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A-level  
**PHYSICAL EDUCATION**  
**7582/2**

Paper 2 Factors affecting optimal performance in physical activity and sport

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Mark scheme

June 2020

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Version: 1.0 Final Mark Scheme

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 Examiner.

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](http://aqa.org.uk).

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## 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 vitamin is used for energy release during exercise?

**[1 mark]**

**Marks for this question: AO1 = 1**

**A**

**0 2**

Which of the following is used for calculating angular velocity?

**[1 mark]**

**Marks for this question: AO1 = 1**

**B**

**0 3**

Describe how using a hyperbaric chamber can aid recovery.

**[3 marks]**

**Marks for this question: AO1 = 3**

- Highly pressurised environment containing 100% oxygen/O<sub>2</sub> (1).
- High concentrations/pressure of oxygen/O<sub>2</sub> results in larger quantities being inhaled (1).
- Haemoglobin becomes fully saturated with oxygen/O<sub>2</sub> (1).
- Larger quantities of oxygen/O<sub>2</sub> reaching the injured area (1).
- Reduces swelling (1).
- Stimulates white blood cell production/Increased activity of white blood cells (1)
- Removes lactic acid (1).

Accept any other appropriate descriptions of how using hyperbaric chambers aid recovery.

**Maximum 3 marks**

**0 4**

Explain the benefits of including weight training as part of a rugby player's training regime.

**[3 marks]**

**Marks for this question: AO2 = 3**

- Improves strength/power, which can help the rugby player with tackling/mauling/scrums/stability when being tackled
- Improves muscular endurance, which can help the rugby player perform repeated passes/break through several tackles
- Increased strength can make an athlete more robust/resistant to injury, increasing playing time /the impact they may have upon their team's performance (1).
- Use of free weights can replicate movements/demands of sport, developing neural pathways/develop strength in specific muscles/muscle groups, leading to more consistently co-ordinated/accurate skill production, eg line out movement (1)

Accept other appropriate explanations of how a rugby player can benefit from weight training.

**Maximum 3 marks**

**0 5**

Discuss the importance of fat intake to an endurance athlete.

**[4 marks]**

**Marks for this question: AO3 = 4**

**Positive (sub-max 3 marks):**

- Source of energy for low intensity exercise, allows the endurance athlete to meet the demands of training/race/less fatigue/keeping running for longer (1).
- Spares glycogen stores, to be used in the closing stages of an event (1).
- Used for absorption of fat soluble vitamins maintaining bone density, reducing the risk of injuries, eg stress fractures (1).
- Important for maintaining health, vital for optimal performance in training and competition (1).

**Negative (sub-max 3 marks):**

- Too much fat can lead to heart/vascular disease, leading to the endurance athlete being unable to train (1).
- Too much fat can lead to weight gain making the endurance runner inefficient/energy wasted on carrying additional weight the endurance athlete will therefore fatigue sooner/reduce stamina (1)
- Other components of fitness may reduce e.g. decreased flexibility leading to inefficient running action/reduced speed leading to poor sprint finish (1).

Accept other appropriate points used to discuss the importance of of fat intake to an endurance athlete.

**Maximum 4 marks**

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**0 6**

Adam Peaty has set multiple new world records in the 100m breaststroke.

**Table 1** shows his performances in some major championships over a two-year period.

| Year and competition        | Time (seconds)       | Position |
|-----------------------------|----------------------|----------|
| 2016 Olympic Games          | 57.13 (world record) | 1st      |
| 2018 European Championships | 57.00 (world record) | 1st      |

Analyse how Adam Peaty would use Macro, Meso and Micro cycles to achieve these performances.

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

**Possible content may include:**

**AO1 Indicative Content: knowledge of Macro, Meso and Micro cycles.**

- A Macro cycle is a long-term period of training, typically one year/4 years.
- A Meso cycle is a medium-term block of training, typically spanning between 4–12 weeks.
- A Micro cycle is a short-term block of training, typically one week, or a few days.
- Cycles are part of periodisation
- The cycles are used to taper/peak.

**AO2 Indicative Content: application to performance.**

- The Macro cycle could be focussed upon swimming a personal best time in the final of a major championship, such as Olympic Games.
- Mesocycles would be focused on a specific aspect of training such as focusing on swimming speed/reaction time off the blocks/race preparation
- A single Micro cycle would include pool-based speed work for four days and two days of land-based training, eg flexibility/strength training.
- If intensity of training increases, eg shorter, harder sessions, the volume of his training will be reduced, fewer sessions in each micro cycle.
- Peaty will taper his training, reducing the volume and or intensity of the training that is undertaken in the days leading up to the event.

**AO3 Indicative Content: analysis of how dividing training into Macro, Meso and Micro cycles affects performance.**

- Planning meso and micro cycles which are designed with a specific component of fitness/area for development in mind can help to focus an athlete's attention, rewarding progress that is made.
- Dedicating a Meso cycle to an area of performance that needs to be developed, eg speed endurance, likely to result in improvements that will directly impact performance.
- Using Macro, Meso and Micro cycles can help Peaty to maintain high levels of motivation, by setting goals specific to each cycle, monitoring progress in each case.
- Tapering can help to avoid overtraining, reducing the likelihood of injury and reversibility.
- Tapering training in the lead up to an important event allows for physical and psychological rest and recuperation, allowing peaking to occur.
- Well planned training divided into Macro, Meso and Micro cycles makes it more likely that Peaty will peak at the right time, performing optimally in major championships.

Accept other appropriate analysis of how Macro, Meso and Micro cycles can be used to benefit performance.

**Maximum 8 marks**

**0 7**

Analyse how the gymnast is able to perform this explosive movement successfully.

Refer to Newton's Laws of linear motion **and** the recruitment of muscle fibres in your answer.

**[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 Indicative Content: knowledge of Newton's Laws and the recruitment of muscle fibres.**

- Newton's first law of linear motion - Law of Inertia - a body will remain in a state of rest or uniform motion until a force acts upon it.
- Newton's second law of linear motion - Law of Acceleration - acceleration is directly proportionate to the magnitude of the force produced and is governed by the direction the force is applied/  
Force = mass x acceleration.
- Newton's third law of linear motion - Law of Action/Reaction - for every action there is an equal and opposite reaction.
- A motor unit consists of a motor neurone and all the muscle fibres it stimulates.
- The 'All or None Law' states that if a motor unit receives sufficient stimulation an action potential will be released and all the fibres in that motor unit will contract.
- Spatial summation – An action potential is released when the threshold is achieved due to the summation (adding together) of impulses from multiple areas.
- Wave summation – Additional action potentials reach the muscle fibres before they have had time to fully relax, resulting in a build-up of calcium, and smooth tetanic contractions.

**AO2 Indicative Content: application of Newton's Laws and the recruitment of muscle fibres during the leap, or similar movement.**

- The gymnast must produce a muscle contraction/force to overcome their inertia and jump.
- As the mass of the gymnast remains constant, the acceleration of the gymnast is equal to the muscular force they produce.
- At take-off, the force produced by the gymnast's muscle contractions will be applied to the beam, the beam then applies an equal and opposite force back onto the gymnast.
- Spatial summation will meet the threshold for action potentials to be released in more motor units/bigger motor units/fast-twitch motor units.
- All movements will involve tetanic contractions as they require more than a single muscular twitch.

**AO3 Indicative Content: analysis of Newton's laws and the recruitment of muscle fibres to perform the movement successfully.**

- The recruitment of more motor units/bigger motor units/fast-twitch motor units will maximise the force produced to overcome inertia.
- It will also increase the acceleration of the gymnast as this is directly proportional to the force produced.
- The larger downward force being applied to the beam, will result in a larger upward force being applied by the beam to the gymnast.
- These factors will result in the gymnast being able to jump higher, giving them more time in the air to complete an aesthetically pleasing movement, scoring them more points.
- The gymnast will have to apply the muscular force to the beam at the correct angle to maximise the take-off angle, as too flat a jump may limit their time in the air and lead to point deductions.
- The tetanic contractions produced as a result of wave summation will result in smooth and aesthetically pleasing movements, scoring the gymnast more points.

Accept other appropriate analysis of how Newton's Laws of linear motion and the recruitment of muscle fibres allow the gymnast to perform this explosive movement successfully.

**Maximum 15 marks**

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**Section B**

**Sport psychology**

**0 8**

According to Fiedler's contingency theory, the most appropriate leadership style is influenced by the situation the leader is in.

Which situation would a person-orientated leadership style be **most effective** in?

**[1 mark]**

**Marks for this question: AO1 = 1**

**B**

**0 9**

In the build-up to an important competition, athletes often experience stress.

Which of the following is classed as a cognitive stress management technique?

**[1 mark]**

**Marks for this question: AO1 = 1**

**C**

**1 0**

Learned helplessness can be general or specific.

Define **both** of these terms.

**[2 marks]**

**Marks for this question: AO1 = 2**

**General learned helplessness:**

Self-doubt, or a lack of belief that affects an individual in a range of situations/the belief they're unable to perform in all aspects of a sport or even all sports (1).

**Specific learned helplessness:**

Self-doubt, or a lack of belief that affects an individual in a situation/a performer feeling they're unable to perform well in one particular position or when executing one type of tactic (1).

Accept other appropriate definitions for both general and specific learned helplessness.

**Maximum 2 marks**

1 1

The work of Hollander and Lewin are examples of an interactionist perspective of personality.

Explain how interactionist perspectives account for the varied behaviour of a netballer who is repeatedly fouled during two different games.

**[4 marks]**

**Marks for this question: AO2 = 4**

- Netball player may react aggressively in one game and calm in the other (1).
- Reactions in one match could be due to the netball player's trait/core trait is to stay calm/be aggressive (1).
- In the other match react differently due to environmental factors/have learned to act differently (1)
- Such as if it is an important match/against a rival/team is losing/losing (1)
- Response can be controlled in certain circumstances, eg when the umpire or coach is watching/inside the D or area of the court where a sanction may directly impact the result (1).
- If the player has position of responsibility, eg captain, less likely to respond angrily/more likely to set a good example (1).

Accept other appropriate explanations of how interactionist perspectives account for the varied behaviour of a netballer who is repeatedly fouled during two different games.

**Maximum 4 marks**

1 | 2

**Table 2** shows the England cricket team's home and away results in matches between 2012 and 2018.

|      | Wins | Losses |
|------|------|--------|
| Home | 23   | 11     |
| Away | 7    | 23     |

Evaluate the impact of home field advantage on the England cricket team's results.

Use the information in **Table 2** in your answer.

**[4 marks]**

**Marks for this question: AO3 = 4**

**Positive effects (sub-max of 3 marks):**

- England have won the majority of home matches, but only a minority of away matches (or words to this effect)/England have lost only 11 matches at home but 23 away (1).
- Home support increases motivation/confidence due to the noise/proximity/support of the crowd (1).
- No fatigue/tiredness from travelling can lead to a more energetic performance (1).
- Home team tend to play a more attacking style of play giving them a greater chance of scoring more runs/hitting boundaries (1)
- Familiarity of surroundings helps players to feel more comfortable with environment leading to optimal arousal/avoids over arousal (1)
- Can lead to 'functional assertive behaviour' where the home team play with more drive (1).
- Crowd hostility causes opposition players to become anxious/lose concentration and perform poorly (1).
- Proximity of the crowd to the opposition reduces performance, particularly when fielding close to the boundary (1).

**Negative effects:**

- Expectation of the crowd can add pressure/ fear of failure to home team/less pressure on away team (1).

Accept other appropriate evaluation of the impact of home field advantage on the England cricket team's results.

Answers must relate to England playing at home to be credited.

**Maximum 4 marks**

**1 3**

In the 2011 Masters, Rory McIlroy was four shots ahead going into the final round. However, due to a sudden decline in performance, he finished 10 shots behind the eventual winner.

Analyse the factors linked to arousal which led to such a dramatic and sudden decline in performance.

**[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.

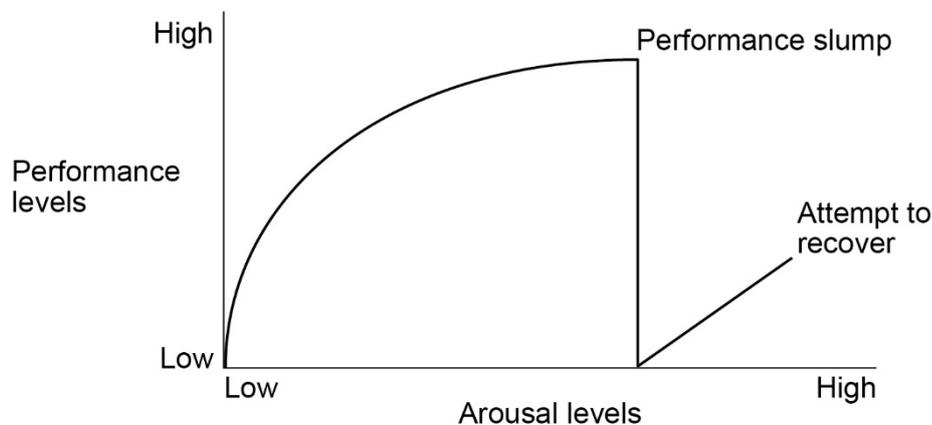
| Level | Marks | Description   |
|-------|-------|---|
| 4     | 7–8   | Knowledge is consistently accurate and well detailed.<br>Application of breadth or depth of knowledge is clearly evident.<br>Analysis and/or evaluation is coherently and consistently made between different relevant factors and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

**Possible content may include:****AO1 Indicative Content: knowledge of the relevant factors linked to arousal.**

Correct names of theories **must** be included in the candidate's response to award a mark.

- Arousal is a state of energised alertness, a readiness to perform and drive to achieve.
- Arousal gradually increases until optimal arousal is reached/zone of optimal functioning.
- Catastrophe theory suggests that arousal beyond optimal results in a sudden/dramatic decline in performance.
- The dramatic decline is caused by a combination of high cognitive anxiety and high somatic anxiety.

Accept appropriately labelled diagrams to support demonstration of knowledge.



No credit for mentioning other theories related to arousal, eg Drive theory or Inverted 'U'

**AO2 Indicative Content: application of knowledge of how arousal can affect performance.**

- McIlroy had optimal levels of arousal in earlier rounds/moderate arousal in early rounds meant McIlroy was in the zone of optimal functioning.
- McIlroy then experienced catastrophe.
- Golf is a fine and complex skill, which requires low levels of arousal.
- McIlroy experienced over arousal and cognitive anxiety due to negative thoughts/self-doubt, eg "what happens if I miss this putt?"/"what if I mess this up from such a commanding position".
- Importance of the occasion/competitors playing well/playing a poor stroke or shot/can lead to increased cognitive anxiety/negative thoughts/self-doubt.

**AO3 Indicative Content: analysis of the factors linked to arousal which led to such a dramatic and sudden decline in performance**

- As a result of over-arousal putting would have been less accurate, driving off the tee would have been misdirected, this would have led to further anxiety.
- Over arousal causes attention to be too narrow, missing vital cues which will negatively affect performance, eg focussing on the putting action rather than the run of the green.
- Once McIlroy started to perform badly, cognitive anxiety increases further, causing a dramatic decline that it is almost impossible to recover from during the performance, resulting in even the most basic of errors occurring.
- McIlroy's use of stress management techniques would have been ineffective as his performance continued to decline.

Accept other appropriate analysis of factors linked to arousal which led to a dramatic and sudden decline in performance.

**Maximum 8 marks**

**1 4**

Analyse the faulty group processes which could have caused this defeat **and** the strategies which can be used to address specific faulty processes.

**[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.   |
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|       | 0     | No relevant content.  |

**Possible content may include:**

**AO1 Indicative Content: knowledge of factors causing faulty group processes and the strategies to address faulty processes.**

- Steiner's model suggests Actual Productivity = Potential productivity – Losses due to faulty group processes.
- Faulty group processes caused by co-ordination and motivational losses.
- Social loafing – motivational losses due to lack of confidence or feeling under-valued.
- Ringelmann effect, the effort exerted by group members, larger groups can result in less effort being exerted by each individual.
  
- Strategies: social activities, video analysis, performance goals, establishing clear roles, praising/rewarding cohesive behaviour.

**AO2 Indicative Content: application of knowledge of factors which negatively affect group productivity and the strategies to address faulty processes**

Application of factors:

- England may have suffered from co-ordination losses, such as tactics not working, positional role unclear, lack of communication between players, not employing coaches' tactics.
- England may have suffered motivational losses, such as social loafing - players may not track back/work hard to win the ball back when they are losing.
- England squad would have had a large squad meaning Ringelmann effect may have occurred as players may have been lost in the squad.

Application of strategies:

- England manager could have arranged social activities before the tournament started to develop social cohesion e.g. team building activities.
- Manager could have set whole team goals, such as further progression in the tournament, or individual performance goals such as increasing completion rate of passing during a match.
- Manager could have ensured roles were clear e.g. establishing clear roles during set plays.
- Manager could have praised players who were demonstrating good team play, such as tracking back when the ball had been lost.
- Employ GPS tracking during training/matches, capturing the distances covered, tackles made.

**AO3 Indicative Content: Analysis of factors which negatively affect group productivity and the strategies to address faulty processes**

Analysis of factors:

- Co-ordination losses could have resulted in set plays breaking down, players being out of position, meaning a loss of productivity and poor team performance.
- Motivational losses could have meant that players were not trying as hard as others, leading to resentment and a breakdown in cohesion.
- Large group size could have meant that players felt lost or undervalued resulting in them having low confidence or not trying as hard, meaning cohesion and productivity was reduced.

Analysis of Strategies:

- Social activities to develop cohesion could have resulted in an increase in social cohesion, meaning the players support and trust one and other and want to play for each other.
- Praise players for effort regardless of whether they receive the ball/directly affect the play, consistently doing so may make all players contributions valued, maintaining motivation.
- Employ GPS tracking during training/matches, capturing the distances covered, tackles made, may reduce the Ringelmann effect, players will know their efforts are monitored at all times increasing motivation/reducing social loafing as they cannot hide.
- Performance goals in the form of individual challenges which are reviewed after each match can reduce social loafing as each performer has a target to reach which will motivate them.

Accept other appropriate analysis of strategies which could be used to improve group productivity and the strategies which can be used to address specific faulty processes.

**Maximum 15 marks**

**Section C**

**Sport and society and technology in sport**

**1 | 5**

In which of the following situations would a performer need assistance from the law as a result of an incident occurring outside of competition?

**[1 mark]**

**Marks for this question: AO1 = 1**

**A**

**1 | 6**

Maintaining the integrity of data can be difficult.

Which of the following issues relates specifically to manual data entry?

**[1 mark]**

**Marks for this question: AO1 = 1**

**C**

**1 | 7**

Positive forms of deviance can sometimes be seen during sporting contests.

**1 | 7 | 1**

Define the term positive deviance.

**[1 mark]**

**Marks for this question: AO1 = 1**

- Positive deviance – behaviour which is outside of the norms of society, but without the intent to harm or break the rules (this aspect **must** be referenced for mark to be awarded)/over-adherence to the norms and expectations of sport/sporting ethic (1).

Accept other appropriate definitions of the term positive deviance.

**1 | 7 | 2**

Give a sporting example of positive deviance.

**[1 mark]**

**Marks for this question: AO2 = 1**

- A performer competing despite being injured (1).
- A performer causing injury to another athlete without intention/breaking the rules/compromising the etiquette of the sport due to their desire to win (1).
- A performer who over-trains (1).

Accept other appropriate sporting examples of positive deviance.

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**1 8**

State **two** causes of performer violence. Give a sporting example for each.

**[4 marks]**

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

- Retaliation/abuse/provocation from an opponent/spectators (AO1) (1).
- A player being racially abused by an opponent/spectator/reacting to a bad tackle (AO2) (1).
- Win ethic/win at all costs attitude (AO1) (1).
- Intentionally provoking an aggressive response from an opponent in order to gain an advantage/deliberately injury a player to prevent a goal (AO2) (1).
- Emotional intensity/importance of the event/over arousal (AO1) (1).
- Local derby match/cup final/excitement leading to a violent challenge (AO2) (1).
- Poor officiating or frustration with match officials (AO1) (1).
- A vital decision such as a goal/try/ball landing in or out being made/being perceived to have been made incorrectly (AO2) (1).
- Nature of the sport (AO1) (1).
- American football/Rugby are sports with lots of physical contact which could overspill into violence (AO2) (1).
- Frustration with own performance (AO1) (1).
- Unable to get near the ball/being marked out of the game/passing below usual standard (AO2) (1).

Accept other appropriate causes and examples of performer violence.

**Maximum 4 marks**

1 | 9

Discuss whether the Olympic Oath is still relevant in the modern-day Olympic Games. **[4 marks]**

**Marks for this question: AO3 = 4**

**Oath is still relevant in modern-day games (sub-max 3 marks)**

- Stringent drug testing shows the continued importance of fair competition (1).
- Punishment for deviant behaviour during Olympics such as badminton players in London 2012 disqualified for a lack of effort (1)
- Amateurism is still encouraged as there is no prize money or appearance fees awarded by the IOC (1).
- There is still evidence of fair play/sportsmanship during the games such as helping injured opponents to complete races (1).

**Oath is no longer relevant in modern-day games (sub-max 3 marks)**

- Doping/drug taking by individuals/state-sponsored programmes undermine the importance of the Oath (1).
- Athletes have been shown to be involved in other deviant behaviour, such as gamesmanship, which undermines the promises made in the Oath (1).
- Commercialisation of sport/financial rewards associated with success may make the oath less relevant/inclusion of professionals in Olympics has led to a greater win ethic/win-at-all-costs attitude can lead to oath being broken (1).

Accept other discussion of the relevance of the Olympic Oath in the modern-day Olympic Games.

**Maximum 4 marks**

**2 0**

Evaluate the impact of commercialisation on professional football since the Premier League was formed in 1992. Refer to **Figure 2** in your response.

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

**Possible content may include:**

**AO1 Indicative Content: knowledge of increased commercialisation in football.**

- Commercialisation, treating sport as a commodity/using it as an asset to be sold.
- Involves sponsorship and media coverage.
- Characterised by professional sport, entertainment, contracts, athletes as commodities, focus is on results.

**AO2 Indicative Content: application of knowledge of increased commercialisation in football.**

- TV revenue paid to the Premier League has increased from £191 million for the period 1992–1997, up to £5 136 million/£5.1 billion between 2016–2019.
- Investment from BSKYB/BT to broadcast live matches across the globe.
- The Premier League is a global brand/shown all over the world/in over 130 countries.
- Sponsorship of kits/stadia/ball/programme, eg The Emirates Stadium – Arsenal FC

**AO3 Indicative Content: evaluation of the impact of commercialisation on football.**

**Positive impacts**

- Increased revenue/investment allows higher wages attracting the best players in the world to play in the Premier League.
- Increased income has led to increased standards of facilities, coaching, training and rehabilitation, all contributing to increasing the standard of football.
- Officials can now train full-time/revenue has increased technology used to make refereeing decisions more accurate.
- Money raised through commercialisation is used to benefit the facilities/opportunities of grass-roots football.

**Negative impacts**

- The income from commercialisation is not distributed evenly between clubs/teams, creating inequality.
- Global appeal can lead to intense scrutiny of the sport leading to criticism over any indiscretion.
- Control of decision making for the sport increasingly affected by a small group of very wealthy individuals/companies.
- Timings/frequency of matches dictated by TV companies
- Increases likelihood of gamesmanship/win-at-all-costs attitude/Lombardian ethic reducing the appeal of the sport.

Accept other appropriate evaluation of commercialisation on professional football since the Premier League was formed in 1992.

**Maximum 8 marks**

**2 1**

By August 2019, 69 athletes had failed drugs tests using samples taken during the London 2012 Olympics.

Evaluate the effectiveness of strategies used for eliminating the use of performance enhancing drugs in sport.

**[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.  |

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**Possible content may include:**

**AO1 Indicative Content: knowledge of drug prevention strategies.**

- Educate athletes/coaches of the risks associated with taking performance enhancing drugs.
- Use of high-profile role models such as former athletes who competed drug free successfully.
- Investment in drug screening/detection, and research in detecting athletes taking PEDs
- Co-ordination between nations drug testing regulations.
- More frequent, randomised drug testing conducted.
- Stricter punishments for those found guilty of using PEDs.

**AO2 Indicative Content: application of knowledge of drug prevention strategies.**

- UKAD education programme – ‘100% Me’ programme, used to educate young athletes of the dangers/moral issues of taking PEDs.
- High-profile, successful athletes - Sir Chris Hoy, act as role models for young athletes.
- State-of-the-art WADA accredited laboratories worldwide
- Whereabouts system - athletes know they can be tested at any time, in any location.
- Standardised set of testing protocols/140 countries now apply the same procedures - athletes are now more likely to be caught regardless of the nation they represent.
- Biological passport, detailing normal physiological characteristics, makes it easier to detect abnormally high levels of naturally occurring performance enhancing substances, eg EPO.
- Lifetime bans for those found doping/having to return money from earnings, endorsements and sponsorship/prison sentences, these measures act as a financial deterrent.

**AO3 Indicative Content: evaluation of the effectiveness of anti-doping strategies.**

**Effective**

- Co-operation between governing bodies/agencies has led to more consistent regulations/stricter protocols/standardised list of banned substances/consistent punishments/testing regime.
- A co-ordinated approach helps to share the increasing cost of testing and screening more consistently by all sports and countries.
- Samples are kept and tested for up to 10 years after major events, meaning athletes can be caught and punished even after the event.
- Whereabouts system is effective because athletes cannot avoid being tested
- Harsher punishments, eg returning earnings/losing titles/prison sentence will act as a very effective deterrent/could mean athletes lose careers/sponsorship, which will act as a deterrent.

**Ineffective**

- Reaching athletes in training camps abroad is difficult, making random testing challenging to conduct.
- Drugs and masking agents are constantly being developed, those who take PED's one step ahead of the authorities/testing is not always reliable.
- Some countries have still not signed up to the internationally recognised, WADA guidelines for drug testing athletes, resulting in an inconsistent approach.
- Athletes and coaches exploit loop holes in regulations, eg therapeutic use exemption (TUE).
- The potential rewards linked to success, eg fame/infamy and fortune may be too tempting for some to resist.

Accept other appropriate evaluation of the strategies that can be used to eliminate drug use in sport.

**Maximum 15 marks**

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