



A-LEVEL

Physical Education

7582/2 Paper 2 Factors affecting optimal performance in physical activity and sport

Mark scheme

7582

June 2018

Version/Stage: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Section A**Exercise physiology and biomechanics****0 1**

Which one of these measurements is a scalar quantity?

[1 mark]**Marks for this question: AO1 = 1****B****0 2**

A player has overstretched the ligaments in their ankle.

Identify this type of acute injury.

[1 mark]**Marks for this question: AO1 = 1****C****0 3 . 1**Identify **and** explain **two** external forces acting on the athlete in **Figure 1**.**[4 marks]****Marks for this question: AO2 = 4**Award **one** mark for each of the following points.

- Air resistance (1) this will be acting in the opposite direction of travel to the jumper / will depend on the velocity of the jumper / the cross sectional area of the jumper / the streamlining / shape of the jumper (1).
- Weight / Gravity (1) this will be pulling the jumper downwards towards the sand pit / the greater the mass of the jumper the greater the weight force will be pulling the jumper down (1).

Accept other appropriate explanations of the external forces acting on the athlete.

Maximum 4 marks

0 3 . 2 In **Figure 1** a third class lever is operating at the hip to allow flexion.

Explain the mechanical advantage of the third class lever operating at the hip for the athlete.

[2 marks]

Marks for this question: AO1 = 1, AO3 = 1

Award **one** mark for each of the following points.

AO1

(mechanical advantage) Large range of movement / resistance or load can be moved quickly (1)

AO3

By moving the legs forwards in front of them / flexing at the hip / lifting their legs higher to allow them to jump further / so legs are thrown forwards quickly to gain forwards movement and jump further (1)

Accept other appropriate explanations of the mechanical advantage of the third class lever operating at the hip for the athlete.

Maximum 2 marks

0 3 . 3 Stretching is an important part of a warm up.

What is ballistic stretching?

[1 mark]

Marks for this question: AO1 = 1

Ballistic stretching involves fast bouncing / swinging movements / uses the momentum of a moving body or a limb in an attempt to force it beyond its normal range of motion (1)

Accept other appropriate definitions of ballistic stretching.

Maximum 1 mark

0 3 . 4 Discuss the suitability of ballistic stretching for the athlete in **Figure 1**.

[3 marks]

Marks for this question: AO3 = 3

Award **one** mark for each of the following points.

Positives

- This is good for the athlete as it will allow greater flexibility / range of movement at the hip which is needed in the long jump technique / more effective take off (1)
- Ballistic stretching is suitable for the long jumper due to it being a fast dynamic / explosive activity / force of contraction required in the long jump (1)

Negatives (sub max 2 marks)

- Ballistic stretching can be dangerous / risk of injury if done incorrectly (1)
- Ballistic stretching can be dangerous / risk of injury if the athlete did not have high levels of flexibility (1)
- Therefore other forms of stretching might be more suitable e.g. static due to safety risk (1)

Accept other appropriate discussions on the use of ballistic stretching for the athlete in **Figure 1**.

Maximum 3 marks

0 4

An elite weight lifter is taking part in a strength-training programme to improve performance in the next competition. As part of the programme they are considering taking creatine and anabolic steroids in addition to their weight training.

Evaluate the use of creatine **and** anabolic steroids to improve the weight lifters performance in the next competition.

[8 marks]

Marks for this question: AO1 = 2, AO2 = 3, AO3 = 3

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

Level	Marks	Description
4	7-8	Knowledge is consistently accurate and well detailed. Application of breadth or depth of knowledge is clearly evident. Analysis and/or evaluation is coherently and consistently made between different relevant factors and their impact. Relevant terminology is consistently used. The answer almost always demonstrates substantiated reasoning, clarity, structure and focus.
3	5-6	Knowledge is usually accurate and detailed. Application of breadth or depth of knowledge is often evident. Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent. Relevant terminology is often used. The answer usually demonstrates substantiated reasoning, clarity, structure and focus.
2	3-4	Knowledge is sometimes accurate with some detail. Application of breadth or depth of knowledge is sometimes evident. Analysis and/or evaluation is sometimes made between different relevant factors and their impact, but may lack coherence. Relevant terminology is sometimes used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and focus.
1	1-2	Knowledge may be limited. Application of breadth or depth of knowledge may be limited or not evident. There may be little or no analysis and/or evaluation between different relevant factors and their impact. Relevant terminology is occasionally used. The answer may lack substantiated reasoning, clarity, structure and focus.
	0	No relevant content.

Possible content may include:

AO1 – Knowledge of creatine and anabolic steroids using simple statements

Creatine is a supplement that can be used to increase performance by increasing muscle mass. Taking creatine helps to replenish the PC stores to allow the ATP-PC system to last for longer and

recover quicker. Many strength athletes take creatine as it is a legal way of increasing the size and strength of their muscles alongside a weight-training programme. The side effects of taking creatine include cramping, bloating and nausea.

Anabolic steroids are a performance enhancing illegal drug that can also improve strength and power. They help in protein storage and promote muscle growth. They can also allow athletes to train for longer. The side effects of taking anabolic steroids include liver damage, acne, aggression and mood swings.

AO2 – Application of use of creatine and anabolic steroids for the weight lifter

Creatine and anabolic steroids would be beneficial for the weight lifter in improving their performance as both increase muscle mass and strength and power when combined with weight training. This is beneficial to the weight lifter as this will allow them to lift heavier weights in training. Anabolic steroids will be beneficial for the weightlifter, as they will allow the weight lifter to specifically train for longer.

AO3 – Analysis/evaluation of suitability of use of creatine and anabolic steroids

The benefits of taking anabolic steroids i.e. being able to train for longer and increasing strength will mean that heavier weights can be attempted in competition which will increase the chance of success.

Although creatine and anabolic steroids would be beneficial to the weightlifter due to their ability to increase muscle mass and strength, which is what the weightlifter needs to improve performance, the side effects should be considered particularly with anabolic steroids. For example, liver damage, acne, aggression and mood swings. Also, the research indicates that the effect of creatine on performance is inconclusive.

Creatine is only a supplement that is legal whereas anabolic steroids are illegal and the weight lifter could be banned if caught taking them so if they wanted to increase strength gains further creatine is a safer way to do so. Due to their illegal nature of anabolic steroids, it could also be argued that taking them is immoral and is a form of cheating.

Credit other relevant evaluation of creatine and anabolic steroids to improve performance of a weight lifter.

Maximum 8 marks

0 5

Analyse how Laura Kenny has maximised her speed in **Figure 2**. Use Bernoulli's principle of lift **and** knowledge of the factors that influence drag.

[15 marks]

Marks for this question: AO1 = 4, AO2 = 5, AO3 = 6

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

Level	Marks	Description
5	13-15	Knowledge is consistently comprehensive, accurate and well detailed. Application of breadth or depth of knowledge is clearly evident. Analysis and/or evaluation is coherently and consistently made between different relevant factors and their impact. Relevant terminology is almost always used. The answer demonstrates a high level of substantiated reasoning, clarity, structure and focus.
4	10-12	Knowledge is usually comprehensive, accurate and detailed. Application of breadth or depth of knowledge is often evident. Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent. Relevant terminology is usually used. The answer usually demonstrates substantiated reasoning, clarity, structure and focus.
3	7-9	Knowledge is generally accurate and sometimes detailed. Application of breadth or depth of knowledge is sometimes evident. Some analysis and/or evaluation is made between different relevant factors and their impact but may sometimes lack coherence. Relevant terminology is used but may sometimes be missing. The answer sometimes demonstrates substantiated reasoning, clarity, structure and focus.
2	4-6	Knowledge is sometimes accurate but may lack detail. Application of breadth or depth of knowledge is occasionally evident. Some analysis and/or evaluation is attempted between different relevant factors and their impact, but is likely to lack coherence. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and/or focus at times.
1	1-3	Knowledge is limited and may lack accuracy and detail. Application of breadth or depth of knowledge is likely to be limited or not evident. There may be very little or no analysis and/or evaluation made between different relevant factors and their impact. Relevant terminology used only very occasionally. The answer often lacks substantiated reasoning, clarity, structure and/or focus.
	0	No relevant content.

Possible content may include:**AO1 – Knowledge of Bernoulli's principle of lift and factors affecting drag using simple statements**

Bernoulli's principle is to do with lift force and downforce created when air flows over an aerofoil or object. Where there is an increase in the velocity of air there is a decrease in the pressure. Where flow is fast, pressure is low and where flow is slow, pressure is high.

Lift force is a force that acts perpendicular to the direction of travel.

Drag acts in the opposite direction of motion and so will slow something down. There are two types of drag, surface drag and form drag. Factors that affect drag include the velocity of the body or air, the cross sectional area, the shape of the body and type of surface.

AO2 – Application of Bernoulli's principle of lift and factors affecting drag to the cyclist

Due to the streamlined position of the Laura Kenny air travelling over the top of her has a shorter distance to travel than the air underneath. This means the air above is travelling at a slower velocity, which therefore creates a higher pressure. This creates a downward lift force with the tyres applying more force to the track.

Drag acts in the opposite direction of motion and so will be slowing Laura Kenny down. In order to minimise the amount of drag Laura Kenny can consider the factors that affect drag including, her cross sectional area, the shape she makes on the bike and type of surface. Therefore, as shown in Figure 2 Laura Kenny wears a streamlined helmet, tight clothing and adopts a streamlining position on the bike i.e. her back is parallel to the track, her arms are tucked in close to her body which all reduce form drag. To reduce surface drag the tyres are very thin on the bike and her suit is very smooth.

AO3 – Analysis/evaluation of Bernoulli's principle of lift and factors and the impact of reducing drag to allow the cyclist to achieve a faster speed

Factors that affect drag include the speed Laura Kenny is travelling at, the cross sectional area of the Laura Kenny's body and bike, the shape of Laura Kenny and type of surface. Therefore, as shown in Figure 2 Laura Kenny can reduce drag by wearing a streamlined helmet. This is beneficial because it will allow the air to pass quicker over the top of the helmet reducing the drag created which means Laura Kenny can cycle faster.

Although speed is a factor that can influence drag, Laura will use the other factors such as her clothing and body position to ensure she cycles as fast as she can therefore she won't reduce her speed in order to reduce drag.

Credit other relevant analysis of how a cyclist can increase their speed using Bernoulli's principle of lift and knowledge of the factors that influence drag.

Maximum 15 marks

Section B

Sports psychology

0 6

Figure 3 shows the relationship between arousal and performance for two different theories of arousal **X** and **Y**.

Identify theories **X** and **Y**.

[1 mark]

Marks for this question: AO2 = 1

C

0 7

Which of these statements describes social inhibition?

[1 mark]

Marks for this question: AO1 = 1

B

0 8 . 1 Identify **three** other characteristics of an individual with a need to achieve (Nach) personality.

[3 marks]

Marks for this question: AO1 = 3

Award one mark for each of the following points.

- Seek out challenging situations / competitive (1)
- Takes risks (1)
- Task persistence / mastery orientation (1)
- Not afraid of failure (1)
- Value feedback from others / coach / accepts criticism (1)
- Attribute performance to internal factors / effort / ability / attribute failure to external factors (1)

Accept first three answers only.

Accept other appropriate identification of characteristics of an individual with approach behaviour.

Maximum 3 marks

0 8 . 2 Identify **and** describe **one** strategy a coach could use to develop approach behaviour. Use a sporting example to support your answer.

[3 marks]

Marks for this question: AO1 = 2, AO2 = 1

- Reinforcement (1) – The coach could offer rewards / praise to players who do well so players keep the desire to do well (1). e.g. A coach could congratulate a player each time they score (1).
- Attribute success internally / attribution retraining (1) – The coach can tell the player that success achieved was due to the players themselves (1) e.g. A coach could acknowledge how much effort a player put into the game which helped them win (1).
- Allow success (1) – To increase confidence the coach can make tasks easier (1) e.g. A coach could set easier drills that can more easily be accomplished during a training session (1).
- Goal setting (1) – The coach could set achievable goals that can be met with an amount of effort (1) eg To score 5 lay ups in the next game (1).

Accept other appropriate identification, description and sporting example of a strategy a coach could use to develop approach behaviour.

Maximum 3 marks

0 9 . 1 Outline the autocratic **and** laissez-faire styles of leadership.

[2 marks]

Marks for this question: AO1 = 2

Autocratic

- Task oriented / dictator style / leader makes all the decisions / very direct in their approach (1).

Laissez-faire

- Provides little support or input / lets team members do as they wish (1).

Accept other appropriate outlines of the autocratic **and** laissez-faire styles of leadership.

Maximum 2 marks

0 9 . 2 Explain when a coach would use the autocratic **and** laissez-faire styles in a sporting context.

[2 marks]

Marks for this question: AO2 = 2

Award **one** mark for each of the following points.

Autocratic

- Used when quick decisions need to be made / with large groups / when discipline is needed / inexperienced team / novices / cognitive learners / dangerous situations / least / most favourable situations (1).

Laissez-faire

- Used when time is available / experienced performers / autonomous learners / more motivated / no danger (1).

Accept other appropriate explanations of when a coach would use each style in a sporting context.

Maximum 2 marks

1 0

Figure 4 shows a rugby player preparing to kick a conversion during an important game.

The player is having negative thoughts about the kick. He is also experiencing increased heart rate and muscular tension.

Evaluate the use of visualisation **and** centering by the rugby player to ensure the kick is successful.

[8 marks]

Marks for this question: AO1 = 2, AO2 = 3, AO3 = 3

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

Level	Marks	Description
4	7-8	<p>Knowledge is consistently accurate and well detailed.</p> <p>Application of breadth or depth of knowledge is clearly evident.</p> <p>Analysis and/or evaluation is coherently and consistently made between different relevant factors and their impact.</p> <p>Relevant terminology is consistently used.</p> <p>The answer almost always demonstrates substantiated reasoning, clarity, structure and focus.</p>
3	5-6	<p>Knowledge is usually accurate and detailed.</p> <p>Application of breadth or depth of knowledge is often evident.</p> <p>Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent.</p> <p>Relevant terminology is often used.</p> <p>The answer usually demonstrates substantiated reasoning, clarity, structure and focus.</p>
2	3-4	<p>Knowledge is sometimes accurate with some detail.</p> <p>Application of breadth or depth of knowledge is sometimes evident.</p> <p>Analysis and/or evaluation is sometimes made between different relevant factors and their impact, but may lack coherence.</p> <p>Relevant terminology is sometimes used.</p> <p>The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and focus.</p>

1	1-2	<p>Knowledge may be limited.</p> <p>Application of breadth or depth of knowledge may be limited or not evident.</p> <p>There may be little or no analysis and/or evaluation between different relevant factors and their impact.</p> <p>Relevant terminology is occasionally used.</p> <p>The answer may lack substantiated reasoning, clarity, structure and focus.</p>
	0	No relevant content.

Possible content may include:

AO1 – Knowledge of visualisation and centring using simple statements

Visualisation can be used by a performer to reduce anxiety levels either before, during or after performance. It involves a performer working through images in their mind on how a performance should be completed successfully.

Centring is a form of breathing control used to allow a performer to relax the upper body whilst concentrating on the slow movement of the abdominals. This is used to divert attention away from stressful situations.

The player is having negative thoughts about the kick which is cognitive symptoms and the player experiencing increased heart rate and muscular tension which are somatic symptoms.

AO2 – Application of visualisation and centring to the rugby player

In preparation to take the conversion kick the rugby player can try and control the negative thoughts by visualising the kick dealing with the cognitive symptoms. He can work through each stage of the kick in his mind imagining completing the kick successfully.

In addition to the visualisation, centring will be good for the rugby player as he will also be able to use this technique prior to taking the kick. This will allow him to relax his shoulders and chest whilst concentrating on the slow movement of his abdominals and aim to reduce heart rate, his somatic symptoms. This will be good, as it will also divert his thoughts away from the negative thoughts he is experiencing prior to taking the kick.

AO3 – Analysis/evaluation of visualisation and centring for the rugby player to ensure the kick is successful

Visualisation is good for the rugby player as it will develop the kinaesthetic feel of the kick which will increase the likelihood of success. Centring is also an appropriate method specifically for the rugby player doing the kick on the pitch as it is an appropriate method to perform due to the timing. It could be argued that an alternative method such as PMR is too time consuming.

If muscular tension was in the legs this would be problematic for the rugby player as this could negatively impact on his kicking technique. Therefore, in order to reduce tension the player could

use PMR. This will ensure the leg muscles i.e. the quadriceps and hamstrings aren't tight and so the correct kicking technique can be performed.

Credit other relevant evaluation of the use of visualisation and centring by the rugby player to ensure he kicks the ball successfully.

Maximum 8 marks

1	1
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Mo Farah is a four-time Olympic gold medallist. Before the 10 000m race at the 2017 World Championships, he said:

"I know I am the man to beat but that gives me confidence. I can't wait to get on that track – bring it on!"

Analyse Mo Farah's statement using Bandura's model of self-efficacy **and** Vealey's model of self-confidence.

[15 marks]

Marks for this question: AO1 = 4, AO2 = 5, AO3 = 6

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

Level	Marks	Description
5	13-15	<p>Knowledge is consistently comprehensive, accurate and well detailed.</p> <p>Application of breadth or depth of knowledge is clearly evident.</p> <p>Analysis and/or evaluation is coherently and consistently made between different relevant factors and their impact.</p> <p>Relevant terminology is almost always used.</p> <p>The answer demonstrates a high level of substantiated reasoning, clarity, structure and focus.</p>
4	10-12	<p>Knowledge is usually comprehensive, accurate and detailed.</p> <p>Application of breadth or depth of knowledge is often evident.</p> <p>Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent.</p> <p>Relevant terminology is usually used.</p> <p>The answer usually demonstrates substantiated reasoning, clarity, structure and focus.</p>
3	7-9	<p>Knowledge is generally accurate and sometimes detailed.</p> <p>Application of breadth or depth of knowledge is sometimes evident.</p>

		<p>Some analysis and/or evaluation is made between different relevant factors and their impact but may sometimes lack coherence.</p> <p>Relevant terminology is used but may sometimes be missing.</p> <p>The answer sometimes demonstrates substantiated reasoning, clarity, structure and focus.</p>
2	4-6	<p>Knowledge is sometimes accurate but may lack detail.</p> <p>Application of breadth or depth of knowledge is occasionally evident.</p> <p>Some analysis and/or evaluation is attempted between different relevant factors and their impact, but is likely to lack coherence.</p> <p>Relevant terminology is occasionally used.</p> <p>The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and/or focus at times.</p>
1	1-3	<p>Knowledge is limited and may lack accuracy and detail.</p> <p>Application of breadth or depth of knowledge is likely to be limited or not evident.</p> <p>There may be very little or no analysis and/or evaluation made between different relevant factors and their impact.</p> <p>Relevant terminology used only very occasionally.</p> <p>The answer often lacks substantiated reasoning, clarity, structure and/or focus.</p>
	0	No relevant content.

Possible content may include:

AO1 – Knowledge of Banduras model of self-efficacy and Vealey’s model of self-confidence

Banduras model of self-efficacy

Bandura called situation-specific self-confidence, self-efficacy. Bandura suggested that self-efficacy can predict actual performance when the necessary skills and appropriate incentives are present. Bandura suggested self-efficacy is influenced by four factors. The first is performance accomplishments which relates to how well a performer has done previously. This provides the most dependable information for self-efficacy, and has the best effect for improving self-efficacy. The second is vicarious experiences. This is the process through which performers learn by watching someone else successfully perform the desired task. Watching someone of similar ability achieve success increases the performer's own confidence of potential success, thus leading to higher self-efficacy beliefs. The third is verbal persuasion which can help encourage a performer's self-efficacy. Lastly Bandura refers to emotional arousal which is how a performer interprets their own arousal. Bandura suggests that arousal affects behaviour through efficacy expectations.

Vealey's model of self-confidence

Vealey's model of self-confidence looks at the influence of trait confidence, state confidence, the situation and the competitive orientation of the performer. The competitive orientation refers to how much a performer is drawn to challenging situations. Vealey suggested that confidence gained in one area of sport could be used to improve confidence in a different sporting activity. She used the idea of trait confidence, where the performer would rate their chances of doing well in a range of sports, and the idea of state confidence, where a performer would rate their chances of doing well in one specific situation. It was suggested that these two influences combine to produce a level of confidence in an objective sporting situation. The objective sporting situation is the combination of the type of skill being performed and the situation. If it is a skill that has been used successfully in the past, then both trait and state confidence would be high. The objective situation also looks at the conditions that the skill was performed in. It could have been in front of a large crowd or at a time when the score was close; in both cases the pressure was on.

AO2 – Application of Banduras model of self-efficacy and Vealey's model of self-confidence

Bandura's theory can support Mo Farah's high self-efficacy through the four factors of the model. The first factor is performance accomplishments, which relates to how well a performer has done previously. Mo Farah is a highly successful athlete who has won a number of gold Olympic medals and so this can explain why he feels confident going into the race.

Vealey's model of self-confidence can support Mo Farah's high self-confidence going into the race in relation to Mo Farah's state confidence. Mo Farah's belief that his ability will bring success in 10,000 metres as state confidence is specific to the situation and directly determines the quality of his skill in the race. The consistent difference between Mo Farah and less successful athletes is that he possesses greater self-confidence. Part of Vealey's theory is trait sport self-confidence which is a personality trait which although stable is difficult to establish in Mo Farah.

AO3 – Analysis/evaluation of Mo Farah's statement in relation to Banduras model of self-efficacy and Vealey's model of self-confidence

Performance accomplishments in relation to Banduras model, is evident due to his previous successes linked to the statement where he says 'I am the man to beat.'

Vealey's Model of self-confidence includes the concept of competitive orientation. This relates to Mo Farah's statement of 'Bring it on'.

In relation to Bandura's model of self-efficacy and Vealey's model it is difficult to comment on the statement from Mo Farah. Furthermore, it is difficult to analyse the effect of Mo Farah's trait confidence and competitive orientation in relation to as we don't know Mo Farah's personality which can only be implied by the statement.

Credit other relevant analysis of Mo Farah's statement using Bandura's model of self-efficacy **and** Vealey's model of self-confidence

Maximum 15 marks

Section C**Sport and society and technology in sport****1 2**Which **one** of these statements describes amateurism?**[1 mark]****Marks for this question: AO1 = 1****D****1 3**

There are personal, social and cultural factors required to support the progression from talent identification to elite performance.

Which of the following are personal factors only?

[1 mark]**Marks for this question: AO1 = 1****A****1 4**Identify **three** characteristics of physical recreation.**[3 marks]****Marks for this question: AO1 = 3**Award **one** mark for each of the following points.

- (Rules) – Physical recreation has modified rules (1)
- (Officials) – Physical recreation is usually self-officiated (1)
- (Reason for taking part) – Physical recreation is often done for intrinsic rewards / enjoyment / fun / stress relief / non serious / health and fitness (1)
- (When they take part) – Voluntary / choice / leisure time / not time bound (1)

Accept first three answers only.

Accept other appropriate characteristics of physical recreation.

Maximum 3 marks

1 5

Coaches legally have to demonstrate a duty of care by reducing potential risks and dangers for players.

Outline how coaches can demonstrate a duty of care.

[3 marks]**Marks for this question: AO1 = 3**

Award one mark for each of the following points.

- Providing first aid provision so that injured players are dealt with (1)
- Maintain the right supervision numbers to allow safe participation / balanced competition (1)
- Collect medical information / contact details so that incidents can be dealt with (1)
- Do a risk assessment so that any dangers are planned for / check equipment / clothing / facilities (1)
- Adapt sessions to needs / ability of participants (1)
- Suitably trained i.e. DBS, safeguarding, first aid with regards to abuse / educate on dangers of drugs / overtraining / appropriate training (1)

Accept other appropriate descriptions of how coaches can demonstrate a good standard of duty of care.

Maximum 3 marks**1 6**

Discuss the impact of commercialisation on officials.

[4 marks]**Marks for this question: AO3 = 4**

Award one mark for each of the following points.

Positive impacts (sub max 2 marks)

- Increased profile / fame which increases awareness and the need for officials to support fair play in sport (1)
- Increase in salary / paid more money and so could then become a full time profession / career pathway (1)
- Increased funding into the sport means more money can be invested into supporting technology's to allow officials to make better / more accurate decisions (1)
- Increased funding can lead to greater support of network of officials and so greater training (1)

Negative impacts (sub max 2 marks)

- Due to increased coverage of the sport there is increased pressure on officials to make the right decisions (1)
- Criticism of bad performance / could lose their job / reputation be damaged if a wrong decision is made (1)
- Officials could become dependent on technology that's been developed so are not confident of making decisions without it. (1)

Accept other appropriate discussions of the positive and negative impacts of commercialisation on officials.

Maximum 4 marks**1 7**

GPS technology is becoming more popular with sports teams to analyse player's movements in training and during games.

Evaluate the use of GPS technology and the data it provides.

[8 marks]**Marks for this question: AO1 = 2, AO2 = 3, AO3 = 3**

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

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3	5-6	Knowledge is usually accurate and detailed. Application of breadth or depth of knowledge is often evident. Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent. Relevant terminology is often used. The answer usually demonstrates substantiated reasoning, clarity, structure and focus.
2	3-4	Knowledge is sometimes accurate with some detail. Application of breadth or depth of knowledge is sometimes evident. Analysis and/or evaluation is sometimes made between different relevant factors and their impact, but may lack coherence. Relevant terminology is sometimes used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and focus.
1	1-2	Knowledge may be limited. Application of breadth or depth of knowledge may be limited or not evident. There may be little or no analysis and/or evaluation between different relevant factors and their impact. Relevant terminology is occasionally used. The answer may lack substantiated reasoning, clarity, structure and focus.
	0	No relevant content.

Possible content may include:**AO1 – Knowledge of GPS and different types of data**

GPS is a type of technology that athletes can wear to track their movements. It can be used in sport to collect information such as speed and distances travelled. GPS equipment is portable, has the

potential to provide real-time data and is reasonably accurate.

Different types of data include quantitative and qualitative.

When collecting data validity and reliability should be considered. Reliability refers to whether if repeated; the same results would be produced.

AO2 – Application of the use of GPS and data by team sports / players

The benefits of team sports using GPS is that it can be precise, technical, and provides the players and coaches with data to tailor training programmes, assess in-game performance and evaluate work-rate and physical exertion. In relation to reliability, the GPS systems that have developed are accurate and so the data can be relied upon to then inform training etc...

A big advantage of team sports being able to use GPS during competitions and periods of play is that coaches can identify periods of most intense play, different activity profiles by position and also if players are getting fatigued if they have previous reliable data for players.

AO3 – Analysis/evaluation of GPS by team sports and usefulness of the data

Although GPS on the whole is precise and has many benefits, it also has drawbacks. GPS is expensive and so is not accessible by all teams. Furthermore some of the equipment can be unreliable due to issues such as battery life and measurements of distance and speed may be underestimated. GPS systems are not 100% reliable potentially due to satellite location.

Reliability of the data collected by GPS can be affected by errors that occur when researchers do not know how to use the equipment correctly. Furthermore, the accuracy of the data can also be affected by poorly maintained equipment or cheaper versions of GPS equipment but this may mean accuracy is compromised.

Furthermore GPS will only provide quantitative data which coaches may not understand and can have limited value. Qualitative data also has benefits to managers and coaches when assessing quality of passing for example.

The advantages of GPS have a positively impact for teams and are beneficial as it can prevent injury of the player but also allow the team to make substitutions.

Credit other relevant evaluation of the use of GPS by team sports in relation to reliability.

Maximum 8 marks

1 8

Table 1 shows the number of red cards awarded in the Football Premier League each season. Red cards can be given for aggressive acts.

Instinct theory and the frustration-aggression hypothesis are psychological theories relating to aggression in sport.

Use these theories to analyse why aggressive acts still exists in football **and** evaluate the effectiveness of strategies used to prevent player violence.

[15 marks]

Marks for this question: AO1 = 4, AO2 = 5, AO3 = 6

Students are expected to answer in continuous prose, use good English, organise information clearly and use specialist vocabulary where appropriate.

Level	Marks	Description
5	13-15	Knowledge is consistently comprehensive, accurate and well detailed. Application of breadth or depth of knowledge is clearly evident. Analysis and/or evaluation is coherently and consistently made between different relevant factors and their impact. Relevant terminology is almost always used. The answer demonstrates a high level of substantiated reasoning, clarity, structure and focus.
4	10-12	Knowledge is usually comprehensive, accurate and detailed. Application of breadth or depth of knowledge is often evident. Analysis and/or evaluation is often made between different relevant factors and their impact, and is usually coherent. Relevant terminology is usually used. The answer usually demonstrates substantiated reasoning, clarity, structure and focus.
3	7-9	Knowledge is generally accurate and sometimes detailed. Application of breadth or depth of knowledge is sometimes evident. Some analysis and/or evaluation is made between different relevant factors and their impact but may sometimes lack coherence. Relevant terminology is used but may sometimes be missing. The answer sometimes demonstrates substantiated reasoning, clarity, structure and focus.
2	4-6	Knowledge is sometimes accurate but may lack detail. Application of breadth or depth of knowledge is occasionally evident. Some analysis and/or evaluation is attempted between different relevant factors and their impact, but is likely to lack coherence. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, structure and/or focus at times.
1	1-3	Knowledge is limited and may lack accuracy and detail. Application of breadth or depth of knowledge is likely to be limited or not evident. There may be very little or no analysis and/or evaluation made between different relevant factors and their impact. Relevant terminology used only very occasionally. The answer often lacks substantiated reasoning, clarity, structure and/or focus.
	0	No relevant content.

Possible content may include:

AO1 – Knowledge of instinct theory and frustration aggression hypothesis theory and strategies to overcome player violence

The instinct theory states that aggressive behaviour is inherited genetically and that a trait of violence is within everyone.

Frustration aggression hypothesis theory states that frustration develops when goal directed behaviour or the need to achieve is blocked. Catharsis is achieved as a result of successfully releasing aggression through an aggressive act (getting away the aggressive act).

Strategies to overcome player violence include bans, fines, substitution, fair play awards, code of conduct, improved refereeing. Self talk is an appropriate strategy to achieve catharsis.

AO2 – Application of aggression theories and strategies to overcome player violence to football

In relation to frustration aggression hypothesis theory in football, a goal being blocked could be due to poor refereeing, the fact that the other team are winning. It could also be something in the game for example, if a player is fouled when running through towards the goal they might immediately retaliate by kicking out at the player.

Strategies that have been used in football to combat player violence include bans from a number of games which can also influence players pay potentially.

AO3 – Analysis/evaluation of whether strategies to overcome player violence in football have been effective in relation to theories

Argument that strategies to overcome player violence have been effective due to decrease in number of red cards shown in Table 1. However there is an argument that strategies to overcome player violence have not been effective due to player violence still existing and red cards still being awarded.

Some may argue that the effectiveness of bans and losing pay may not be effective in football due to the huge salaries.

Credit other relevant analysis of why player violence still exists in football using the instinct theory **and** frustration aggression hypothesis theory and discussion of whether strategies to prevent player violence in football have been effective.

Maximum 15 marks