Operation NOAH, methadone clinics, changes to legislation, funding for research and health promotion, compulsory drug education in schools and improved custom controls at entry points into the country.

*The government can reduce the impact of illegal drugs on the community by limiting availability through the identification and prosecution of drug traffickers. Initiatives such as stricter controls at Customs and anonymous 'phone-ins' such as Operation NOAH assist in this area.*

Average responses to part (i) provided a sound discussion of patterns of use of illegal drugs usually related to use by age and gender. They identified some impacts on the community but these lacked both range and depth. Many focussed on only one or two impacts such as crime and violence.

In part (ii) such responses were not able to provide a range of government initiatives and, in some cases, identified unrealistic expectations of government actions. They concentrated more on what the government should do without presenting any information on what is being done, saying for example:

*Governments should increase prison terms for all people caught with drugs.*

Most government initiatives were discussed adequately.

The poorer responses often came from candidates who had obviously not studied the option and who presented very vague statements on the patterns of illegal drug-use, general statements on impact and little or no relevant government initiatives.

## Question 29

### A Biomechanics of Human Movement

The structure of the question was direct and allowed students to use process skills to identify principles and apply specific knowledge based on fundamental biomechanical concepts in the Syllabus. This was reflected by the very low non-attempt rate.

A significant increase in the number of candidates ensured a broad range of responses.

#### (a) Explain the biomechanical principles that affect success in contact sports.

A typical excellent response provided detailed explanation and understanding of momentum, centre of mass, stability, moment of inertia, summation of forces, and friction, with examples clearly related to success in contact sports, eg:

*Momentum is a product of mass and velocity. By this a large object moving rapidly gains momentum, that is difficult to alter, this is known as inertia.*

A typical above average script, identified at least three of the above principles with good discussion, eg.

*By increasing their velocity the athletes also have the advantage of an increased momentum*

#### (b) Explain Newton's THREE Laws in relation to a 100 metre swimming event.

The identification of Newton's Three Laws of Motion was very good. While most students related Newton's Third Law successfully, only the better students provided good discussion of Newton's First and Second Laws related to the 100 metre swimming event. There was a tendency for students to include discussion on the principles of fluid mechanics and not relate discussion back to Newton's Laws. Those who mentioned fluid mechanics often gave confused responses dealing with drag and buoyancy and their effect on performance.

Excellent responses identified Newton's Three Laws and successfully applied them to relevant sections of the 100 metre swimming event, eg the start, stroke mechanics and the use of the wall in the turn.

At the start of the race, when swimmers dive from the blocks the acceleration of their bodies outward is directly proportional to the force applied by way of the quadriceps and calf muscles.

Above average answers identified Newton's Three Laws but included some discussion of fluid mechanics rather than Newton's Laws.

*When starting the race, swimmers use the blocks to push against to give them acceleration into the water.*

**(c) Describe the biomechanical principles that a downhill skier employs to maximise speed. In your answer refer to the diagram below (given).**

The better candidates provided an excellent analysis of the following principles, linking them to the development of maximum speed:

- Aerodynamics
- Inertia
- Centre of Gravity and the Line of Gravity
- Friction

*To reduce air resistance and therefore maximise speed the skier, crouches to reduce frontal area, tucks the arms well in and forward, and wears tight fitting clothing to reduce drag which will slow the performer.*

Those above average answers concentrated good discussions on two or more bio- mechanical principles, linking them to maximising speed, although this was not clear sometimes.

*The skier is in the position in the diagram, crouched to reduce the frontal area, thus reducing air resistance.*

## Question 29

### **B Applied Anatomy, Exercise Physiology, Principles of Training and Fitness Testing**

This question was attempted by 231 candidates. It was generally well answered with a number of outstanding responses. There was a clear indication that students choosing this option had studied it in depth.

- (a) (i) **For a person performing abduction of the shoulder, identify a:**
- 1 primer mover;**
  - 2 synergist;**
  - 3 stabiliser.**
- (ii) **For each muscle that you have identified in part (i), name the origin and insertion.**
- (iii) **Explain a specific exercise for strengthening the synergist identified in part (i).**

The better responses identified the Deltoid as the prime mover, the Trapezius or the Anterior/Posterior Deltoid as the synergist. The stabiliser however, prompted many diverse responses, eg the latissimus dorsi, triceps, biceps pectoralis major, rhomboids, abdominals, teres major quadriceps.

The better responses correctly identified both origin and insertion for the muscles given in part (i). They also identified appropriate strengthening exercises for the synergist.

*Because the traps are the synergist you could do dumb-bell shoulder shrugs to strengthen them.*

Average responses identified the prime mover but confused the synergist and stabiliser muscles. They identified origin and insertions for the prime mover but, at times, confused these in the synergist and stabilisers. These responses generally identified a strengthening exercise for the prime mover.

Poorer responses confused abduction with adduction and identified incorrect prime movers. They tended to confuse origins and insertions and identified strengthening exercises for the adductors rather than abductor synergists.

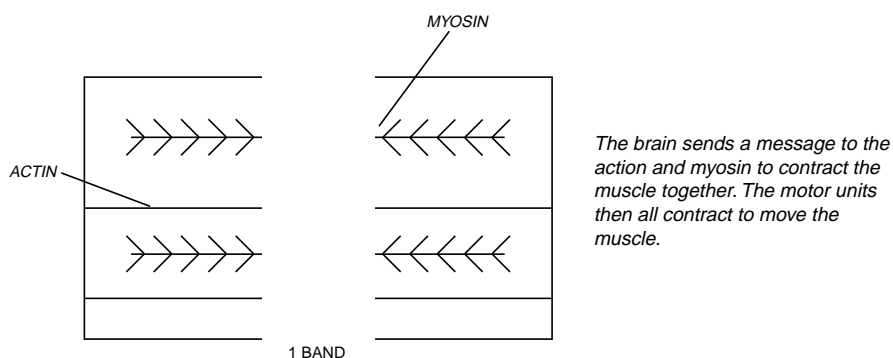
**(b) Explain the physiological processes involved in muscle contraction.**

A thorough knowledge of the process and structures involved in muscular contraction was necessary to answer this section well.

The better quality responses showed in-depth understanding of the neurological and chemical processes, the sliding filament theory with details of the myofilaments and cross bridges and the all or none principle. Some also included clear and relevant diagrams and discussed the effect of speed of contraction and optimal angles on contractile potential.

- (1) *Electrical stimulus travels down the motor neuron to the motor endplate where acetylcholine is stimulated to begin the muscle contraction.*
- (2) *Calcium ions stimulate the actin and myosin filaments to begin sliding over each other. The cross bridges on the myosin slide in a ratchet or rowing motion over the actin causing contraction. This is also known as the sliding filament theory.*
- (3) *Once stimulated, every contractile unit in the motor unit fully contracts. This is called the all or none principle.*

The average responses generally identified the structures involved. Some used diagrams but failed to provide in-depth explanation of the process of muscle contraction.





The poorer responses provided diagrams only or basic explanations of motor units.

*The motor units in the muscle tell the cells to contract the muscle.*

**(c) Describe TWO protocols used to test anaerobic power. What factors would you consider when choosing between these two protocols?**

This question was generally well answered.

The better responses clearly identified and described two relevant anaerobic tests. These responses also gave good grounds on which to make a choice.

Some of the tests described included the standing long jump, the vertical jump, Margaria-Kalamen stair climb test, 40m sprint, 10 second bicycle sprint.

*When choosing between the 40m sprint test and the 10 second bicycle test you should remember that one favours a sprinter, the other a cyclist. Also you should make sure the test is reliable and can be repeated under identical conditions – these may change with a 40m sprint because it's outdoors.*

The average responses identified and described anaerobic testing protocols but tended to use inappropriate tests for power or failed to describe them well.

*A 200m sprint is a good test for anaerobic power because you must sprint at a maximum for a long time.*

These responses also lacked depth in discussing the factors involved in choosing between protocols.

The poorer responses tended to confuse anaerobic and aerobic components and, as a result, gave inappropriate testing protocols. Such responses, however, were few.

Candidates generally appeared to understand the term anaerobic and the protocols used to test it.

### **Question 30 The Art and Science of Coaching**

This question was broad in nature, consequently candidates were able to draw upon knowledge from a number of key components of the Art and Science of Coaching Option.

Responses to part (a) generally showed depth of knowledge regarding the qualities of the coaching staff and the structure of training sessions. Most candidates, however, found it difficult to identify and discuss the methods of instruction.

In general the use of skilful observation in error detection or feedback were clearly identified and discussed. Very few candidates, however, showed an understanding of both.

**(a) You have been asked to evaluate the coaching program of a local sporting club. What guidelines would you use to determine if effective coaching is taking place? Answer in terms of:**

- **qualities of the coaching staff;**

- **methods of instruction;**
- **structure of training sessions.**

Most candidates attempted to structure their responses in terms of:

- **qualities of coaching staff;**
- **methods of instruction;**
- **structure of training sessions.**

The better candidates were able to give a good description of the qualities of the coaching staff in terms of the characteristics of an effective coach, linking this to guidelines for evaluating the coaching program of a local sporting club.

*Firstly, the purpose of both the club's athletes and the coaching staff must be examined and compared...*

*Are they knowledgeable?*

*Coaches must be capable of transferring theories into practice...*

*Are they effective communicators?*

*A coach must be able to transmit messages to his players and staff effectively and must also be willing to listen...*

When discussing the methods of instruction the better candidates drew on information from a number of areas of the Syllabus – namely Principles of Skill Acquisition, Practice Methods, Practice Time and Reinforcement and Feedback. Some of these candidates also referred to Planning and Organisational Techniques.

*Coaches should consider applying the Principles of Skill Acquisition. Closed skills in a stable environment should be used for athletes learning the skill. As the athletes improve, practice should place more emphasis on open skills in unstable and unpredictable environments to enhance skill learning and provide a variety of situations ...*

*They should be able to identify the stages of learning – Cognitive, Associative and Autonomous. The cognitive stage will require...*

*... distributed practice should be used for unskilled athletes. The coaches should give athletes both mental preparation through visualisation techniques and physical practice through fitness and skill training.*

The better candidates discussed at length the structure of the training session, showing a clear understanding of each component. Some of these candidates also referred to Planning and Organisation.

*This should involve a statement of purpose as well as reaffirmation of goals and an explanation of the contents of the training session...*

*Warm-up should involve gross motor movements and stretching to prepare the body physically ...*



*Skills should take up the bulk of the session, focussing on revision of previously learnt skills and the introduction and practice of new skills.*

Average responses included good discussion of the qualities of the coaching staff or the coaching styles or roles of the coach and structure of the training sessions but lacked some understanding of the key elements of Methods of Instruction.

Some candidates simply provided an extensive list of all three areas.

*...For the coach to be both suitable and effective he/she needs to be knowledgeable of the sport, be assertive in manner but also cooperative and flexible to the players' needs...*

- Coaches' communication level – Are they able to relate to age group?
- Levels of encouragement – positive/negative
- Coaching style – authoritarian, democratic, laissez – faire
- Organisation skills
- Knowledge of game being played

Poor responses included a general discussion with some information on the Role of the Coach and Structure of Training Sessions. Candidates did not use relevant Syllabus terminology and showed poor understanding of the question.

*The coach has to be able to spot when players are concentrating or distracted by an extrinsic force.*

*During the session the coach walked around giving criticism.*

*I would look at the quality of the coach and how the coach makes his moves.*

(b) How would a coach use skilful observation to improve the performance of an athlete?

This question required a more specific response than part (a). Many candidates related observation to the role of error-detection or the provision of feedback observation. The best candidates recognised the link between the two and used appropriate and specific discussion.

*Coaches observe a performance of an athlete then analyse it to identify error or small problems which may be altered to improve overall performance. The coach would:*

- (1) watch performance
- (2) analyse whole performance
- (3) break performance into component parts
- (4) direct feedback to behaviour which can be changed
- (5) have athletes practise their changed behaviour in parts
- (6) put parts together into whole practice, thus achieving skilled performance

In the better responses additional information described included augmented feedback and reinforcement.

Average responses came in two main forms. Many candidates listed error detection and feedback but provided very little in discussion.

*Coach will observe the athlete and look for any mistakes then he/she will talk to the athlete about them.*

Many other candidates gave better discussion but included only error-detection or feedback.

*A coach would use skilful observation to improve the performance of an athlete by giving him/her knowledge of results and knowledge of performance. A coach would provide feedback particularly through the early stages of learning so that an athlete can improve his/her performance.*

Poorer responses did not recognise the need for error detection and gave only a limited description of feedback.