

# Example Candidate Responses

Cambridge  
**IGCSE**

## Cambridge IGCSE<sup>®</sup> Physical Education

0413

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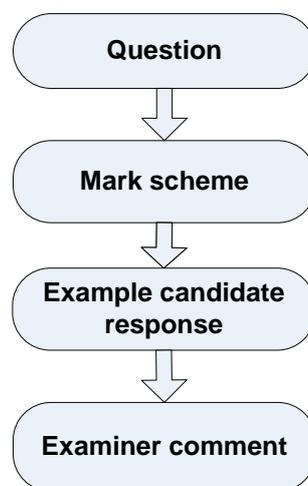
## Introduction

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The main aim of this booklet is to exemplify standards for those teaching Cambridge IGCSE Physical Education (0413), and to show how different levels of candidate performance relate to the subject's curriculum and assessment objectives.

In this booklet a range of candidate responses has been chosen to exemplify grades A, C and E for Paper 1. Each response is accompanied by a brief commentary explaining the strengths and weaknesses of the answers. A grade is given to each question, but in the examination each question paper (whole candidate script) is graded on the overall mark awarded, not on each question or part question. It is therefore possible that, on some questions, lower grade candidate scripts are awarded the same or similar marks to higher grade candidate scripts.

For ease of reference the following format for each paper has been adopted:



Each question is followed by an extract of the mark scheme used by examiners. This, in turn, is followed by examples of marked candidate responses, each with an examiner comment on performance. Comments are given to indicate where and why marks were awarded, and how additional marks could have been obtained. In this way, it is possible to understand what candidates have done to gain their marks and what they still have to do to improve their grades.

Past papers, examiner reports and other teacher support materials are available on Teacher Support at <http://teachers.cie.org.uk>

## Assessment at a glance

Component 1		Component 2	
Paper 1	1 hour 45 min	Coursework	Centre-based assessment
<p><b>Section A:</b> Candidates answer short answer questions on the three units they have studied: <i>Factors affecting performance, Health, safety and training, Reasons and opportunities for participation in physical activity.</i></p> <p><b>Section B:</b> Candidates answer three structured questions, one from each of the three units they have studied.</p>		<p>Candidates choose to undertake <b>four</b> practical activities from at least <b>two</b> of the seven categories listed (50% of total marks). Candidates must show the ability to analyse and improve practical performance in <b>one</b> of their four chosen practical activities (10% of marks).</p>	
40% of total marks		60% of total marks	

Teachers are reminded that a full syllabus is available at [www.cie.org.uk](http://www.cie.org.uk)

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# Paper 1

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## Section A

The first five questions for Paper 1 Section A require either a single word response or a very short sentence to gain one mark. The questions are targeted at grade E candidates. Candidates are asked to recall specific pieces of information, but not apply the information or give detailed descriptions. Therefore it is not relevant to provide a range of responses across the key grades. As an aid to teachers, the most typical correct and incorrect responses have been provided for these questions where it is appropriate.

### Question 1

1 Apart from taking regular exercise, give **one** way that a performer can achieve a good level of health and fitness.

.....  
.....[1]

#### Mark scheme

1 lead a healthy lifestyle ;  
eat a balanced diet/eat healthily ;  
avoid drugs and pollution ; [1]

#### Examiner comment

Typical correct answer – eat a balanced or healthy diet.  
There were very few incorrect responses for this question.

### Question 2

2 Give an example of when a high level of arousal is beneficial to a performer.

.....  
.....[1]

#### Mark scheme

2 a long / high jumper getting the crowd to clap before the start of the run up ;  
getting ready for weight lifting ;  
psyching up before a contact sport such as rugby / American Football ; [1]

#### Examiner comment

Typical correct response – examples given of performers getting ready for a contact sport such as rugby.  
Typical incorrect response – performers getting ready for a game. Responses such as this were too vague.

### Question 3

3 Smoking tobacco can be described as using a socially accepted drug.

Describe **one** negative effect of smoking tobacco on a performer.

.....  
 .....[1]

#### Mark scheme

3 raises heart rate/blood pressure ;  
 causes heart disease ;  
 blood cells take up carbon monoxide so less oxygen gets to muscles ;  
 tar collects in the lungs/alveoli which reduces oxygen uptake ;  
 illness prevents/reduces participation/reduces level of performance ;  
 causes lung cancer/causes bronchitis/breathing difficulties ; [1]

#### Examiner comment

Typical correct response – causes lung cancer.

There were very few incorrect responses for this question.

### Question 4

4 Give an example of a cartilaginous joint.

.....[1]

#### Mark scheme

4 ribs ;  
 joints in the spine/between vertebrae ; [1]

#### Examiner comment

Typical correct response – vertebrae.

Typical incorrect response – the knee. A significant number of candidates named joints that have cartilage as a key component.

## Question 5

5 Describe **one** social benefit of taking part in sport.

.....  
.....[1]

### Mark scheme

5 meet new people/improve social skills ;  
meeting people ;  
improved awareness of others/team work ; [1]

### Examiner comment

Typical correct response – make new friends.

Typical incorrect response – be fitter. Some candidates misunderstood the term ‘social’.

## Questions 6–11

Questions six to eleven still require the recall of information but there is sometimes a degree of application or description required. These questions have two marks allocated, therefore the responses have been identified at grade A and grade C/E.

## Question 6

6 Describe **two** benefits to the community when sports facilities are owned by private companies.

.....  
.....  
.....  
.....[2]

### Mark scheme

6 facilities are often specific to a sport, e.g. squash club, golf club ;  
provide high quality/better equipment/facilities ;  
coaching is available, including 1 to 1/specialised coaches ;  
no cost to the community/community can be members and use it/facilities more  
accessible to the community ; [2]

### Example candidate response – grade A

6 Describe two benefits to the community when sports facilities are owned by private companies.

→ Better coaching ~~availability~~ available  
 → Better exercising machines

.....[2]

### Examiner comment – grade A

Although the answers were brief, the points made in this response were correct; ‘better coaching’ and ‘facilities’ are generally more likely to be available in private sports facilities. Candidates needed to be able to recognise the role of different providers in a community.

**Mark awarded = 2 out of 2**

### Example candidate response – grade C/E

6 Describe two benefits to the community when sports facilities are owned by private companies.

Private companies will provide facilities wanted  
 by the locals, so cares for local need.  
 Facilities are run as a business and so are of  
 high quality for the community

.....[2]

### Examiner comment – grade C/E

The first point made did not identify the real role of a private company. A community or voluntary provider would be more likely to represent the first point made. The second point regarding the high quality facilities was awarded a mark.

**Mark awarded = 1 out of 2**

## Question 7

7 Explain why a person’s age may determine the sports that they may take part in.

.....  
 .....  
 .....  
 .....[2]

## Mark scheme

- 7 some sports have age restrictions ;  
 most sports have age categories ;  
 some sports may be too dangerous for young performers/older people unable to meet physical demands of sports/very young children may find some skills too complex or demanding ;  
 at a young age performers will need transport/help to attend ;  
 younger participants may want more adventurous activities/older participants more passive sports/interests change with age ;

[2]

## Example candidate response – grade A

- 7 Explain why a person's age may determine the sports that they may take part in.

Some sports have age restrictions because it is dangerous or harmful to health. i.e. Weight lifting for young children can damage growth plates. Elderly people are less agile and less flexible and more likely to be injured so they tend to take part in less contact sports. People's interests also change as they grow older.

[2]

## Examiner comment – grade A

This candidate gave two good reasons for why a person's age may determine the sports that they take part in. Firstly that some sports have age restrictions, and the candidate gave the good example of weight lifting. The second point related to older performers having less physical mobility which limits the types of sports that can be played.

**Mark awarded = 2 out of 2**

## Example candidate response – grade C/E

- 7 Explain why a person's age may determine the sports that they may take part in.

Some sport may take risk and it could be very dangerous and since people at a younger age heels faster it would be better if people who are at old age doesn't participate.

[2]

## Examiner comment – grade C/E

The point the candidate made is valid and explains that the nature of some sports are more suitable for younger performers due to the pace of the activity. The candidate did not make any additional points to gain further marks.

**Mark awarded = 1 out of 2**

## Question 8

8 Describe **two** treatments you would apply to a performer who has a graze to the leg.

.....

.....

.....

.....[2]

### Mark scheme

8 remove any splinters, etc. from the wound/clean wound ;  
 cover the cut and apply pressure/allow to clot ;  
 raise the injured limb to reduce the flow of blood to the wound/keep limb still ;  
 when the bleeding stops apply a pad or plaster ;  
 get medical help if needed ; [2]

### Example candidate response – grade A

8 Describe **two** treatments you would apply to a performer who has a graze to the leg.

• Clean the graze to prevent any infection

• And then wrap a bandage around it to prevent

protect the graze.

.....[2]

### Examiner comment – grade A

The candidate gave two correct treatments which contained a degree of description in both cases. Cleaning and covering the graze with a bandage enabled both marks to be awarded.

**Mark awarded = 2 out of 2**

### Example candidate response – grade C/E

8 Describe **two** treatments you would apply to a performer who has a graze to the leg.

the ice the area to ~~not~~ numb the pain

~~Keep pressure to the area to avoid any bleeding.~~

Clean the scab to prevent any infections. [2]

### Examiner comment

The candidate's initial response was to apply ice to the wound which is incorrect and did not gain a mark. The second point mentions a scab, which is not totally correct, but demonstrates sufficient understanding about the need to clean the wound to be awarded a mark.

**Mark awarded = 1 out of 2**

## Question 9

9 Describe **two** disadvantages for a performer when they are sponsored.

.....

.....

.....

.....[2]

### Mark scheme

- 9 the sponsors may make demands on the performer that stops them training/ playing/less free time due to commitments ;  
a sponsor may dictate the events an athlete takes part in ;  
sponsorship deals are usually time limited and the athlete may become reliant on sponsorship ;  
win at all costs/cheating, e.g. use of drugs/has to play well ;  
(public) opinion of sponsor may transfer to performer ;  
sponsor may dictate clothing/equipment performer may use/may not meet all athlete's needs ;  
performer may lose the sponsorship deal if their behaviour becomes unacceptable/ bring the company into disrepute ;

[2]

### Example candidate response – grade A

9 Describe **two** disadvantages for a performer when they are sponsored.

The sponsor decides where and what the performer does, and also their clothing and equipment. When sponsored would have more pressure on to succeed.[2]

### Examiner comment – grade A

Two clearly stated points were made by the candidate who illustrated the controls that a sponsor can exert on a performer including the restrictions on the use of clothing and equipment. The second point illustrated the pressure to succeed that a performer is under in order to maintain a sponsorship deal.

**Mark awarded = 2 out of 2**

### Example candidate response – grade C/E

- 9 Describe **two** disadvantages for a performer when they are sponsored.

The first disadvantage is that they would have to be careful of their actions or it could lead to the sponsors dropping them. The second would be that they can't do crazy things e.g. getting drunk and the sponsors find out and drop them [2]

### Examiner comment – grade C/E

The candidate gave two examples of the same point, that being that any poor conduct from the athlete could result in the loss of the sponsorship deal. Therefore, a mark was awarded for the first point made and the second was regarded as a repeated point so no further marks were gained.

**Mark awarded = 1 out of 2**

### Question 10

- 10 Describe **two** ways that a performer mentally prepares for a game or performance.

.....

.....

.....

..... [2]

### Mark scheme

- 10 understand the strengths/weaknesses of your opponent/plan to overcome the opponent ;  
 visualise the event/visualisation/go through intended actions ;  
 visualise prior success/winning/what to do if things go wrong ;  
 take deep breaths – helps reduce anxiety/meditation/relax ;  
 distract from the event by listening to music ;  
 get psyched up/pumped up/pep talk from coach ; [2]

### Example candidate response – grade A

- 10 Describe **two** ways that a performer mentally prepares for a game or performance.

Going over his performance or thinking of it. Also calming his mind and listening to calm and relaxing music. [2]

### Examiner comment – grade A

The candidate described thinking through the performance, which demonstrated an understanding of the use of visualisation, and also the use of music to calm the performer. Both marks were awarded.

**Mark awarded = 2 out of 2**

### Example candidate response – grade C/E

**10** Describe two ways that a performer mentally prepares for a game or performance.

Mentaly they need self confidence, so they  
mentaly think that they can perform to their  
highest capacity, and they have to be calm  
and not stressed to perform fluently. [2]

### Examiner comment – grade C/E

The candidate described that a performer could think about playing at the highest levels, which is an example of a performer using visualisation as a means of preparation. The second point does not add any further information, so a mark was not awarded.

**Mark awarded = 1 out of 2**

## Question 11

**11** Describe the signs that a coach would see if an athlete was over-training.

.....  
.....  
.....  
..... [2]

### Mark scheme

- 11** tiredness / muscle soreness / cannot complete activity ;  
lack of motivation / gives up too easily ;  
not eating well ;  
poor concentration ;  
over sensitive to comment / criticism / feeling stressed ;  
minor injuries more frequent / illness e.g. colds ;  
coach sees athlete training too much ;  
no improvements in performance seen ; [2]

### Example candidate response – grade A

11 Describe the signs that a coach would see if an athlete was over-training.

- \*.) ~~if~~ the player might be getting tired ~~so~~ very fast and not able to do what the coach is telling him to do
- \*.) when he plays a game his skill will not be shown or even if shown they won't be that effective [2]

### Examiner comment – grade A

It was important that candidates gave signs rather than symptoms of over-training. In this case, the candidate correctly named signs and then gave a good description of how this would be seen by a coach. The first mark was awarded for identifying the performer being tired. In the second example, a description of the effect on performance was given and awarded a mark.

**Mark awarded = 2 out of 2**

### Example candidate response – grade C/E

11 Describe the signs that a coach would see if an athlete was over-training.

- ..when an athlete results becomes bad and when they start to breathe very hardy.....
- .....
- .....[2]

### Examiner comment – grade C/E

The candidate gave a description which shows the results of over-training by describing how the performance is reduced. The second point confused the term over-training with training hard and used heavy breathing as a sign. No mark was awarded for this point.

**Mark awarded = 1 out of 2**



### Examiner comment – grade A

The candidate gained the first mark for the improvement that can result from being involved in an examination course, the example given was the gained ability to analyse performance. The candidate then went on to describe the access to improved coaching and facilities. The improved coaching will provide more in-depth instruction and often examination groups use external facilities.

**Mark awarded = 3 out of 3**

### Example candidate response – grade C

- 12 Describe three ways that physical education examination courses help improve performances in sport.

They give a better understanding of what is needed as well as training, like diet. It teaches you how to make specific training plans for specific sports, for your aid. It gives you an understanding on how to avoid getting injured. [3]

### Examiner comment – grade C

The first mark was awarded to the candidate for identifying one of the many aspects of an examination course that supports sports performance, such as diet. Later in the answer the candidate names avoidance of injury, which falls into the same category of aspects of the course that support performance. This was considered to be a repeated response and no mark was awarded. The second mark awarded was for establishing a training plan for a specific sport, which is a performance related element of an examination course.

**Mark awarded = 2 out of 3**

### Example candidate response – grade E

- 12 Describe three ways that physical education examination courses help improve performances in sport.

It would help the performers concentration when performing the sport, and with the physical examination gone, they would have knowledge of their performance in the sport and helps self-confidence as well in the athlete making a clean performance. [3]

## Examiner comment – grade E

The candidate described the improvements in self-confidence and concentration but did not link this to examination courses. One mark was awarded for identifying the improvements in performance due to an increase in knowledge about sport.

**Mark awarded = 1 out of 3**

## Section B1 – Factors affecting performance

### Question B1 (a)

**B1 (a)** Give **two** disadvantages of high levels of extrinsic motivation to a performer.

.....

.....

.....

..... [2]

As this question has only two marks awarded, examiner comments have been written for grades A/C and E.

### Mark scheme

- (a)** the performer may become more focused on the reward than the reason for performing/more interested in rewards than performing/resorts to cheating/may push too hard leading to injury ;  
 the reward might be too difficult to attain ;  
 playing for rewards can put the performer under too much pressure/cause anxiety ;  
 you may lose interest in a sport if you fail to gain the reward ;

[2]

### Example candidate response – grade A/C

**B1 (a)** Give **two** disadvantages of high levels of extrinsic motivation to a performer.

..... High levels of extrinsic motivation can cause a performer to be  
 obsessed with physical rewards. It can also mean if they don't  
 achieve it their motivation <sup>levels</sup> could be affected a lot by going down. It  
 can also lead to taking drugs if they are only in it for physical rewards. [2]  
 \* If you make them reliant on rewards then if they lose it they would be no more motivated.

### Examiner comment – grade A/C

The candidate has made two clear points that were awarded marks. Firstly that an athlete will become too focused on the reward. The second point focuses on the lack of motivation/interest of the athlete if they don't win.

**Mark awarded = 2 out of 2**

### Example candidate response – grade E

**B1 (a)** Give two disadvantages of high levels of extrinsic motivation to a performer.

The huge amount of stress the performer would have and pressure on him, making the performance, weak. [2]

### Examiner comment – grade E

The candidate recognised the pressure that results from being externally motivated and uses the terms stress and pressure to make the point. The second point which described external motivation causing the performance to be weak, is vague and not always true. To gain a mark this point would need to be developed much more.

**Mark awarded = 1 out of 2**

### Question B1 (b)

**(b)** Name **three** different types of synovial joints in the upper body. For each of these joints, name the type of muscle action used by an athlete in a throwing activity.

- 1 .....
  - .....
  - .....
  - 2 .....
  - .....
  - .....
  - 3 .....
  - .....
  - .....
- [3]

Candidates could gain marks by naming types of joints and appropriate movements. However, if a candidate named three joints correctly but not the appropriate movements they were awarded one mark.

### Mark scheme

- (b)** ball and socket – abduction / adduction / circumduction ;
- hinge – flexion / extension ;
- pivot – rotation ;
- condyloid – flexion / extension ;
- saddle – circumduction ;
- gliding joint – flexion / extension ;

[3]

## Example candidate response – grade A

- (b) Name three different types of synovial joints in the upper body. For each of these joints, name the type of muscle action used by an athlete in a throwing activity.

1 ball and socket - circumduction will allow performer to move his arm while throwing

2 Condyloid = flexion at the wrist allows athlete to thrust his throw with the palm.

3 Pivot - the athlete is able to rotate his head to gauge where he'll be throwing.

[3]

## Examiner comment – grade A

The candidate correctly named three synovial joints. The marks were awarded as the joints were named rather than located. The candidate named a ball and socket, condyloid and pivot joint, all of which are located in the upper body and impact on a throwing action. In each case a correct muscle action was named.

Mark awarded = 3 out of 3

## Example candidate response – grade C

- (b) Name three different types of synovial joints in the upper body. For each of these joints, name the type of muscle action used by an athlete in a throwing activity.

1 The elbow joint is an example of a hinge joint in the upper body. When a throwing activity is undertaken, such as in throwing a ~~ball~~<sup>dart</sup>, flexion occurs when the ~~arm~~<sup>arm</sup> moves back toward the shoulder and extension occurs when the ~~arm~~<sup>arm</sup> moves back again out from the shoulder.

2 The shoulder joint is an example of a ball and socket joint in the upper body. Here, in a throwing activity, circumduction can occur, such as in holding a ball in a milkb. The arm rotates in the shoulder joint 360° and the ball is released once a full rotation has been made.

3 ~~The shoulder joint~~ The shoulder joint also helps throwing activities in flexion and extension movements.

[3]

## Examiner comment – grade C

The candidate's first point gave the example of a hinge joint with the appropriate movement of flexion. Although the location of the elbow was mentioned, this was not part of the correct response. The second point followed the same pattern with the mark given for the ball and socket joint and circumduction, with the location of the shoulder not seen as part of the answer. The third point gave a location but no further information, so was not awarded a mark.

**Mark awarded = 2 out of 3**

## Example candidate response – grade E

(b) Name three different types of synovial joints in the upper body. For each of these joints, name the type of muscle action used by an athlete in a throwing activity.

- 1 Ball and socket joint in the shoulder. Deltoid contracts to lift the arm and shoulder.
- 2 Hinge joint in the elbow. Biceps contracts while the triceps relaxes to bend the arm at the elbow in preparation for throw.
- 3 ~~Gliding joint in wrist~~ Pivot joint of head on spinal axis to perform a turn head to see where they are throwing. Muscles in neck will contract it. [3]

## Examiner comment – grade E

The candidate correctly identified three different types of synovial joints, ball and socket, hinge, and pivot, and was awarded one mark in line with the mark scheme. The movements named were inaccurate. In the case of the pivot joint, a description was used but not named, as required by the question. The ball and socket joint referred to the movement at the hip which did not answer the question which related to the upper body, and the hinge joint response did not identify any movement.

**Mark awarded = 1 out of 3**



## Example candidate response – grade A

- (c) Describe how the gastrocnemius muscle functions when an athlete takes off in the high jump and long jump.

When an athlete takes off in the high/long jump:

- When the athlete is on the ground, the gastrocnemius is relaxed.
- As the ankle joint <sup>DORSI</sup> plantar-flexes, the gastrocnemius tenses/contracts as the athlete jumps.
- The gastrocnemius remains contracting as the agonist muscle.
- and as the athlete ~~does~~ plantar-flexes, the gastrocnemius then relaxes.

[4]

## Examiner comment – grade A

The candidate used terms that are described in the mark scheme and was given credit for this. The candidate used dorsi- flexion and plantar- flexion to describe two movements that occur at the ankle during the take-off and also explained that the gastrocnemius contracts during the movement.

**Mark awarded = 3 out of 4**

## Example candidate response – grade C

- (c) Describe how the gastrocnemius muscle functions when an athlete takes off in the high jump and long jump.

The gastrocnemius allow contraction while running, with help of quadriceps and hamstring. As the athlete jumps off of the ground to jump far or upward, the gastrocnemius contracts and allow achilles tendon to pull upwards, allowing athlete to jump off of the ground using top of foot. The gastrocnemius exerts a force on achilles tendon when being pulled upward to lift foot off of the ground with height.

[4]

### Examiner comment – grade C

The candidate identified that the gastrocnemius contracts at the point of take-off and also identified the location of the muscle through the connection to the Achilles Tendon.

**Mark awarded = 2 out of 4**

### Example candidate response – grade E

- (c) Describe how the gastrocnemius muscle functions when an athlete takes off in the high jump and long jump.

The gastrocnemius muscle will contract as the performer ~~steps~~ bends down in preparation for the jump. The origin is connected to the ~~muscle~~ ~~bone~~ ~~not~~ moving whilst the ~~insertion~~ connects to the moving bone. As the performer then extends ~~and~~ whilst jumping in the air the gastrocnemius relaxes. The gastrocnemius provides ~~some~~ of the upthrust for the performer's jump. [4]

### Examiner comment – grade E

The candidate gained a mark for describing the point at which the muscle contracts during take-off. The second point made did not locate the muscle as the description could be applied to any muscle. The third point made did not answer the question as it applied to movement in the air and the question was about the role of the muscle at take-off.

**Mark awarded = 1 out of 4**

## Question B1 (d)

(d) Name **two** components of blood and describe how they aid a sports performer.

component 1 .....

.....

.....

.....

component 2 .....

.....

.....

.....[4]

### Mark scheme

(d) plasma ;  
 clear liquid that transports blood cells and platelets/removes waste products/transport nutrients that helps build tissue ;  
 red blood cells (RBC) ;  
 transport oxygen from the lungs to tissues/oxygen provides energy to the muscles/the more red blood cells the longer muscles will be able to sustain exercise ;  
 white blood cells (WBC) ;  
 part of the immune system/fights bacteria/essential in contact sports when performers can be cut in preventing infection/speeds recovery from injury ;  
 platelets – acts as a clotting agent when a performer is cut, essential in contact sports ;

[4]

### Example candidate response – grade A

(d) Name **two** components of blood and describe how they aid a sports performer.

component 1 Red blood cells - carry oxygen around the body. This component allows cells to respire and create energy. (E.g. long distance running).

component 2 Platelets - Platelets are in charge of clotting wounds and grazes. It can aid a performer to stop bleeding off quickly (e.g. nose bleed). (E.g. boxing nose bleed).

[4]



## Question B1 (e)

(e) Describe **three** effects on the circulatory system, when a performer takes part in a long period of exercise, and how this improves performance.

effect and improvement 1 .....

.....

.....

.....

effect and improvement 2 .....

.....

.....

.....

effect and improvement 3 .....

.....

.....

.....[6]

### Mark scheme

(e) **effects:**

- the cardiac muscle develops thicker, stronger walls which increases the volume of blood in the arteries / improved stroke volume ;
- the number of red blood cells increases ;
- the amount of capillaries around the heart and lungs increases ;
- a more efficient circulatory system ;
- arterial walls become more elastic ;
- lower resting heart rate ;

**improvements:**

- the increase in volume allows more blood to reach muscle tissue so more energy available ;
- improves the amount of oxygen reaching muscles, aiding endurance ;
- this allows a speedier movement of oxygen and carbon dioxide which delays the onset of lactic acid production ;
- the system is more able to cope with the changes in blood pressure ;
- gas exchange improves so the speed that oxygen reaches muscles increases ;

[6]

### Example candidate response – grade A

- (e) Describe three effects on the circulatory system, when a performer takes part in a long period of exercise, and how this improves performance.

effect and improvement 1 ..Increases stroke volume so  
 ..more blood is pumped from the left ventricle from  
 ..one contraction so more oxygen reaches respiring  
 ..cell to release energy from respiration

effect and improvement 2 ..Cardiac hypertrophy so performer's  
 ..heart works more efficiently at a low heart rate  
 ..so performer can perform for longer at submaximal  
 ..levels before reaching their maximum heart rate

effect and improvement 3 ..~~Capillarisation of the alveoli in the~~  
 ..lung Increase capillarisation of the alveoli which  
 ..means also results in ~~the~~ more efficient  
 ..gaseous exchange. [6]

### Examiner comment – grade A

The question was targeting the long term effects of exercise and candidates were expected to link these effects to the improvements they provide the performer. The candidate identified three effects with appropriate improvements for an athlete. The candidate identified the improved stroke volume, thicker cardiac muscles (cardiac hypertrophy) and an increase in capillaries. In each case an appropriate improvement was included in the answer. All six marks were awarded.

**Mark awarded = 6 out of 6**

## Example candidate response – grade C

- (e) Describe **three** effects on the circulatory system, when a performer takes part in a long period of exercise, and how this improves performance.

effect and improvement 1 ..... there's an increase in the number  
..... of red blood cells produced and therefore more  
..... oxygen can be absorbed and transported around the  
..... body to the working muscles.

effect and improvement 2 ..... the heart beats slower when  
..... resting, meaning that more blood can be sent to  
..... the performer at each pump of the heart and he  
..... won't be out of breath quickly - and more oxygen & glucose.

effect and improvement 3 ..... the arterioles go through vasoconstriction  
..... so that blood is redirected to the working muscles  
..... and brain and therefore the performer will  
..... have more energy and will be ready for action. [6]

## Examiner comment – grade C

The candidate gave two correct examples of the long term benefits of exercise and one short term improvement to the circulatory system. The marks were awarded for describing the increase in the number of blood cells that result from a long period of exercise, and correctly identifying that there would be an increase in the amount of oxygen reaching the working muscles. The second correct example was the reduction in the resting heart rate with an appropriate benefit to performance. The third response demonstrated an immediate response to exercise and therefore did not answer the question and was not awarded a mark.

**Mark awarded = 4 out of 6**

### Example candidate response – grade E

- (e) Describe **three** effects on the circulatory system, when a performer takes part in a long period of exercise, and how this improves performance.

effect and improvement 1 ~~muscle~~ Heart gets bigger  
so more blood is pumped per minute.

effect and improvement 2 more O<sub>2</sub> in the blood  
so cardiovascular endurance increases

effect and improvement 3 Heart gets stronger so  
the possibility of a stroke decreases

[6]

### Examiner comment – grade E

The candidate gave the correct response of the heart gets bigger but then repeats this point in the third response made. The second point is too vague to understand the effect that the candidate was trying to describe. The improvement described in the first and third response is not performance based, therefore, did not answer the question.

**Mark awarded = 1 out of 6**

## Question B1 (f)

(f) Choose **three** components of health related fitness and **three** components of skill related fitness and describe how each is a benefit for a gymnast.

component of health related fitness .....

benefit .....

.....

.....

component of health related fitness .....

benefit .....

.....

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component of health related fitness .....

benefit .....

.....

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component of skill related fitness .....

benefit .....

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component of skill related fitness .....

benefit .....

.....

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component of skill related fitness .....

benefit .....

.....

.....[6]

The question required candidates to firstly identify components of health and skill-related fitness and then suggest benefits of each to a gymnast. It was important that the application was specifically linked to a gymnast and not either a general definition of the component or a statement that could be applied to any

sports performer. In cases when candidates correctly identified three components of skill related fitness but did not apply them, one mark was awarded. The same marking system was also applied to health related components. Candidates could achieve a maximum of two marks if all fitness components were identified without any application.

## Mark scheme

### (f) **health:**

flexibility/suppleness – a good range of movement at a joint is needed to be able to do a number of movements such as the splits ;

muscle endurance – the ability to repeat contraction, essential in floor exercises ;

strength – muscles need to be able to hold body weight on the rings or pommel horse ;

speed – ability to move body parts quickly essential in most gymnastic movements ;

body composition – ectomorphic/mesomorphic body type required/need for a light body frame/right body frame ;

stamina/cardiovascular endurance – able to sustain effort during floor activities ;

### **skill:**

explosive strength/power – required for explosive movements on the floor exercises/vaults ;

agility – required for changing direction quickly, important on the floor and beam activities ;

balance – able to hold a position on the beam or a balance position on the mat ;

timing – ability to act at the right moment, e.g. in take-off on a vault ;

coordination – able to coordinate routines and movements ;

**[6]**

## Example candidate response – grade A

- (f) Choose **three** components of health related fitness and **three** components of skill related fitness and describe how each is a benefit for a gymnast.

~~Speed~~ ~~Speed~~  
 component of health related fitness ..... Speed.....  
 benefit This allows a gymnast to perform more movements when in the air, e.g. trampolines, however also gives more momentum and therefore launch in events like vault.

~~muscular endurance~~  
 component of health related fitness ..... muscular endurance.....  
 benefit This allows the gymnast to suspend their body weight throughout an entire performance for example on the high bar.

~~Flexibility~~  
 component of health related fitness ..... Flexibility.....  
 benefit This allows performers to hold complex positions in performances, however also aids when performing <sup>a pike</sup> ~~airborne~~ moves such as ^ on the parallel bars.

~~Balance~~  
 component of skill related fitness ..... Balance.....  
 benefit This allows performers to maintain a steady and to not fall off on events such as the beam, by keeping their centre of mass over their body.

~~Timing~~  
 component of skill related fitness ..... Timing.....  
 benefit Timing is very important for a ~~performer~~ gymnast to make a correct and safe landing after a vault for example at high speed.

~~Coordination~~  
 component of skill related fitness ..... Coordination.....  
 benefit This allows a gymnast to manage movements in a controlled way, but also to get hands into correct positions to grab the bar again in high bar. [6]

## Examiner comment – grade A

The candidate has identified speed, muscular endurance and flexibility as components of health related fitness and used examples from different aspects of gymnastics such as trampolining, high bar and parallel bars. The examples used in skill related fitness were balance, timing and coordination and the candidate has again applied these components to a variety of gymnastic activities: the beam, vault and high bar. All responses were explicit to gymnastics and could not be confused with any other sport.

**Mark awarded = 6 out of 6**

## Example candidate response – grade C

- (f) Choose three components of health related fitness and three components of skill related fitness and describe how each is a benefit for a gymnast.

component of health related fitness ... ~~Speed~~ Speed

benefit ... A ~~fast~~ gymnast will need good speed in order to perform all flips before hitting the ground

component of health related fitness ... ~~Agility~~ Suppleness

benefit ... The gymnast having good suppleness allows a wider range of movement, so good for somersaults.

component of health related fitness ... ~~Agility~~ body composition

benefit ... If they have a good body composition they will be able to perform somersaults easier

component of skill related fitness ... ~~Speed~~ flexibility

benefit ... flexibility is ~~needed~~ beneficial as it allows for greater & easier range of movement

component of skill related fitness ... ~~Suppleness~~ Agility

benefit ... agility could be beneficial as good agility allows for more movement quickly in different ~~etc~~ directions.

component of skill related fitness ... Power

benefit ... good power will be needed to generate enough height when jumping off the floor for flips.

[6]

## Examiner comment – grade C

The candidate named a number of correct components of skill, however, some were not applied to a gymnast and others were in the wrong section of fitness. Marks were awarded for speed with the need to use it to be able to perform a flip, i.e. sufficient rotation before hitting the ground. The explanation for suppleness, which was accepted as flexibility, was limited, but it applied itself clearly to the completion of a somersault. The third point made was body composition, but the candidate did not explain the benefits to a gymnast by having a particular body type. No mark was awarded. In the skill related components, flexibility was not accepted as it is a health related component, and although agility was a correct component the application was too general and could have been applied to any sport. The final mark was awarded for power and the need to generate height when jumping, which again showed application to gymnastics.

**Mark awarded = 3 out of 6**

## Example candidate response – grade E

- (f) Choose **three** components of health related fitness and **three** components of skill related fitness and describe how each is a benefit for a gymnast.

component of health related fitness ..... Body composition. .....

benefit ..... Able to perform well without any doubt of anything. .....

component of health related fitness ..... Good strength. .....

benefit ..... Helps in being able to perform in a hard exercise that needs enough strength. .....

component of health related fitness ..... Speed. .....

benefit ..... Helps improve how quickly you can move from one distance to another. .....

component of skill related fitness ..... Agility. .....

benefit ..... Helps change the direction of the whole body in space. .....

component of skill related fitness ..... Balance .....

benefit ..... Helps to maintain equilibrium; while stationary or moving. .....

component of skill related fitness ..... Speed .....

benefit ..... Helps to improve the amount of time it takes to perform in specific tasks. .....

[6]

## Examiner comment – grade E

This candidate correctly identified three components of health related fitness, being body composition, strength and speed. However these components were not applied to gymnastics, therefore, one mark was awarded as laid out in the mark scheme. The candidate then gave two correct components of health related fitness but repeated the use of speed which is a component of health related fitness. The application of the correct components was again not appropriate to gymnastics and did not gain credit. The use of agility was a partial description of the component and balance was described but not applied to gymnastics in any way.

**Mark awarded = 1 out of 6**

## Section B2 – Health, safety and training

### Question B2 (a)

**B2 (a)** Give **two** features of a healthy lifestyle.

.....

.....

.....

.....[2]

### Mark scheme

- (a) taking some exercise / spend time outdoors ;
  - balanced diet / eat in moderation / maintain appropriate weight ;
  - do not smoke / take drugs / drink alcohol in moderation ;
  - a social life / having friends ;
  - good sleep patterns / not being tired ;
  - having a sense of purpose ;
  - stress free ;
- [2]

### Example candidate response – grade A/C

**B2 (a)** Give **two** features of a healthy lifestyle.

- Taking regular exercise.....

- Eating a balanced diet and getting a sufficient amount.....

of sleep.....

.....[2]

### Examiner comment – grade A/C

The candidate needed to give the factors that contribute to a healthy lifestyle rather than the outcomes. The candidate actually gives three correct responses, those being regular exercise, eating a balanced diet and getting a sufficient amount of sleep. Therefore, two marks were awarded.

**Mark awarded = 2 out of 2**



### Example candidate response – grade A

(b) Explain three different ways that using correct clothing can contribute to a performer's safety.

- Correct footwear can prevent you from slipping.
- In some contact sports, protection is needed to prevent accidents, e.g. helmets in American football.
- In some sports like skiing, etc. warm clothes and gloves can prevent you having an hypothermia.

### Examiner comment – grade A

The candidate gave three correct responses, firstly using correct footwear to prevent slipping, secondly the need to wear a helmet, with the example of American Football to ensure player safety, and finally the need to have warm clothing, with the example of using gloves to prevent hypothermia.

**Mark awarded = 3 out of 3**

### Example candidate response – grade C

(b) Explain three different ways that using correct clothing can contribute to a performer's safety.

- Having safety clothing such as shinpads or gumshields can stop injuries from violent collisions with objects or others. Having the correct footwear will stop you slipping over on certain surfaces e.g. wet surfaces, stopping injury, and having well designed clothing and equipment can help stop chronic injuries. [3]

### Examiner comment – grade C

The candidate gave two good examples of different ways that correct clothing aids a performer's safety, firstly the use of safety equipment, giving the example of shin guards. Secondly, footwear to prevent slipping. The third point was not developed to explain how well-designed clothes could prevent injury.

**Mark awarded = 2 out of 3**

### Example candidate response – grade E

(b) Explain three different ways that using correct clothing can contribute to a performer's safety.

\* while playing sports like soccer always use a shinguard  
 so when players don't kick you and you don't get hurt  
 \*) <sup>Do</sup> not wear any kind of chains or rings while  
 playing team sport  
 \*) ~~Do~~ Also wear the proper shoes for the particular  
 sport so you don't get hurt [3]

### Examiner comment – grade E

The first point made by the candidate was correct, that being the use of shin guards. The second point, whilst a safety consideration, did not answer the question as the answer related to what performers should not wear when playing. The third point did not explain why correct shoes would be needed to ensure safety. If the candidate had given more information such as prevent slipping, then it would have been given a mark. This is an example of a candidate not giving an explanation, therefore not developing the answer.

**Mark awarded = 1 out of 3**

### Question B2 (c)(i)

(c) (i) Give **two** dietary considerations that an athlete should take into account.

.....  
 .....  
 .....  
 ..... [2]

### Mark scheme

- (c) (i) eat a healthy and balanced diet so that most energy comes from carbohydrates/carbohydrate loading prior to an event ;  
 do not eat more than you need, the excess will be stored as fat ;  
 drink plenty of water before, during (in the case of endurance events) and after the event ;  
 eat little more protein than is needed for muscle repair and growth if you are training over long periods of time ;

[2]

Example candidate response – grade A

(c) (i) Give two dietary considerations that an athlete should take into account.

protein helps muscles <sup>and bones</sup> to grow ~~and bones~~  
 carbohydrates provide energy for athletes so an athlete would need energy in order  
 to perform.  
 .....[2]

Examiner comment – grade A

In part (i) candidates needed to identify the need for certain aspects of a diet. The candidate identified protein with the appropriate benefit of helping muscles grow and carbohydrate as the main source of energy.

Mark awarded = 2 out of 2

Example candidate response – grade C/E

(c) (i) Give two dietary considerations that an athlete should take into account.

• always have enough protein to build and repair  
 the muscles used during training and performance  
 • Do not have ~~too much~~ sugar before training &  
 performance as it gives you short term energy.....[2]

Examiner comment – grade C/E

The first correct point made by the candidate identified the need for protein in the diet to build and repair muscle tissue during training. The second point made was not accurate as there are examples of an athlete needing a short term burst of energy, so no mark was awarded for this response.

Mark awarded = 1 out of 2

Question B2 (c)(ii)

(ii) Describe two factors that will affect the energy requirements in an athlete’s diet.

.....  
 .....  
 .....  
 .....[2]

## Mark scheme

- (ii) age – a younger athlete will need more energy than a young child ;  
 gender – males usually need more energy than a female athlete of similar age ;  
 lifestyle – the more active you are the more energy you will need ;  
 the type of sport involved – different energy requirement/length of activity/intensity of activity/level of opponent/game ;  
 body type/build of individual ;

[2]

## Example candidate response – grade A

- (ii) Describe two factors that will affect the energy requirements in an athlete's diet.

• The age of a performer e.g a 20yr old will need more energy than a 60yr old.

• The type of activity you are doing e.g marathon runners will need more energy than an archer.

[2]

## Examiner comment – grade A

The candidate identified and explained two different factors that will affect the energy requirements of an athlete. The candidate identified age and the type of activity as factors and was able to develop both these points to gain both marks.

**Mark awarded = 2 out of 2**

## Example candidate response – grade C/E

- (ii) Describe two factors that will affect the energy requirements in an athlete's diet.

The event that the athlete participates in such as if they participate in an endurance event then they need more carbohydrates. Also when the next competition is an athlete may like to eat lots of carbohydrates close to an endurance event so they have an adequate energy supply.

[2]

## Examiner comment – grade C/E

The candidate gave a good link between the type of activity and the need for carbohydrates with the example of an endurance event. The second part of the answer repeated the need for high levels of carbohydrates although a different example was used.

**Mark awarded = 1 out of 2**

## Question B2 (d)(i)

(d) Name **one** type of training that would help an endurance athlete prepare for an event.

type of training .....

(i) Give **three** benefits of using this type of training.

benefit 1 .....

.....

benefit 2 .....

.....

benefit 3 .....

..... [3]

### Mark scheme

(d) (i) **type of training:**  
continuous training  
fartlek training  
interval training

**benefits:**  
develops aerobic fitness/anaerobic fitness ;  
good for burning body fat ;  
good for activities that require a change of speed ;  
easy to monitor progress/easy to adjust ;  
no need for specialist equipment/can be done anywhere ;  
good for improving all-round fitness quickly ;  
can be applied to a range of endurance sports ;  
improves the cardiovascular and respiratory systems ;  
good for activities that require change of speed/replicate pace of event ;  
variety of activities help avoid boredom – fartlek training ;

[3]

### Example candidate response – grade A

(d) Name one type of training that would help an endurance athlete prepare for an event.

type of training ... Interval training .....

(i) Give three benefits of using this type of training.

benefit 1 ~~the~~ It can be paused on the particular skill required for the event, i.e. running.

benefit 2 It ~~mostly~~ uses aerobic energy systems which is the same for an endurance ~~event~~

benefit 3 It does not require lots of expensive equipment. [3]

### Examiner comment – grade A

The type of training must be specifically linked to the benefits gained. The candidate has used interval training as an appropriate type of training for an endurance athlete. The benefits of using this type of training were identified as the ease with which it lends itself to the event, that this type of training requires little equipment, and the impact it has on aerobic fitness, which is essential for an endurance event.

**Mark awarded = 3 out of 3**

### Example candidate response – grade C

(d) Name one type of training that would help an endurance athlete prepare for an event.

type of training ... ~~endurance~~ <sup>Interval</sup> training .....

(i) Give three benefits of using this type of training.

benefit 1 It improves cardiovascular fitness of the performer

benefit 2 Improves muscular endurance of athlete

benefit 3 Helps reduce recovery time of athlete after performance [3]

### Examiner comment – grade C

The candidate identified the benefits that occur from interval training as being an improvement in cardiovascular fitness and muscle endurance. Both of these are essential to an endurance athlete so gained a mark. The third point, although a benefit to an endurance athlete, is a measure of cardiovascular fitness which has already been given credit and therefore was a repeated point and not given additional credit.

**Mark awarded = 2 out of 3**

Example candidate response – grade E

(d) Name **one** type of training that would help an endurance athlete prepare for an event.

type of training ..... Fartlek Training .....

(i) Give **three** benefits of using this type of training.

benefit 1 ..... Never stop moving .....

benefit 2 ..... Variation of speed .....

benefit 3 ..... Running on different surfaces helps maintain balance. ..... [3]

Examiner comment – grade E

The first point made did not describe Fartlek Training, which was the identified type of training, as there are often breaks when using this type training. The second point was given credit as the variations of speed is an essential component of this type of training method. The third point related to using different surfaces can be true of Fartlek Training but did not link to the question as balance is not an essential feature when developing an endurance athlete. To gain a mark there would need to have been a clear link from using different surfaces to improving fitness.

**Mark awarded = 1 out of 3**

Question B2 (d)(ii)

(ii) Explain how overload could be achieved and reversibility avoided in the training programme.

.....  
.....  
.....  
..... [2]

## Mark scheme

### (ii) overload:

examples can be accepted that:  
 increase the amount of time spent training ;  
 reduce the amount of rest time ;  
 increase the speed at which training takes place ;

### reversibility:

keep the training interesting to avoid tedium ;  
 plan training over a period of time rather than training at too great an intensity ;  
 only train/perform when fit and healthy ;  
 avoid long periods of not training ;

[2]

## Example candidate response – grade A

- (ii) Explain how overload could be achieved and reversibility avoided in the training programme.

Overload can be achieved by increasing the amount of work done during training.  
 Reversibility could be avoided by keep training regularly.

[2]

## Examiner comment – grade A

The candidate demonstrated that overload results from the increase in work done during training. The explanation of reversibility was also given credit for recognising that there was a need to continue to train to avoid this from happening.

Mark awarded = 2 out of 2

## Example candidate response – grade C/E

- (ii) Explain how overload could be achieved and reversibility avoided in the training programme.

Overload can be achieved by using the principle of frequency intensity during frequent training and setting up loads.  
 Reversibility can be avoided by doing it with frequency.

[2]



### Example candidate response – grade A

(e) Explain the immediate effects on muscles when an athlete starts to sprint.

The muscles do not have enough oxygen immediately available to respire aerobically so anaerobic respiration begins. The muscles turn glucose to lactic acid and energy. The muscles contract hard and fast, moving the performer quickly. It is the fast twitch muscle fibres that are working. The temperature in the muscles begins to rise as the powerful contractions produce heat. The working of involuntary muscles slows down as blood is transferred away from organs that are not essential for exercise to the working muscles. The pH within the muscles rises because of the build up of lactic acid. In <sup>a short</sup> time this will inhibit muscular contractions, make muscles painful and the athlete will have to stop all-out effort. [6]

### Examiner comment – grade A

In this example the candidate has followed the sequential effects on a muscle when a sprint starts. The changes described started with the change to anaerobic respiration, the increase in the intensity of muscle contractions and the resulting muscle temperature increasing. The changes that occur in the energy source and the effects of the build up of lactic acid on the muscle were also given credit.

**Mark awarded = 5 out of 6**

## Example candidate response – grade C

(e) Explain the immediate effects on muscles when an athlete starts to sprint.

When an athlete starts a sprint, the muscles in the legs contract and expand. The heart muscles start beating faster than usually <sup>and</sup> lactic acid is produced in the body. The muscles will become warmed up and will loosen. The amount of oxygen reaching the muscle will increase and the amount of blood produced by the heart muscles will also increase. The volume of cardiac output will increase.

[6]

## Examiner comment – grade C

The first part of the answer did not give any information that indicated that there was any change taking place in the muscle and described what happens to muscles when any form of movement occurs. Any reference to the heart rate was not accepted. Although the answer did not have any progression in the way it was developed, there were three correct points made, so marks were awarded for identifying that lactic acid was produced, muscles become warmer and there would be an increase in oxygen reaching the muscles to enable the increase in contractions.

**Mark awarded = 3 out of 6**

### Example candidate response – grade E

(e) Explain the immediate effects on muscles when an athlete starts to sprint.

The muscles contract and expand as quickly as possible and fast twitch fibres help, a lot of pressure immediately is noticed in the muscles, (anaerobic training) and finally muscles get tense to strengthen the explosive power to start to sprint as fast as you can

[6]

### Examiner comment – grade E

The candidate gained a mark for recognising the speed of muscle contraction. The second point demonstrated the understanding that anaerobic respiration took place during a sprint. There was no further information given in the answer.

**Mark awarded = 2 out of 6**

## Section B3 – Reasons and opportunities for participation in physical activity

### Question B3 (a)

**B3 (a)** Explain **two** ways that a country can develop excellence in a sport.

.....

.....

.....

.....[2]

### Mark scheme

- (a) develop a coaching structure for the sport ;
- provide funding for all levels of performers ;
- develop/build facilities ;
- increase the number/quality of coaches ;
- support schools to develop the sport in the curriculum/identify young talent programmes ;
- idea of increasing base/participation in sport/create national teams ;

[2]

### Example candidate response – grade A/C

**B3 (a)** Explain **two** ways that a country can develop excellence in a sport.

They can build lots of facilities in a particular sport, including centres of excellence for elite players to practice. The government can also provide support and perhaps even offer financial incentives or pay for good coaches for elite performers in a given sport. [2]

### Examiner comment – grade A/C

This candidate clearly recognised the question required an understanding of the development of elite performers in a sport when the country does not have a history of excellence in that area. The two responses included the “building of facilities” which included centres of excellence, and “financial incentives” were both given credit.

**Mark awarded = 2 out of 2**

Example candidate response – grade E

B3 (a) Explain two ways that a country can develop excellence in a sport.

they have more sport centres for people to practice, more sponsors, create awareness have national games to build interest. [2]

Examiner comment – grade E

The candidate gained a mark for identifying the need for more sports centres to enable people to practice thus increasing participation. However, the second point of creating awareness required more detail to explain how this might occur to be awarded a mark.

Mark awarded = 1 out of 2

Question B3 (b)

(b) What advantages are there for a young athlete who receives a scholarship.

.....  
.....  
.....  
.....  
.....  
.....[3]

Mark scheme

- (b) opportunities to continue education ;
- easy access to high quality sports facilities/equipment ;
- easy access to high quality coaching ;
- commitment of support for a set period of time ;
- access to appropriate competition ;
- able to focus on sporting improvement ;
- often accommodation provided/no cost to athlete/fees paid or reduced ;
- able to mix with other high quality performers/play at the highest level/professional career in sport ;

[3]

## Example candidate response – grade A

(b) What advantages are there for a young athlete who receives a scholarship.

Don't have to pay the normal rate  
of school fees.  
Gets to train more at school and  
after school.  
Gets one to one coaching with best  
coaches [3]

## Examiner comment – grade A

To gain full marks it was important that candidates distinguished between sponsorship and a scholarship. This candidate has clearly understood the difference with the initial points being a scholarship avoids the need to pay school fees and that additional training is available after school, both of which were awarded marks. The third point identified the element of excellence that a scholarship provides by having “the best coaches” and was awarded a mark.

**Mark awarded = 3 out of 3**

## Example candidate response – grade C

(b) What advantages are there for a young athlete who receives a scholarship.

The young athlete ~~with~~ may be provided  
with facilities that they could not afford  
before. Also the young athlete will  
gain confidence in his own ability.  
The athlete will be ~~also~~ provided with  
a better education than he may have  
had before which gives him security for the future. [3]

## Examiner comment – grade C

The candidate made the link between playing sport and education through a scholarship with the points being access to “facilities” and secondly the “provision of education.” The third point lacked clarity and needed further development as to what “security” might be. The mark scheme gives provision for a mark for developing a career in sport but the answer did not explicitly make this link, therefore, a mark was not awarded.

**Mark awarded = 2 out of 3**



## Mark scheme

- (c) improvement in facilities / equipment available ;  
 improvement in the quality of coaching ;  
 more athletes train with able bodied athletes and coaches ;  
 greater media coverage / greater awareness ;  
 more people participating / increase in the number of countries taking part / more role models ;  
 more countries creating coaching structures and organisations / new sports ;  
 greater acceptance of disability sports ;  
 more international events – improved competition ;  
 more governments making a financial commitment to disability sports ;  
 technical advances in equipment used ;

[4]

## Example candidate response – grade A

- (c) In the 2012 Paralympics there was a huge improvement in the standard of performance by athletes in all sports.  
 Give reasons why there has been such an improvement.

- Improved coaching specialised for disabled bodied people
- Improvement in facilities to allow for disabled bodied athletes.
- ~~The Paralympics were side by side with the able bodied olympics which increased motivation for the paralympics.~~
- there is an increase in sports that disabled people can take part in which they have excelled in. [4]
- Paralympians trained with able bodied performers which improved their training and performances.

## Examiner comment – grade A

It was important that candidates focused their answers on elite performers. Issues such as parking, ramps and general good access to facilities and the individual's motivation to perform are not issues that impact on the premise of this question. This candidate immediately identifies the elite nature of the question by describing the need for specialist coaching and that the improvement in the quality of facilities available brings about improvements in performance. An additional response showed an understanding that the 2012 Paralympics saw an increase in the number of sports available to performers and finally that training with able bodied performers brought about an improvement in performance.

**Mark awarded = 4 out of 4**

### Example candidate response – grade C

- (c) In the 2012 Paralympics there was a huge improvement in the standard of performance by athletes in all sports.

Give reasons why there has been such an improvement.

Many sports have changed/alterd rules for disabled participants. More awareness meaning more participants meaning higher (level of) competition. Improvements in technologies (i.e better prosthetics, swifter wheelchairs etc). Cheaper prosthetics/wheelchairs making them <sup>more</sup> available. Specialised coaching for disabled sports also helped/contributed.

[4]

### Examiner comment – grade C

The first point made was too general and linked more to competition at a very basic level when the question was about elite performers. The second point started by being too general but the candidate linked the increase in participation to higher levels of performance and was given credit for the response. The second mark was awarded for the use of technology to provide faster wheelchairs, and finally the need for specialist coaching was given credit as it is a major factor in raising standards of performance at the highest level.

**Mark awarded = 3 out of 4**

## Example candidate response – grade E

- (c) In the 2012 Paralympics there was a huge improvement in the standard of performance by athletes in all sports.

Give reasons why there has been such an improvement.

The equipment had improved so they got to train and in an easier and better. Also they were more coaches who were qualified this helped that because they knew what they were doing. More sponsors were involved to become this gave motivation to the athletes to perform better. [4]

## Examiner comment – grade E

The candidate's first point that better equipment has been developed was given credit. A second mark was awarded for having qualified coaches available; having more coaches would not have gained a mark as it did not place the emphasis on the requirements of an elite performer. The rest of the answer identified levels of motivation and sponsorship as factors, which were not given credit, as they did not link to performance.

**Mark awarded = 2 out of 4**



## Mark scheme

**(d) media** – people able to see/hear sports from around the world ;  
develop greater understanding through video replays/analysis ;

**medical** – improvement in medicines means quicker recovery and prevention ;

**equipment** – improvement in equipment such as running track technology/  
swimming pool design, etc. improves times ;

**personal equipment** – improvements in design and materials improve  
performance, e.g. athletic shoes are lighter and stronger/tennis racquets are  
lighter and stronger ;

**clothing** – help prevent injury through improved protection/lighter clothing ;

**sports science** – more able to measure performance/a greater understanding of  
physiology and the effects of exercise on the body helps improve  
performance/better detection of drug usage ;

**information technology** – helps performers access information about  
events/communicate with coaches around the world/sharing training  
information ;

**travel** – it has become easier to travel so performers can travel to events/training  
camps ;

**diet** – greater awareness of the impact of the diet on performance/the science of  
food ;

**domestic technology** – time needed to do housework has been reduced  
through the development of appliances which give more time for leisure  
activities ;

**commercial technology** – has enabled people to work from home/  
flexi-time/less physically demanding work ;

**technology** – in sport through video refereeing has reduced errors ;

**technology** – for performers with disabilities improved ;

[6]

## Example candidate response – grade A

(d) Explain ways that modern technologies have helped bring about an improvement in sports.

Modern technology has helped to improve the quality of equipment and facilities. They have made sports equipment easier to produce and therefore cheaper and more widely accessible. They have improved medical care which means injury is less likely and easier to treat. Modern technologies have helped with work and jobs giving people more leisure time to participate. They have made improvements to knowledge of sport and ways to analyse it e.g. slow motion replays and increased accuracy of game statistics. Made organising sports events easier with communication advances like social networking sites. By improving transport capabilities to make attending events easier. Allowing disabled athletes to participate more often. [6]

## Examiner comment – grade A

The question required candidates to give examples from a variety of technologies rather than a number of examples from a single technology. This candidate has provided responses that looked at a number of technologies and given good examples in each case of the benefits to sports. The first point linked producing cheaper equipment to the increase in participation due to greater accessibility. The second mark was awarded for identifying the improvements in medical care that have helped with treatments to injuries. The creation of leisure time by technological improvements in the work place was awarded a mark. The use of the media by identifying the use of slow motion replays to enable performance analysis was given credit, as was the introduction of social network sites to aid in the organisation of events. Finally, the improvement in transportation that has enabled performers to travel to events with greater ease, was given a mark. The candidate provided in each case a technology or an area where technology has been used and the benefit that it provided for sport.

**Mark awarded = 6 out of 6**

### Example candidate response – grade C

(d) Explain ways that modern technologies have helped bring about an improvement in sports.

..modern technologies have helped bring  
 ..about improvement of sports by for  
 ..example in tennis you can challenge the  
 ..ball if it was 'in or out' this is because we  
 ..can watch an action replay. also at half  
 ..time in a in the football you always  
 ..have a half time talk which reviews  
 ..the sport and the match analysis. we  
 ..have specific machines that are  
 ..available in gyms to work specific  
 ..parts of your body to enable us to  
 ..get fitter and to enhance performance.  
 .....  
 .....[6]

### Examiner comment – grade C

The examples given in this answer were well explained but the candidate did not give enough examples of the use of technology to gain more than the three marks awarded. The first mark was given for the use of technology to ensure accuracy of decisions, with the example of how this is used in tennis being given. The second mark was awarded for the use of match analysis, and although television was not given in the answer there was sufficient information to demonstrate a clear understanding of the benefit from the media. Finally the use of technology to develop gym equipment to improve fitness was given credit.

**Mark awarded = 3 out of 6**

### Example candidate response – grade E

(d) Explain ways that modern technologies have helped bring about an improvement in sports.

- More people see sport on tele and become interested
- TV has encouraged ~~many~~ people to go to live events
- Lots of people participate in sport because they see it played on tele.
- people see the sport, play it, and demand for improvements in the sport
- programs raise money to help the improvement in sport.

[6]

### Examiner comment – grade E

The candidate has made the point that television has brought about an increase in participation in sport, however, this single point has been repeated by giving slightly different examples of how television has affected sports. The repeated points did not gain further marks.

**Mark awarded = 1 out of 6**

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