



ADVANCED
General Certificate of Education
2018

**Sports Science and the
Active Leisure Industry**

Unit A2 2

The Application of Science
to Sports Performance

[A2LB1]

MONDAY 11 JUNE, MORNING

**MARK
SCHEME**

Foreword

Introduction

Mark Schemes are published to assist teachers and students in the preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16–18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.

1 (a) Some examples of suitable points to be explained by the candidate:

- Training – VO₂ max can only be improved by 10–20% following training, depending on the athlete's lifestyle and fitness levels.
- Gender – due to physiological differences, women have a lower VO₂ max than men. Male hearts and lungs are generally larger than female ones. The amount of blood an athlete's heart can pump partially determines VO₂ max.
- Physiology – the physiological make-up of the athlete's body will almost certainly affect VO₂ max. Physiological factors that contribute to a higher VO₂ max score are: a high percentage of slow twitch (type 1) muscle fibres, high capillary density, high mitochondrial density and myoglobin.
- Genetics – research states that genetics can play a 20–30% role in VO₂ max.
- Body Composition – research shows that VO₂ max scores decrease as the percentage of body fat increases. Much of the difference between male and female athletes is attributed to body composition.
- Environment – altitude. Lower air pressure makes oxygen less available in higher altitude. The pressure of oxygen in arterial blood also decreases at altitude, lowering VO₂ max.

Award [1] for the factor identified and [1] for the explanation.

All other valid points will be given credit.

(2 × [2])

(AO1, AO2)

[4]

(b) Some examples of suitable points to be identified by the candidate:

- Long term exercise has the effect of exercising the respiratory system; diaphragm and intercostal muscles increase in strength.
- Increased tidal volumes and frequency of breathing.
- Improved utilisation of the alveoli – the efficiency of the respiratory system will depend on the utilisation and capacity of the alveoli to take oxygen from air breathed in and transmit it to blood flowing through the alveolar capillary bed.
- At submaximal workloads VO₂ will be less because of greater efficiency of oxygen uptake and general improvements in lung function will occur. For example, an increase in tidal volume (TV) and vital capacity (VC) at the expense of residual volume (RV).
- Increased efficiency of the respiratory system will improve recovery from exercise and reduce oxygen debt during exercise.

Award [1] for key phrase, each long-term effect and up to [2] for a full identification.

All other valid points will be given credit.

(2 × [2])

(AO1)

[4]

(c) (i) Inspiration:

- The diaphragm contracts and flattens with more force. Increased lifting of ribs and sternum.
- Additional respiratory muscles contract, sternocleidomastoid contracts, scalenes contract, pectoralis minor contracts.
- Increase in size of the thoracic cavity, allowing lungs to expand.
- Lower air pressure within the lungs to a level lower than in atmosphere.
- This causes or creates a pressure gradient.
- Air rushes into the lower pressure area of the lungs.

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(ii) Expiration:

- The diaphragm relaxes, external intercostals relax, rectus abdominus/obliques contract.
- As expiration begins the elastic recoil of the respiratory muscles causes the pressure within the lungs to increase further.
- Higher air pressure in lungs, greater than that in the atmosphere.
- This causes another pressure gradient.
- Greater decrease in thoracic cavity volume.
- When the air inside the lungs is at a higher pressure than the atmospheric air outside, more air is forced out of the lungs.

Award [1] for each phase identified and up to [2] for a full description of the changes which occur.

All other valid points will be given credit.

(2 × [2])

(AO1)

[4]

12

2 (a) Some examples of suitable points to be described by the candidate:

Command style:

- Instructions and objectives are clear.
- Control and discipline are maintained.
- Information can be given quickly if time is limited.
- Large groups can be catered for easily.
- No decision making or input from the learner.
- Possible lack of understanding.
- Little social interaction with teacher or other learners.
- Limited individual feedback is given.

Discovery style:

- Encourages creativity and decision making skills.
- Development of the learner's responsibility for their own pace.
- Development of a greater understanding of the task.
- Increased motivation and self-confidence.
- Improves communication skills and promotes group interaction.
- Time-consuming.
- Difficult with beginners or those who lack creativity.
- Limited development if learners have poor communication skills.

Problem-solving:

- Teacher sets a problem and the learner devises a suitable solution.
- It is an open-ended approach, encouraging creativity while developing the cognitive and performance elements of the learner.
- There is no correct outcome, time is not a restriction and the performers are experienced.
- Performers draw on their acquired knowledge.
- Encourages creativity and decision making skills.
- Development of the learner's responsibility for their own learning.
- Increased motivation and self-confidence.

Award [1] for each teaching style identified and [2] for a full description.

All other valid points will be given credit.

(3 × [3])

(AO1, AO2)

[9]

(b) Some examples of suitable points examined by the candidate:

Reciprocal Style:

- Instructions and objectives are clear.
- Social interaction and communication skills are developed.
- Learners develop some responsibility for their own learning.
- Some individual feedback is received from the teacher and partner.
- Learners develop self-confidence and motivation levels may increase.
- Teacher can still maintain overall control.
- May be difficult with beginners.
- Learners may lack sufficient communication skills to be effective.
- Learners may not be able to analyse movement and therefore provide incorrect feedback. Task may be too complex/difficult for learners.
- Difficulty in monitoring large groups to ensure they are all on-task.
- Can be time consuming.

Award [1] for key phrase and up to [2] for full explanation.

All other valid points will be given credit.

(2 × [2])

(AO2)

[4]

13

3 (a) Some examples of suitable responses included by the candidate:

Endurance activity/aerobic work – slow twitch muscle fibre (slow oxidative fibre). These fibres contract more slowly and do not produce as much force as fast twitch fibres.

- Support sub-maximal contractions, e.g. endurance based athletes, runners, cyclists, long distance swimmers.
- Aerobic in nature.
- Resistant to fatigue.
- Red in colour, small in diameter.
- Good at working with oxygen.
- Bigger and a higher number of mitochondria.
- Increased level of myoglobin.
- Significant increase in capillary density.
- Slowest nerve transmission.
- Increased levels of triglyceride.
- Increased levels of oxidative enzymes.

Award [1] for muscle fibre type used and up to [2] for the identification of the physiological characteristics.

All other valid points will be given credit.

(AO1)

[3]

(b) Some examples of suitable points to be explained by the candidate:

(i) Wave summation:

- The strength of a muscle contraction can be increased.
- Wave summation considers the frequency with which impulses arrive at the motor unit.
- Typically the motor unit will respond to an impulse by giving a twitch – a very short period of contraction followed by relaxation.
- Impulse arrives at motor unit before it relaxed from previous impulse; there is not enough time for relaxation before the next contraction starts.
- There is an increase in the rate of stimulation to produce stronger contractions (wave summation).

- Time intervals can increase or decrease depending on strength of contraction needed.
 - Tetanic contraction, when a motor unit is stimulated many times in quick succession there is little or no time for relaxation. This produces the highest level of sustained tension.
- (ii) Spatial summation/multiple unit summation:
- This is the term given to the phenomenon of different motor units being stimulated across the whole muscle to produce contraction.
 - Spatial summation allows the use of stores of ATP (adenosine triphosphate) to be shared around the whole muscle, therefore reducing fatigue.
 - The strength of a muscle contraction can be increased by recruiting more motor units.
 - Maximal contractions will recruit all motor units within a particular muscle whilst weaker contractions will recruit fewer units.
 - Fast twitch motor units will be recruited ahead of slow twitch units for more powerful contractions.

Award [1] for key phrase and up to [2] for full explanation.

All other valid points will be given credit.

(2 × [2])

(AO2)

[4]

(c) The quality of written communication is assessed in this question.

Indicative content

- Low impact endurance activities can have a positive impact on skeletal and muscular system.
- The positive use of gradual/progressive overload during low impact activities can increase bone strength due to increased calcium deposits.
- The effects of exercise on tissue such as hyaline cartilage leads to thickening of the cartilage, cartilage more elastic.
- Increased capability of absorbing and expelling synovial fluid, improved lubrication by synovial fluid.
- Improved protection from physical stress.
- Reduce friction within the joint.
- High impact activities can have positive impact on joints and muscular system.
- Increased strength of muscle.
- Muscle hypertrophy.
- Muscles retain more elasticity, retain more speed/power.
- Improved flexibility, maintains joint mobility and joint stability.

All other valid points will be given credit.

Level 1 ([1]–[3])

Overall impression: Basic

- Basic knowledge and understanding of the positive impact for middle-aged females of participating in sport and physical activities on the skeletal and muscular system. The candidate will provide a few relevant positive impacts of exercise on the skeletal and muscular system with limited explanation.
- Demonstrates a basic ability to discuss the positive impact of exercise on the skeletal and muscular system. The candidate may provide limited relevant examples related to the positive impact of exercise on the skeletal and muscular system.

- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([4]–[6])

Overall impression: Good

- Good knowledge and understanding of the positive impact for middle-aged females of participating in sport and physical activities on the skeletal and muscular system. The candidate may provide some discussion on the positive impact of exercise on the skeletal and muscular system, with some explanation given.
- Demonstrates a good ability to discuss the positive impact of exercise on the skeletal and muscular system. The candidate will provide some relevant examples related to the positive impact.
- Quality of written communication is good. The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is appropriate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([7]–[8])

Overall impression: Excellent

- Excellent knowledge and understanding of the positive impact for middle-aged females of participating in sport and physical activity on the skeletal and muscular system. The candidate will provide fully developed explanations of the positive impact of exercise on the skeletal and muscular system.
- Demonstrates an excellent ability to discuss the positive impact of exercise on the skeletal and muscular system. The candidate will provide detailed examples related to the positive impact of exercise on the skeletal and muscular system to an excellent level and elaborate with thorough explanation.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is an extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that the meaning is clear.

[0] is awarded for a response not worthy of credit.
(AO3)

[8]

15

4 (a) Some examples of suitable points to be addressed by the candidate:

(i) Cardiovascular system:

- Increased vascularisation.
- Increased red blood cell count, improving the body's ability to transport oxygen to the muscles.
- Cardiac hypertrophy, resulting in thicker stronger walls and increases in heart volumes.
- Bradycardia, the resting heart rate decreases in trained athletes due to the more efficient circulatory system.
- Arterial walls become more elastic which allows greater tolerance of changes in blood pressure.

(ii) Muscular system:

- Increased vascularisation of localized tissue.
- Increased production of myoglobin.
- Increased size and density of mitochondria.
- Reduction in body fat/increase in lean muscle mass.
- Increased stores of muscle glycogen.
- Increased endurance capacities of localized muscle.

(iii) Respiratory system:

- Lung capacity/volume: lungs increase their ability to expand enabling a greater quantity of air to move in and out.
- The strength and endurance of the diaphragm and intercostal muscles improve. This results in an improved ability to breathe in more air, for longer, slowing down fatigue.
- More capillaries are formed in the lungs over time allowing more blood flow in and out of the lungs. This improves the uptake of oxygen as there is a greater surface area for blood to bind with haemoglobin.
- The number of alveoli in the lungs increases to enable gas exchange to occur.
- The exchange of oxygen and carbon dioxide improves as the gradient between each becomes larger.
- Aerobic fitness training tends to improve the efficiency of the body's tissues at absorbing oxygen and carbon dioxide.

Award [1] for each type of adaptation identified and up to [3] for a description of the adaptations of the effects of exercise.

All other valid points will be given credit.

(3 × [4])

(AO1, AO2)

[12]

(b) (i) Any two disadvantages:

- Athletes may experience altitude sickness, dizziness, headaches, nausea.
- Detraining effect is possible: where the decreased availability of oxygen makes training harder, it may be difficult to train at the same intensity, which could lead to loss of fitness level.
- Benefits may be lost quicker than anticipated when the athlete returns back to sea level.
- Altitude training is an expensive method of training for some athletes.

Award [1] for each disadvantage identified.

(2 × [1])

(AO1)

[2]

(ii) The quality of written communication is assessed in this question.**Indicative Content**

- Athletes from many sports have used altitude training to prepare for high profile matches and events.
- Altitude is the measurement of elevation, approximately over 2000 m/8000 feet above sea level. While the effect is most dramatic at altitude greater than 8000 feet above sea level, research has shown that it is noticeable even at 5000 feet above sea level.
- Atmospheric pressure decreases as altitude increases. This has significant implications for athletes because a fall in partial pressure can lead to a shortage of oxygen (hypoxia). Every breath taken at a high altitude delivers less of what working muscles require.
- To compensate for the decrease in oxygen, the athlete's body produces erythropoietin/EPO/hEPO naturally, triggering the production of more red blood cells to aid in oxygen delivery to the muscles.

- By training at high altitudes, athletes aim to allow their bodies to produce extra blood cells. The athlete has an increased number and concentration of red blood cells; therefore there is an increased concentration of haemoglobin and myoglobin. The athlete will experience an increased tolerance to lactic acid/delayed OBLA.

All other valid points will be given credit.

Level 1 ([1]–[4])

Overall impression: Basic

- Basic knowledge and understanding of the reasons why altitude training is considered to be an effective method of training for an endurance athlete. The candidate may provide basic examples.
- Demonstrates a basic ability to discuss the reasons why altitude training is considered to be an effective method of training for an endurance athlete. Candidate will give basic explanations of the reasons why altitude training is considered.
- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([5]–[7])

Overall impression: Good

- Good knowledge and understanding of why altitude training is considered to be an effective method of training for an endurance athlete. The candidate may provide some examples.
- Demonstrates a good ability to discuss why altitude training is considered to be an effective method of training for an endurance athlete. Candidate will provide some examples and explanations of the reasons why altitude training is considered.
- Quality of written communication is good. The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is appropriate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([8]–[10])

Overall impression: Excellent

- Excellent knowledge and understanding of why altitude training is considered to be an effective method of training for an endurance athlete. The candidate will provide fully developed examples and show excellent understanding of each one.
- Demonstrates an excellent ability to discuss why altitude training is considered to be an effective method of training for an endurance athlete. Candidate will provide, to an excellent level, thorough explanation of the reasons why altitude training is considered to be an effective method of training and elaborate with thorough explanation.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is an extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that the meaning is clear.

[0] is awarded for a response not worthy of credit
(AO3)

[10]

24

- 5 (a) (i)
- The development of ergogenic aids, where cost is a major factor, could mean that athletes who have financial backing/wealthier performers/wealthier countries could have an unfair advantage and have access to the highest quality equipment.
 - The use of modern technologies in sport may mean that competition at the highest level is only available to those athletes/countries who can afford/supply it.
 - Athletes with disabilities may experience different forms of assistance. For example, modifications to buildings can be made to make them wheelchair accessible and specialised equipment can also be produced to give assistance to athletes with disabilities.
 - Technology versus athlete has been widely discussed and many feel that it may reduce the effect of ability and talent.

Award [1] for key phrase and up to [2] for full description.

(2 × [2])

All other valid points will be given credit.

(AO2)

[4]

(ii) Some examples of suitable points to be explained by the candidate:

- Technology, in various forms, has been utilised by coaches and plays a vital role in developing athletes.
- A major trend in sports technology is towards “real-time” applications of devices that enable the coach to provide athletes with immediate feedback across a wide range of performance factors.
- Prozone, stat sport, heart rate monitors, GPS, skins compression, face plates, wind tunnels and cryotherapy are various technological advances used by coaches to aid their athletes.
- Technology that leads to innovation in sport can lead to the development of “competitive advantage”. The coach needs to be able to use technology to provide precise guidance and support to athletes regarding technique/skill. Coaches’ use of video analysis and physiological testing enables the coach to make crucial decisions.
- The use of specific apps to monitor progress, keep track of their athletes. This allows for more control, more understanding and more success.
- It helps the coach to prevent player burnout and reduce the risk of injury, and enables the coach to make informed decisions and refine technique, where necessary.
- Sporting technologies have created a variety of products aimed at improving and increasing athletic performance. A coach can monitor an athlete’s health; for example, measuring work rate, resting rate.

Award [1] for key phrase, [2] for partial explanation and up to [4] for full explanation.

All other valid points will be given credit.

(AO2)

[4]

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(b) The quality of written communication is assessed in this question.

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Indicative Content

- The continued improvement in athletic performance is a result of the complex development of technology, with the enhancement of ergogenic aids and the advances in sports science.
- Use of technology gives performers a competitive edge, helping athletes to refine techniques and perform better.
- The use of video feedback – specific software can be used to aid this process, e.g. dart fish. Areas for improvement can be identified and the athlete can work on improving weaknesses.
- The biggest impact and influence of technology is that it enables athletes to perform better and avoid injury. The development of high-tech suits and clothing is designed to optimise performance, for example by reducing drag or fluid resistance, helping athletes to thermo-regulate efficiently.
- Overemphasis on fitness development, leading to uniform athletes playing many team games.
- Use of sports science and the need to win could lead to ethics of sport being ignored.
- An unfair advantage to athletes who can afford the technology and the team of sports scientists.
- Technology cannot be a substitute for talent and this needs to be considered in relation to testing potential athletes.
- Could lead to increased injury or violence/shorter careers.
- It may lead to cheating, reducing traditional ethic or nature of the sports/ could lead to “win at all costs” mentality.

All other valid points will be given credit.

Level 1 ([1]–[4])

Overall impression: Basic

- Basic knowledge and understanding of the advantages and disadvantages of the impact of technology on sporting performance. The candidate may provide basic examples.
- Demonstrates a basic ability to discuss the advantages and disadvantages of the impact of technology on sporting performance. Candidate will provide basic explanations of the advantages and disadvantages.
- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([5]–[8])

Overall impression: Good

- Good knowledge and understanding of the advantages and disadvantages of the impact of technology on sporting performance. The candidate will give some relevant examples.
- Demonstrates a good ability to discuss the advantages and disadvantages of the impact of technology on sporting performance. Candidate will provide some explanations of the advantages and disadvantages.
- Quality of written communication is good. The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is appropriate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([9]–[12])**Overall impression: Excellent**

- Excellent knowledge and understanding of the advantages and disadvantages of the impact of technology on sporting performance. The candidate will provide fully developed examples and show excellent understanding of each one.
- Demonstrates an excellent ability to discuss the advantages and disadvantages of the impact of technology on sporting performance. Candidate will be able to discuss to an excellent level the advantages and disadvantages of the impact of technology and elaborate with thorough explanation.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is an extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that the meaning is clear.

[0] is awarded for a response not worthy of credit
(AO2, AO3)

[12]

(c) The quality of written communication is assessed in this question.**Indicative Content**

- Regular testing, following set protocols, in trustworthy establishments.
- Rigorous testing in and out of competition.
- Introduction of biological passports in some sports.
- Drug education/100% ME programme. An effective education programme for coaches and athletes which develops their knowledge and understanding of the dangers associated with the use of drugs, information regarding regulations, specific rules, policies and punishments.
- Scheme developed to keep a track of athletes' 'whereabouts'. Athletes provide the necessary information regarding access arrangements for testing officials.
- WADA (World Anti-Doping Agency) works closely with various international governing bodies to address the drugs problem.
- IOC Medical Commission involved in establishing all routines and the practical aspects of testing, collecting, transporting and analysing samples in accredited laboratories, and imposing bans.
- The IOC have a lead role and can legislate against what is on their banned list. Many sports governing bodies have adopted the IOC list of banned substances.
- Governing bodies are ensuring that athletes receive up-to-date advice and medical support.
- Use of role models, both positive and negative, to raise awareness.
- There are many problems which have been identified regarding the validity of testing and test procedures which need to be addressed.
- There is a major issue associated with what is legal and illegal.
- With advances in technology, scientists continue to develop more sophisticated ways of avoiding detection.
- There is a lack of funding into drug control by many international sporting bodies. More money needs to be invested to improve technology for testing and for testing programmes.
- There is a greater need for a unified approach across Governing Bodies.
- Establish effective communication between WADA/World Anti-Doping code/ NADO/UK Sports Ethics Department.

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- Punishments need to be consistent and a deterrent to athletes. Develop a strong anti-doping culture.

All other valid points will be given credit.

Level 1 ([1]–[5])

Overall impression: Basic

- Basic knowledge and understanding of the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate may provide basic examples.
- Demonstrates a basic ability to examine the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate may provide basic explanations but does not examine in detail.
- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([6]–[11])

Overall impression: Good

- Good knowledge and understanding of the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate will give some relevant examples.
- Demonstrates a good ability to examine the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate will provide some explanations of the possible strategies introduced.
- Quality of written communication is good. The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is appropriate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([12]–[16])

Overall impression: Excellent

- Excellent knowledge and understanding of the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate will provide fully developed examples and shows excellent understanding of possible strategies sports agencies have introduced to prevent cheating.
- Demonstrates an excellent ability to examine the possible strategies sports agencies have introduced to prevent cheating in sport. The candidate will provide thorough explanation and will use a variety of relevant examples.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is an extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that the meaning is clear.

[0] is awarded for a response not worthy of credit
(AO2, AO3)

[16]

36

Total

100

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