

Examiners' Report  
June 2013

GCE Physical Education 6PE03 01

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## **Introduction**

Candidates who entered the 2013 A2 Level Physical education examination produced answers of a comparable standard to those who sat the examination in previous years. There were some excellent candidates who achieved high grades, showing an in-depth learning across the specification, using well-reasoned arguments supported by relevant and often contemporary sporting examples.

Although in the extended answers too many candidates still tended to write standardised “descriptive” answers, simply repeating all they knew about technology in sport and environmental factors. This approach was no more widespread than in previous years but it does reveal a lack of confidence on the part of candidates who have spent many hours learning the PE specification, but lack sufficient belief in their own ability to apply it. Candidates need to remember the relative weight the extended questions carry on this paper, particularly during their preparation for the examination.

Answers incorporating a “write all you know” approach, especially in the sports psychology questions, earn limited marks, so the candidates need to focus directly on what is asked in the question, in order to provide a relevant answer. It follows that candidates should read the questions carefully, work out what the questions demand, plan the answers meticulously and write responses which demonstrate that they have read the question and selected a range of sports examples that are relevant only to that question.

## Question 1 (a)

There were a variety of responses seen for this question, with the majority of candidates able to access the full marks available. Those who did not score well, were those who just listed factors, without offering any reasons.

Few candidates mentioned the need of fuel replenishment post exercise. If hydration and protein were mentioned the candidates scored easy marks but these were often forgotten.

1 Elite performers often manipulate their diets to maximise athletic performance.

(a) Outline **four** factors an athlete must consider when planning their diet. (4)

Carbohydrate <sup>(CHO)</sup> intake - if the athletic performer is training for an aerobic event carboloading would help stamina and ATP-regeneration over a long duration due to supercompensation of glycogen stores.

CHO intake after exercise ~~is best~~ (preferably within 15 mins) to replenish glycogen stores most efficiently.

Protein intake - especially important for anaerobic athletes as it aids in growth and repair which is the main aim for anaerobic athletes.

~~All~~ All athletes, especially aerobic athletes should stay hydrated with the use of isotonic sports drinks as well as water.

Aerobic athletes should try to keep fat intake relatively low.



**ResultsPlus**  
Examiner Comments

A good answer that scores the maximum 4 marks. This candidate has outlined four factors linked to the planning of a diet prior to performance.

1 Elite performers often manipulate their diets to maximise athletic performance.

(a) Outline **four** factors an athlete must consider when planning their diet.

(4)

The athletes diet must be balanced in other words meaning they should make sure they are ingested balanced amounts of all good groups. However, when planning their diet it should be specific to their sport for example a long distance runner may ingest more carbohydrates to alter glycogen levels. Athletes should make sure their caloric intake is around equal to their caloric expenditure depending again on what they want from their diet.



**ResultsPlus**  
Examiner Comments

Only 1 mark was awarded for this question.

The first point relates to a balanced diet which is more of a long term concept. The second point related to carbohydrate level linked to intensity of exercise and was awarded 1 mark. The same point is repeated in the final sentence.

## Question 1 (b)

This proved to be an accessible question, with many candidates scoring maximum marks. Popular responses included protein supplements, creatine supplementation and carbo loading. Some candidates even wrote in detail about sodium, ginseng and caffeine.

Marks were lost for listing and explaining drugs such as steroids and beta blockers, and other banned methods of performance enhancement such as blood doping.

(b) Many elite athletes use supplements to optimise their performance.

Identify four types of supplement athletes use and explain how each benefits performance.

(8)

Carbohydrate loading, by eating lots of carbohydrate foods before an event and teaching the body to not store as fat. A technique used by marathon runners to give them more energy to compete. 'Pasta parties' would happen before events but this was proved to ~~work~~ never work. However, doing this way in advance does.

Creatine loading, creatine can be taken in powder or tablet form and helps increase muscle strength. This can help for sports such as weightlifting and body building but will not have any effect on long distance runners or swimmers as it increases water retention.

Drinking the 3 types of drink hypertonic, isotonic or hypotonic depending on which one you need will help increase performance. For example if blood fluid levels are low drinking a hypotonic drink will increase these levels giving the performer more energy to perform.

Increasing iron levels ~~with~~ by increasing iron levels in the diet can also help with performance. This is because if there is more iron in the blood oxygen will bind to the red blood cells quicker passing more oxygen to the respiring cells quicker, reducing the time before fatigue occurs.



**ResultsPlus**  
Examiner Comments

This candidate was awarded 6 marks for identifying four types of supplement but only explaining two of them.

The marks were awarded from points 1, 2, 3 and 7 of the mark scheme. 1 mark for carbo loading but as there was no link to performance, no mark could be awarded for an explanation 1 mark for creatine load; the answer was vague on any link to performance 1 mark for isotonic drinks and 1 mark for maintaining fluid as an explanation

1 mark for link to iron tablets and 1 mark for the link of an increase in red blood cells



**ResultsPlus**  
Examiner Tip

Candidates should provide an answer that matches what is asked in the question. When structuring a response it is good practice to use a separate paragraph for each point being made.

(b) Many elite athletes use supplements to optimise their performance.

Identify **four** types of supplement athletes use and explain how each benefits performance.

may require  
a diet  
manipulation  
(8)

- Diuretics - to lose weight e.g. in boxing people may lose it to drop a weight category to increase their chance of winning
- Stimulants - endurance athletes may use stimulants to energise themselves for longer.
- Blood doping - for endurance athletes to increase number of red blood cells and consequently deliver more oxygen to working muscles
- Beta blockers can be used to calm athletes down and to stop them from shaking - generally used by darts players



### ResultsPlus Examiner Comments

This answer was awarded no marks. The candidate has focused on banned drugs and illegal methods, none of which are supplements.



## Question 2

Candidates found this a straight forward question to answer with most candidates achieving maximum marks.

The definition of choking appeared to be well-known and many candidates were aware of a range of strategies.

2 'Choking' is a term used in short-term psychological preparation.

Define the term choking and suggest **three** strategies that can be used to help performers avoid it.

Choking is defined as an athletes inability to perform in situations with alot of pressure.

Self talk, this is a positive way of calming the performer by letting him/her no that they are good enough.

Visualisation/mental Imagery, this is a technique were the athlete will imagine them winning the competition to provide positive thoughts of encouragement.

Relaxation techniques such as yoga and centering help will try and release all the negative thoughts that a performer may be experiencing.



### ResultsPlus Examiner Comments

A maximum of 4 marks were awarded for this candidate's answer. 1 mark for the definition and then three strategies 1 mark for self talk 1 mark for visualisation 1 mark for relaxation



### ResultsPlus Examiner Tip

This answer is well structured, formatted clearly and easy to follow.

### Question 3

The best candidates scored maximum marks on this question, mentioning points 1, 2, 4, 6 and 7.

The better candidates were able to include point 5 as well. Some candidates just mentioned crowds and winning, with vague definitions.

3 Explain what is meant by the term 'home advantage' and outline its potential effects on performance.

Home advantage is key in sport. Research shows that a team will win 54 - 65 % of games at home. In sports such as basketball the proximity effect is a factor, this is where the crowd is very close to the action and has a big influence. The crowd can provide motivation for a team or a specific player by raising noise levels and providing positive words of encouragement. The crowd can also make a team or a specific performer nervous and cause them to make mistakes throughout the game.



#### ResultsPlus Examiner Comments

This candidate was awarded the maximum 4 marks.

1 mark is given for the explanation of home advantage and the three effects: 1 mark for proximity effect 1 mark for positive encouragement from crowd 1 mark for crowd causing nerves.



#### ResultsPlus Examiner Tip

Some candidates did not achieve maximum marks as they did not explain what home advantage was and only talked about effects in their answers. Remember to check that you are answering the question set fully.

## Question 4

This question was answered well by the majority of the cohort. Those candidates who underperformed only identified three potential benefits, without providing an explanation.

- 4 Identify and explain **three** potential benefits of performers wearing compression clothing.

One benefit is it opens up blood vessels to muscles working <sup>muscles</sup> ~~muscles~~ which demand ~~oxygenated blood~~. This helps because oxygenated blood flow to working muscles is quicker and rid waste products and lactic acid from the body more quickly to improve performance. Another benefit because the muscles can work for longer at a greater effort. Another benefit is it reduces the risk of ~~a~~ DOMS (Delayed onset muscle soreness) as waste products are removed therefore the performers fatigue period is reduced and has a shorter recovery process enabling the performer to train / compete in shorter intervals.

One last benefit is a psychological one where if a performer believes he has superior clothing to his/her rivals and opposition their performance is most likely to be enhanced as

a result of this because of their  
mental & health.

(Total for Question 4 = 6 marks)



**ResultsPlus**  
**Examiner Comments**

This is a strong answer that was awarded a maximum 6 marks.

Marks were awarded as 1 mark for blood vessels dilating which delivers oxygen 1 mark for getting rid of lactic acid 1 mark for reduces DOMS and explanation it reduces fatigue 1 mark for the psychological benefit.

4 Identify and explain **three** potential benefits of performers wearing compression clothing.

One benefit is that it improves thermoregulation, which allows the body to remain at a constant temperature so ~~the~~ performers don't overheat, or get too cold. Compression clothing also wicks away sweat, which stops body parts from becoming cooler than others and having temperature imbalances in the body. It also causes muscle isolation which aids the blood flow throughout the body which allows ~~the~~ blood to reach working muscles more efficiently.



**ResultsPlus**  
Examiner Comments

This was a weaker answer that was only awarded 2 marks

1 mark for thermoregulation and 1 mark for the explanation

The candidate makes reference to 'muscle isolation', however this is vague and was not awarded any marks.

## Question 5

Candidates found this question accessible, with points 1, 2, 3, 4, 6, and 10 from the mark scheme being the most common answers.

- 5 Identify **four** key long-term adaptations that are linked to aerobic training and explain the benefit of each adaptation. ✖

Increased  $\dot{V}O_2$  max -  $\dot{V}O_2$  max is the ~~max~~ volume of ~~the~~ oxygen the body can take in and utilise to provide energy for exercise. An increased  $\dot{V}O_2$  max would benefit the performer as they could work aerobically for longer periods of time at a high intensity.

✖ Decreased resting Heart rate - aerobic training would lead to decreased resting Heart rate as the cardiac muscle would hypertrophy and increase in strength, this means stroke volume would increase so the ~~the~~ heart doesn't have to pump as fast to provide the ~~body~~ ~~working~~ muscles with the same amount of oxygen. Benefits of this include reduced blood pressure which reduces risk of diseases such as CHD.

Aerobic training can lead to weight loss as you burn fats. This reduces risk of obesity which reduces the risk of diseases such as CHD, diabetes etc.

Increased Stroke volume - the cardiac muscle ~~thickens~~ becomes stronger over time meaning the left ventricle can pump out more blood per contraction, this means more

Oxygen can be delivered to working muscles so they can respire aerobically



**ResultsPlus**

**Examiner Comments**

A maximum 8 marks were awarded for this answer. Points awarded from the mark scheme were 1,4, 6 and 8.

The candidate successfully identifies and explains four adaptations.

1 mark for increased VO<sub>2</sub> maximum and explanation 1 mark,

1 mark for decreased resting heart rate and explanation 1 mark,

1 mark for weight loss and explanation 1 mark,

1 mark for increased stroke volume and explanation 1 mark.



**ResultsPlus**

**Examiner Tip**

Look for 'and' in questions as this will mean there are at least two parts to the answer.

5 Identify **four** key long-term adaptations that are linked to aerobic training and explain the benefit of each adaptation.

As aerobic training works with oxygen, the body will be working at around 65% intensity, this means the following adaptations will eventually occur:

- An increase in  $VO_2$  max, the benefit to this is that the body will be able to work with more oxygen during each individual act of respiration.
- Increased red blood cell production, this means that greater amounts of oxygen can be transported around the body.
- Improved vascular shunting - Blood can be delivered more efficiently to the muscles that are working at that point.
- Increased mitochondria count - As this will have expanded, a greater amount of oxygen can be facilitated within the lungs.



**ResultsPlus**  
Examiner Comments

This answer was awarded 6 marks. The candidate has identified four adaptations but only fully explained the benefits of two of them.

1 mark for  $VO_2$  maximum increase but vague explanation 1 mark for increase in red blood cell, 1 for explanation.

1 mark for improved vascular shunt, 1 for explanation 1 mark for increased mitochondria, but vague explanation.



## Question 6

The definition of ritual appeared to be well-known and all points of why ritual is used were mentioned by candidates. Many candidates scored at least 4 marks.

6 Define what is meant by the term 'ritual' in sport and give **four** reasons why so many performers use it as part of their preparation.

A Ritual is a type of pre game routine that is done to help the opponent prepare.

A Ritual can enhance group cohesion as it may involve a whole team doing a certain type.

A Ritual can be a type of cultural heritage and something that has been done throughout the years.

A Ritual is a mark of respect and will provide a connection between the players, the coach and the fans.



**ResultsPlus**  
Examiner Comments

4 Marks awarded.

1 mark for definition

1 mark for cohesion 1 mark for heritage

1 mark for respect

## Question 7 (a)

Candidates who understood this question often scored the maximum 6 marks. However, there did appear to be some confusion about what the three areas of sports science are.

The mark scheme allowed for a number of roles under the physiological heading.

7 Sports science is now an essential element in the support of elite athletes.

(a) Suggest and describe the **three** types of sports science support that elite sports systems provide for their athletes.

(6)

The first ~~the~~ type of sports science support is the use of dieticians and life planners. They are there to plan the athletes diet about what and when to eat it and to plan and help them with day to day lives because of how hard it is with all the stress and training that they have to do. Another is preparation training camps which would have the best coaches and training facilities and technology for the athletes to use ~~now~~ months in advance of a event/competition. The final is holding camps which an athlete would use a few weeks/days before an event. This would have alot of psychologesists to make sure the athlete ~~does~~ doesn't crack under pressure and is ready and in the zone of the event.



**ResultsPlus**  
Examiner Comments

This answer was only awarded 2 marks. The candidate did identify 'Dietician' and described the role, but the other points were too vague or not related to specific sports science discipline.

7 Sports science is now an essential element in the support of elite athletes.

(a) Suggest and describe the **three** types of sports science support that elite sports systems provide for their athletes.

(6)

They would provide nutritionists who would work with them on creating meal plans and creating diets that would be suitable for each individual athlete which can cater for every need coming up to an important competition. The athlete and nutritionist would work together to create healthy meal plans ensuring a wide variety of nutrients including vitamins and minerals are included.

Podiatrist would be provided to help look after the athletes feet. They would ensure that their shoes are fitted properly ensuring that a very slim chance damage ~~to~~ could occur to the heels or ankles. They would also make sure that everything is right with the feet such as blisters or ingrown toenails which could effect the athletes performance.

Sports psychologists would also be provided to ensure the athlete is mentally well and can

help provide techniques to reduce anxiety or stress that may occur leading up to a major event.



**ResultsPlus**

**Examiner Comments**

This candidate was awarded a maximum 6 marks - three sports science types were suggested and the roles fully explained in supporting elite athletes.

Marks were awarded as follows:

1 mark for nutritionist and 1 mark for description of support 1 mark for paediatricist and 1 mark for description of support 1 mark for sports psychologist and 1 mark for description of support.



**ResultsPlus**

**Examiner Tip**

Again this is a question with two parts to each answer and this candidate has clearly structured their answer to show the three types of sports science and then described the role they play in supporting elite athletes.

## Question 7 (b)

Of all the questions on the paper, candidates found this one the most challenging. Few candidates answered the question as intended, and those who did scored well.

(b) Suggest reasons why sports science support is now so important to elite performers.

(5)

~~One~~ A reason why it is so important is because it provides a way of increasing performance where it use to be impossible to develop every little detail such as using dartfish to see swimming dives, free kicks, golf swings etc.

It is also now so important because it helps develop team games from the use of software such as a prozone.



**ResultsPlus**  
Examiner Comments

This is an example of a weak answer that scored no marks. The points made by the candidate are vague and unsubstantiated.

(b) Suggest reasons why sports science support is now so important to elite performers.

(5)

There has been continual development in athletic performance within modern era's meaning <sup>the</sup> difference between success and failure can mean 100<sup>th</sup> of a second. meaning the use of sport science is vital to game a competitive advantage over opponents. As countries invest in sport science other countries much also look to integrate sport science to create an even playing field. Rewards within ~~sport science~~ ~~is also at~~ competitions are also increasing meaning performers are more keen to embrace sport science. Sport science is also used to reduce injuries that can inhibit their ability to compete through the use of biomechanics and physiotherapy. Success in global sport is seen as a 'shop window' so sport science is important to outcompete other performers creating an edge on other countries. It allows elite athletes to compete at ~~the~~ their best performance level.



**ResultsPlus**

**Examiner Comments**

This was a better answer scoring a maximum of 5 marks.

1 mark for 100th of a second between success and failure 1 mark for competitive advantage 1 mark for rewards 1 mark for shop window effect 1 mark for injury reduction.

## Question 8

Many candidates just described the use of technology, without relating their response to monitoring and training being used in the short and long-term preparation phases. Therefore they were not able to access the higher marks available and these were only achieved by some of the candidates.

\*8 Discuss the role technology plays in monitoring the training of elite athletes in both short and long-term preparation phases.

Technology has developed so much over the most recent generation of performers. ~~There~~ Now, there is so much on offer for performers ~~to~~ which could be beneficial to them <sup>in</sup> a variety of ways.

Firstly, Heart rate monitors have been developed so that it is possible to see how hard athletes are working at different levels of training. This enables the athlete to train and perform on the edge of a threshold, therefore maximising performance levels. It also shows whether training aerobically, over a longer period of time is having a positive effect on how hard the performer's heart is having to work at particular intensities.

Biomechanists are now widely used by top level athletes in order to make sure their movements are as efficient as possible. ~~This~~ Technology that has recently developed to help these people, is Dartfish. Dartfish is a tool that ~~can~~ videos a performer doing an action, ~~an~~ which can then be stopped, and altered with on screen.

~~There~~ The on screen altering process enables both the biomechanist and performer to see whether slight changes in body position would be beneficial. ~~For~~ For example, a cricket bowler could see whether changing the angle of their wrist at the point of releasing the ball would

benefit the accuracy, pace or movement each ball would be getting, so they could take these adjustments ~~and~~ from practice, and apply them in a match situation.

~~\* Pedometers~~ Pedometers are also a type of equipment that are being used - particularly by marathon or long distance runners, to measure length of stride. This again is to see whether this is something that could be changed to make the movement more efficient. Longer strides would obviously mean less in total, but this could then use more energy than needed to do. The pedometers would be used in training to help find the optimum stride length for that individual.

In the ~~short~~<sup>long</sup> term, technology such as hypoxic chambers have been developed for use in ~~conjunction~~ conjunction with training. These chambers are for athletes to sleep in a low oxygen environment. This means the body should adapt accordingly, and produce more red blood cells. This has been developed so that the athlete can become used to a particular environment during training, therefore potentially helping in a competition.

There is now a boot and microchip that Nike have recently developed - and Adidas have done so also - that enables a performer to wear these Football



boots - containing a microchip, while training, and afterwards, this chip is uploaded on a computer, and it provides a range of statistics ~~data~~ from that session. This would give ~~the~~ both the performer and coaches a list of a player's strengths and weaknesses. ~~This~~ This chip is able to monitor changes over a period of time, as all of the data is logged and can be reset each time it is used.



### ResultsPlus Examiner Comments

This answer was awarded 9 marks (Level 3).

The candidate does not develop the points made fully. It is mainly training based with limited reference to monitoring. The answer does try to split long term and short term phases but there is no real analysis and no conclusion.

Relevant points are supported by some examples but these are only partially developed.

A basic structure is evident, although there is no plan and there is some incorrect use of terminology.

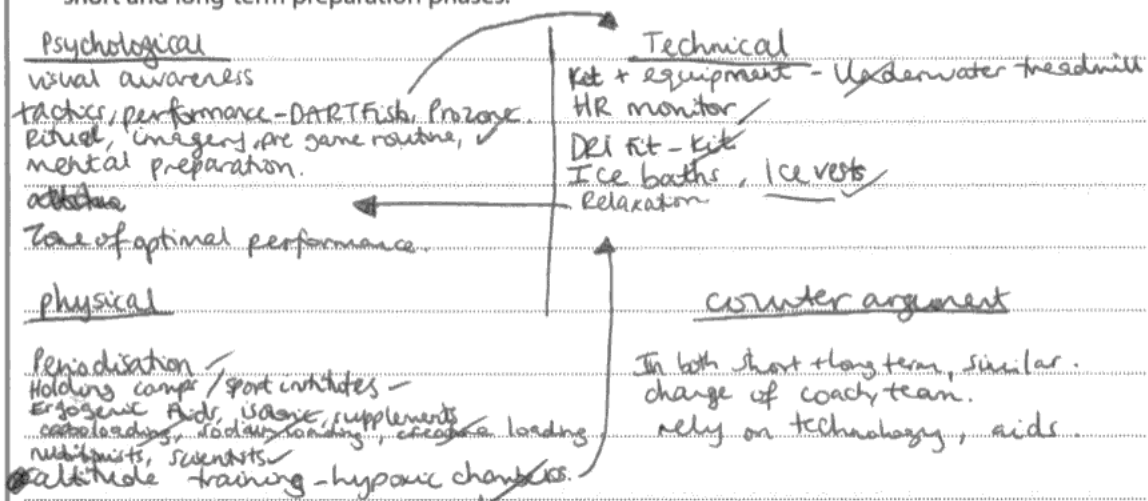
There are some errors in spelling, punctuation and grammar.



### ResultsPlus Examiner Tip

The mark bands also include Quality of Written Communication (QWC) characteristics and these are taken into consideration when the examiner is making a judgement on the mark to award a candidate's answer. Please make sure your writing is legible, and that your spelling, punctuation and grammar is accurate so meaning is clear. You should also ensure that technical terms and specialist vocabulary is used in context.

\*8 Discuss the role technology plays in monitoring the training of elite athletes in both short and long-term preparation phases.



Technology has a major impact on sports and can be used for both short term and long term preparation. There are 3 major sections taken into account when planning and performing, these are technical, physical and psychological factors that are often used for both short and long term preparation. Physical factors can often include periodisation and macro cycles, meso cycles and micro cycles. However the cycle used would change depending on whether the training is short or long term. For example, macro cycles for long term preparation and micro cycles for short term preparation. Periodisation enable the athlete to carefully and accordingly plan out any training or elements for improvement. If it is long term they can develop skills and tactics and work on any areas for improvement. Short term preparation is used to focus on few techniques and being able to develop and progress a certain area needed for an event or position. Long term training can be linked to sport institutes where athletes are offered the very best coaches,

sports science, nutritionists. As this will give the opportunity to maintain and sustain training. For short term preparation, athletes are held within a holding camp located close by to where an event takes place. This allows the athlete

to train on the track they will be performing on. Technical factors can include DARTfish or Prozone, this is specialised equipment used to analyse tactics, performance and areas of improvement missed by the human eye. For example, Tennis. The technology will be able to record whether the ball is in or out. Other technology includes kit + equipment, for example an underwater treadmill may be used to keep an athlete exercising, but will not cause any further injury or put pressure onto the injury. This helps to stop fitness from deteriorating and allows the athlete to still train. Specialised kit includes DRI Fit, ice vests, there is a fine line however to whether having this type of kit is classed as cheating or not as they are used to help aid an athletes performance. A more regular use of equipment + technology would be HR monitors and specialised sports equipment used to track distance, speed, time, HR and calories. During long term preparation an athlete will train at altitude, this adapts and aids training as it will require taking in less O<sub>2</sub> and being able to still cope with the demands of exercise. If this is not possible many athletes will use hypoxic chamber in short term preparation and long term preparation to train at altitude and sustain exercise whilst acquiring less oxygen. Physical factors include the use of ergogenic aids such as supplements and isotonic drinks used to help aid an athletes performance. (performance enhancing) other factors include carbo-loading, sodium loading, and creative loading. Used to develop

energy, the PC system, enzymes and other bodily systems to enable an athlete to maintain energy for longer. Psychological preparation includes the zone of optimal performance, rituals, pre-game routines, ritual awareness and relaxation. Although there is no technology involved, all are used for both short term and long term preparation in preparing an athlete both physically and mentally.

Arguments against technology and how it is used within

Sport include, the fine line between winning and losing. How athlete WANT to win. The success and ~~honour~~ honour it brings and the money involved with winning. The need for ~~relationships~~ <sup>sponsorships</sup> and endorsements also associated with success. Means athletes will do whatever it takes to achieve. Some technology used can be seen as cheating, people no longer play sport out of fun, always looking for new research, drugs, aids and technology and How to overcome opponents. Most athletes + teams now RELY on technology and these performance aids. The use of technology and factors can account for both short term and long term preparation. Technology isn't just used to monitor performance / training for one athlete, it is also used to monitor other teams and opponents' <sup>previous</sup> performances.



## ResultsPlus

### Examiner Comments

This is a stronger answer which was awarded 15 marks (top of Level 4).

It does attempt to answer the question set, developing a discussion of the use of Technology in some elements of both short and long term preparation.

There is some evidence of analysis and debate, although this still lacks depth and balance.

The answer makes an attempt to address the key issues raised in the question and there is an obvious attempt to structure the answer with sound use of terminology. Generally clear and concise with limited inaccuracies. Satisfactory spelling, punctuation and grammar.

## Question 9

Candidates were able to discuss climate, altitude, surface and time zone in their answers. Where marks were limited to the lower level, the answers were superficial and lacked the scientific depth to explain the impact of environmental conditions.

More able candidates were able to develop debates about the fact that there are so many environmental factors that may need to be considered. Athletes and their support teams need to be able to make judgements about which environmental factors they have most control over or which may have the biggest impact on performance in that particular time or location.

\*9 Discuss the environmental factors that influence preparation and competition.

Plan - playing surface, wind, heat, rain, ~~from~~ humidity -  
acclimatisation, altitude, audience, luck

Counter - talent should prevail, insufficient preparation?,  
out of players control, audience should be predictable.

When preparing for, and competing in events, environmental factors have a huge ~~impacts~~ impact on end ~~result~~ results.

In preparation for sporting events, ~~time~~ ~~should~~ ~~always~~ time should always be allowed for acclimatisation to occur.

Acclimatisation is the time taken to adapt to a new environment, which is usually 10-14 days. If this does not happen, performance can greatly suffer. This was proven by British heavyweight boxer Lennox Lewis. He was set to fight in South Africa and was heavy ~~for~~ favourite.

However, he only allowed himself seven days to acclimatise, so in the fight he became tired very quickly and lost the world title, because he had not acclimatised. Some would argue that talent should prevail, ~~to~~ but this is not true as his body had not physiologically adapted to its ~~new~~ new environment and could not optimally perform.

Another ~~an~~ similar environmental factor is altitude.

Altitude training can be used in preparation for an event

for three key reasons. It can be used to prepare for an event at altitude, to bring about physiological adaptations

and to help athletes maintain fitness when recovering from injury. This is a popular method of preparation, and is widely used. However, it could be argued it is highly ~~unnecessary~~ <sup>unnecessary</sup> as athletes at an elite level could simply use a hypoxic chamber to avoid changing location. Despite that argument, it is still regularly used and is very popular among athletes who cannot access a hypoxic chamber.

The playing surface being used is ~~an~~ another environmental factor that affects performance. This has been exhibited by Rafael Nadal who has won ~~more~~ more French Open titles than anyone in history, and this is largely down to it being played on clay. However, playing surface is somewhat controversial as it can simply be combatted by training on the playing surface you will be competing on, to become more competent on it.

Weather conditions and climate are also environmental factors that influence performers. Wind is a very ~~unpredictable~~ unpredictable condition as it ~~cannot~~ can't be trained for, to an extent. Artificial methods such as wind tunnels can be used, however, they do not account for factors such as sudden gusts or varying strengths, which are a regular problem in cycling. Heat and humidity can also be problematic to performers. This is being shown in football, as some officials are campaigning for the 2018 world cup in Qatar not to be held in the summer as

it will be too hot. However, when travelling to compete in a hot location in the summer it can easily be predicted. As discussed before, as long as performers are allowed an adequate acclimatisation period, no ~~probler~~ issues should arise.

In conclusion, in some cases, environmental factors such as wind can't be predicted and are very difficult to prepare for, so a slight decline in performance is to be expected. However, it is unjust for performers to blame factors such as heat and altitude on a decline in performance, when it could have easily been prevented through correct preparation. ~~Overall~~ Overall, environmental factors can ~~aff~~ influence performance, however, through thorough preparation, these can usually be ~~see~~ combatted.



**ResultsPlus**

**Examiner Comments**

A good answer scoring 17 marks (Level 5).

The candidate has developed relevant discussion and supported points made with specific and contemporary examples. The topic is maintained, has a conclusion and evidence of planning. The candidate does start to develop a counter argument, but this needs to be expanded to push the answer into Level 6.

\*9 Discuss the environmental factors that influence preparation and competition.

There are a variety of environmental factors that influence preparation and competition.

Humidity can influence preparation and competition due to heat exposing the body and causing the body to tire a lot quicker than usual which, would have a negative impact on performance.

Climate can also have a huge influence on preparation and competition. Climate contains a few factors such as wind, which can give teams a competitive advantage for example, going against the force of wind would be a lot more difficult compared to, having the wind with you as, for example, in football the ball would travel a lot further and faster.

Playing surface is another environmental factor that influences preparation and competition. Again, for example, a dry pitch in football may lead

the ball to roll a lot slower and bounce unexpectedly. Therefore, the short term preparation will need to focus on that aspect by adapting



to the surface, the team who are used to that particular surface again may gain a competitive advantage.

Altitude is another factor that may have an effect on both preparation and competition. Training / Performing higher above sea level without being used to it can cause the body to tire or dehydrate a lot quicker than usual. This can be prevented by using ~~pe~~ holding camps which helps train and, prepare the body for those conditions weeks prior to competition. This helps the body to adapt more and help it cope with the demands of the environment.



**ResultsPlus**  
Examiner Comments

This answer scored 8 marks (top of Level 2).

The candidate does make points on a topic but does not develop them. There is no conclusion and no applied examples. Detail is limited, rather superficial generally and does not address many parts.

## Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

- Read all the questions carefully and plan your time in the exam to ensure that you fully complete all the questions
- Recognise that the questions marked with a \* will also award marks for your quality of written communication
- Questions that contain an 'and' will require at least two parts to your answers
- Check that you are confident with all the terms, phrases and concepts set out in the specification for Unit 6PE03
- Ensure that you are making enough points to match the marks available

## **Grade Boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>

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