



# Model Answers

## AQA A-level PE - Paper 2

### This document contains:

- Model answers for the National Mock Exam questions
- Model examples of extended writing

### How should schools use these papers?

These model answers are written to support PE teachers and students review the National Mock Exam 2024 and to prepare for the live revision session delivered by James in May 2024. We strongly recommend that students learn these model answers in preparation for the summer exams 2024. The questions posed and the answers provided are based on significant analysis and model BOTH content and skills.

Please, use these model answers in combination with the National Mock Exam paper, mark scheme and the revision session (Thursday, 30th of May 2024, 16:30-18:00), available via the AQA A-level PE Revision page:

<https://pages.theeverlearner.com/2024-aqa-a-level-pe-revision>

All questions are taken from ExamSimulator. ExamSimulator is a premium resource available via TheEverLearner.com.

I hope this helps both students and teachers in their exam preparations.

*James Simms*





<b>Subject</b>	Physical Education
<b>Course</b>	AQA Linear GCE PE Paper 2: Factors affecting optimal performance in physical activity and sport
<b>Time allowed</b>	120 minutes

<b>First name</b>	
<b>Last name</b>	
<b>Class</b>	
<b>Teacher</b>	

<b>Title</b>	AQA A-level PE Paper 2 - National Mock Exam 2024
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<b>Guidance</b>	<ul style="list-style-type: none"><li>• This paper is marked out of 105 marks.</li><li>• You have 120 minutes (plus additional time for those who have Exam Access Arrangements).</li><li>• Answer all questions.</li><li>• A calculator is permitted for this exam.</li><li>• This paper contains three 8-mark and three 15-mark questions.</li><li>• Good luck.</li></ul>
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<b>Total marks</b>	105
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## SECTION A: Exercise Physiology and Biomechanical Movement

1. "Rest days should be included to allow the body to repair and adapt to the demands of training."

Which principle of training is this defining?

- A Specificity
- B Progressive overload
- C Reversibility
- D Recovery

D - Recovery

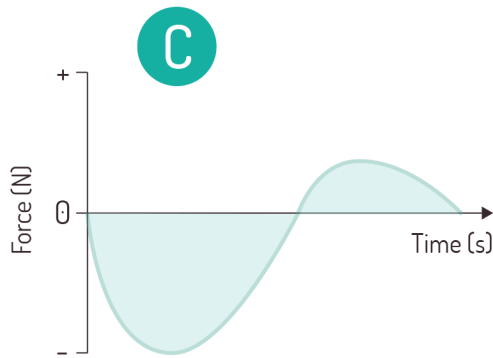
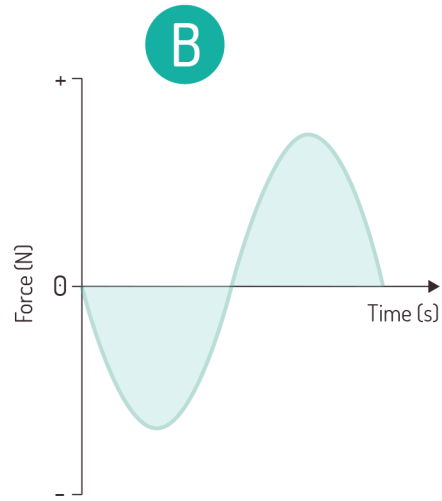
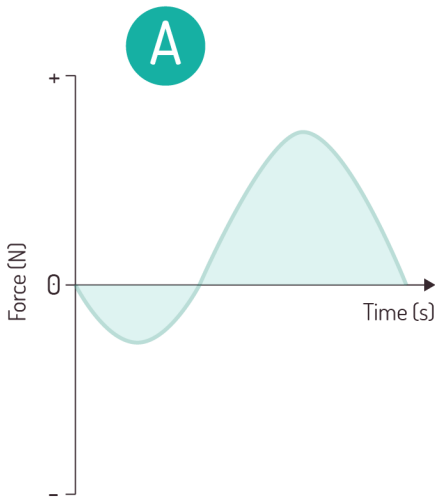
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Marks: **[1]**

2. If a 400m sprinter decelerates in the last 50m of the race, which of the force-time graphs will represent this best?



Graph C

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Marks: **[1]**

3. Identify **three** types of chronic injuries that may occur in sport.

Type 1: Achilles tendonitis

Type 2: Tennis elbow

Type 3: Stress fracture

Marks: **[3]**

4. Define Newton's first and second laws of motion. Give a sporting example of each.

1st Law: Newton's 1st law states that as a body will remain in a state of rest or uniform motion until a force acts upon it.

Sporting example. For example, a sprinter will remain still in the starting blocks until an internal muscular force is produced to push the sprinter forward.

2nd Law: Newton's 2nd law is defined as acceleration being directly proportional to the magnitude of the force produced and governed by the direction of the force applied. It is also known as  $F = ma$ .

Sporting example. For example, a sprinter's mass is constant, so to achieve an acceleration at the start of the race, the internal force applied has to be large enough.

Marks: **[4]**

5. Evaluate the use of hydrotherapy for an athlete with a muscle strain.

Hydrotherapy can help an athlete with a muscle strain, as it improves blood circulation so that blood can head to the site of the strain to relieve pain. Hydrotherapy occurs in water where, thanks to buoyancy, the muscle can generate force with less load as body weight is supported by the water.

This can help to strengthen the injured area. However, if the water is too warm, it can lead to the athlete feeling nauseous and the therapy will be less effective, as the athlete will have to leave the pool to regulate their temperature.

Marks: **[3]**

6. Analyse the factors affecting stability when performing a tackle in rugby.



The height of a player's centre of mass will affect their stability. Different players will have a higher or lower centre of mass. For example, forwards tend to have a higher centre of mass, whereas backs tend to have a lower centre of mass. The higher a player's centre of mass when tackling, the less stable they are, as upright tackling is much less effective.

Rugby players who are taller will need to work harder to get into a lower body position when tackling for it to be effective. The mass of a player will also affect their stability. For instance, rugby players tend to have a heavier mass and, therefore, will be more stable in the tackle than someone with a lighter mass, as this enables greater stability. Additionally, the area of the base of support will affect how stable a player is. If a player uses a wide base during a rugby tackle, the larger area of their support base will lead to them having greater stability when making contact with their opponent. Having more points of contact with the ground can enable the player to stay on their feet during the tackle. Furthermore, the position of the centre of mass above the base is crucial to stability during a rugby tackle. If a player's centre of mass is directly above their base, they will be more balanced during the contact and this will also support other players heading into the contact. If the line of gravity is optimal, then players are less likely to suffer from neck or back injuries as a result of incorrect tackling.



Marks: [8]

## 7. Analyse the role of the following food classes **during** exercise:

Protein

Fibre

Vitamin B-12

Iron

Protein can be found in foods such as meat, fish and eggs. Protein is important for the growth and repair of muscles. It is also required for making more red blood cells.

Therefore, during exercise, protein is crucial in supporting the transport of oxygen to working muscles during aerobic respiration. In addition, it can also be used as a small source of energy during extreme endurance exercise. Fibre aids digestion and helps to prevent constipation by supporting the healthy function of the large intestine. Fibre is found in foods such as wholemeal bread and pasta. Fibre supports an athlete during exercise by slowing down the time it takes to break down food, which leads to a slower and more sustained release of energy, and the athlete does not experience digestive discomfort while exercising. Vitamin B12, also known as folic acid, can be found in red meat, fish and dairy products. This helps with the production of red blood cells and aids the healthy functioning of the nervous system, which is vital in initiating muscular contractions during exercise. Adequate amounts of vitamin B12 helps to ensure that an athlete has the action potential required in the motor neuron to recruit sufficient motor units when exercising. Finally, iron helps with the formation of haemoglobin and can be found in beans and leafy green vegetables. Iron is vital for the efficient transportation of oxygen, which is needed during exercise to prevent the build-up of waste products associated with anaerobic respiration. Sufficient levels of iron also help to prevent anaemia, which would negatively impact on an athlete when exercising, as they would feel lethargic and would be unable to train at their normal intensity.

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Marks: **[15]**

## SECTION B: Sport Psychology

8. Which of the following is the correct description of a stressor?

- A Impact of stress
- B Cause of stress
- C Symptom of stress
- D Response to stress

B - A stressor is a cause of stress.

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Marks: **[1]**

9. "The rock-climbing coach is giving direct instructions of which route the individual should climb."

Which style of leadership is being described?

- A Autocratic leadership
- B Democratic leadership
- C Laissez-faire leadership
- D Emergent leadership

The rock-climbing coach is using an autocratic leadership style, so option A.

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Marks: **[1]**

10. Goals set for athletes need to be specific and measurable. Describe **four** other elements of the SMARTER principle.

1. R is realistic. This suggests goals need to be set within the performer's ability levels so they can be both challenging and motivating.
2. T is time-bound. A performer needs to be aware of the deadline for achieving the goal.
3. E is for evaluate. It is encouraged for a performer to reflect on the goal and see if it was achieved or not with any particular success and failures.
4. The final R is re-do. A performer is encouraged to repeat the process for every goal set in order to maintain motivation.

Marks: **[4]**

11. Give **three** different situations from a match when a hockey player might display competitive state anxiety.



Situation 1: A player may experience competitive state anxiety when taking a penalty in an important game.

Situation 2: Having a player in their team sent off may also lead to increased anxiety due to the thought of losing.

Situation 3: Lastly, competitive state anxiety is more likely to occur if it is a high-stakes games such as a final or a derby match

Marks: **[3]**

12. Evaluate the impact of evaluation apprehension on performance in hockey.



A hockey player who is being watched as part of a talent identification process may increase their motivation to perform well. However, being aware of the presence of scouts observing could lead to the player decreasing in confidence and this could result in them being substituted. Arousal levels of the player could be increased to an optimal level, leading to better application of their role within the team and the tactics being implemented. However, the player's performance being observed can lead to over-arousal. This can inhibit information processing and lead to the player making mistakes when passing the ball, resulting in a turnover of possession.

Marks: **[3]**

**13.** The image shows the three strategies a rugby coach is using to control the aggression of her team.

Evaluate the listed strategies for controlling aggression in rugby.

Refer to the positive impact technology has in support of each strategy.



### Strategies to control aggression

1. Identifying non-aggressive role models.
2. Reinforcing non-aggression through fair-play awards.
3. Punishing players.

There are a number of strategies used by coaches to try and control aggression in sport.

Non-aggressive role models can be highlighted using technology. For example, social media platforms can be used to show non-aggressive acts or coaches could use video analysis software to highlight when a member of the team has shown a positive reaction to a tackle or incident during a game. One advantage of coaches doing this is that social learning takes place and players will try to replicate the actions of their peers or role models.

This can also benefit the coach by allowing them to focus on developing techniques and tactics, rather than dealing with aggressive behaviour. However, rugby is a contact sport and it is sometimes difficult to see the differences between aggression and assertion.

It's also apparent that not all clubs have the technology to highlight non-aggressive behaviour. Fair play awards are another way a coach can reduce aggression in a rugby team. These awards can be given out in training, games or annually (for example, giving an award for the least number of sin bins in a season). Modern technology such as apps can be used, so the coach can easily track incidents of fair play throughout a game or season and social media platforms could be used to highlight the winners of these awards.



Using these awards creates a culture of discipline within the team and players are aware that all parts of their performance are being scrutinised. It also gives the players a tangible goal to work towards. However, players who feel they have shown fair play and don't win an award may become demotivated. Punishment can be applied by the coach to address aggression. For example, a coach can substitute a player if they exhibit aggression in a match. This could also lead to the club fining or banning the player. Modern technology can be used via video playback to gather evidence of the aggressive act should the player appeal against their fine or ban. TMO is used at an elite level to cite aggression. The punishments can act as a deterrent to other players and they make it very clear to performers what is expected of them and the consequences if they break the rules. However, punishment can lead to further frustration for the player. This could lead to them being a disruptive influence in the team environment.

Marks: **[8]**

**14.** Some researchers claim that sporting success and personality are linked.

Analyse the interactionist perspective of personality in sport.

The interactionist approach to personality combines trait and social learning to predict how a person will act in a specific situation. The Hollander model suggests three components: psychological core, typical response and role-related behaviour. In sport, the psychological core is the stable characteristics or traits of the performer which are not affected by the environment. Typical response is the usual behaviour expected in a given situation and role-related behaviour is behaviour based on a specific role or circumstance. A coach, therefore, is able to teach a performer how to respond to specific situations and adapt their typical response to enhance their sporting performance. For example, if the performer's typical response to a crowd is to become nervous, the coach can teach the performer how to adapt this response through coping mechanisms. Over time, their typical response will be altered and performance in front of a crowd will improve. A coach can also identify and support the athlete in sport-specific situations where personality can impact performance by either setting strategies for the performer to avoid those situations or train them to alter their typical response in that sport-specific situation. Lewin's formula states that behaviour is a function of personality and the environment:  $B=f(PE)$ . The behaviour of a team member is dependent on their personality and the competitive situations they are in. Personality is stable but competitive situations are unstable. Therefore, a performer may require different behavioural responses in competition. A coach can play a role in this by predicting an unacceptable response to certain competitive situations and moving the player's position within the team to suit their trait personality. However, stable team norms may affect the player's performance positively or negatively and these norms also need to be considered when trying to nurture an appropriate competitive response. The coach can do this by using the behaviour response of some team members to influence others. This can assist in changing team norms and values.

Team members will also be more likely to change their behaviour in a competitive situation if they understand their personality profile and the coach can play a role in using this profiling effectively to enhance performance.

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Marks: **[15]**

## SECTION C: Sport and Society and Technology in Sport

15. Which of the following is a feature of the Gold Event Series?

- A** Podium and Podium Potential
- B** Talent identification
- C** Attracting world championships to the UK
- D** High level support for the progression of elite athletes

Option C

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Marks: **[1]**

16. Look at the definition in the image provided. Which of the options is being defined?

“The views and principles of a person who engages in a sport for pleasure rather than for profit.”

- A** Negative deviance
- B** Win ethic
- C** Amateurism
- D** Sportsmanship

C - Amateurism

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Marks: **[1]**

17. State **three** characteristics of physical recreation.

Characteristic 1: It is done voluntarily and by choice.

Characteristic 2: Largely completed for intrinsic rewards.

Characteristic 3: There are no officials.

Marks: **[3]**

18. Using **three** different examples, explain how negative deviance is displayed in sport.

Example 1: One example of deviance is a cyclist taking a performance-enhancing drug such as EPO to gain an advantage over their opponents.

Example 2: A second example is a boxer taking a bribe to purposely get knocked out in a specific round, to illegally fix the outcome of a bout.

Example 3: Lastly, a rugby player hitting an opponent in the face in a ruck due to frustration is an act of spontaneous violence and is outside the laws of the game.

Marks: **[3]**

19. Other than the Whereabouts system, state **one** strategy that the World Anti-Doping Agency (WADA) uses to eliminate PEDs in sport.

Other strategy: Developing education programmes about the consequences and availability of PEDs.

Marks: **[1]**

**20.** Evaluate the effectiveness of WADA's Whereabouts system for eliminating performance-enhancing drugs in sport.

The whereabouts rule reduces the temptation for athletes to use performance-enhancing drugs due to the possibility of random drug testing. Additionally, athletes taking drugs will be caught sooner, so bans and fines can be applied immediately. However, the funding that is directed towards the whereabouts system could be redirected towards grassroots sport, and not doing so might mean that athletes at the participation level miss out on funding. It is also difficult to gain immediate access to athletes when they are training abroad, leading to slower protocols and potential delays in drug testing.

Marks: **[3]**

## 21. Analyse the impact of the following strategies for preventing spectator violence at football matches:

Banning alcohol sales

Fan segregation

Increased use of CCTV

Placing a ban on alcohol sales means that pubs near to the sports venue are requested to close and no alcohol can be taken into the seated areas of stadia. As a result of this, fans may behave more responsibly and the chance of fighting, particularly between rival fans, is reduced. Fans with young families may be further encouraged to attend due to a more positive and family-friendly atmosphere in the stadium. Earlier kick-offs, particularly for matches where there are hostile fan rivalries, can help to ensure that there is less time for fans to consume alcohol and for their behaviour to result in violence. The segregation of fans is clearly dividing the two sets of fans by ticket sales and allocation of seats. This is increased by having lines of stewards between rival fans, which provides a safer environment for younger spectators and means that they are less likely to witness any inappropriate or violent behaviour between fans. Segregation can also allow for family zones to be created within stands, so that football can be promoted as a form of family entertainment and positively encourage these groups of spectators to attend live matches. Spectator violence has also been impacted through the increased use of CCTV at football matches. CCTV cameras can be placed in several places both inside and outside of the stadium, with duty police monitoring the footage. Due to increased technology, the quality of footage is clearer and incidents can be viewed more easily. The use of this technology means that spectators are more aware that their behaviour is being monitored closely and CCTV cameras can act as an effective deterrent. Spectators are, therefore, more likely to control their behaviour if they know that the technology can cite the violence in a court of law. This evidence can lead to spectators being ejected from the stadium to prevent escalation of violence and bans for the spectators involved.



Marks: **[8]**

## 22. Evaluate the function of the following sports analytics processes: Monitoring fitness for performance Skill and technique development

Refer to the use of foam rollers and massage as recovery methods to support the analytics process

Sports analytics such as wearable technology can help to monitor fitness through the collection of data. This can include heart rate, training zones, number of steps and energy expenditure. Athletes can wear a heart-rate vest monitor or a watch to track performance and receive real-time feedback on the intensity of their training or performance in a game. This allows coaches and athletes to discuss the objective data and positively inform training programmes, as well as reviewing goals set by monitoring fitness frequently. However, the quality of the device is important in providing reliable data. If the quality is poor, this can lead to inaccurate data analysis and could become demotivating for athletes. Coaches and athletes focusing on fitness data can also detract from technical and tactical review of performance. Skill and technique development can be largely achieved through the use of video analysis programmes such as Hudl, VEO and Dartfish. These programmes can be used by coaches or athletes to capture, analyse and share video footage of skills in isolation or competitive performances. Tools such as Hudl allow playback in slow motion, which can be used to identify strengths and areas for development. Replay options also allow an athlete to watch their performance back and compare their technique to a "perfect" model. A coach can timestamp particular moments in a game for athletes to play back and offer feedback in the comments for them to visualise and inform their next training session. Video tools can also be used for biomechanical analysis of a skill, using specialised technology to measure joint angles, forces produced and the amount of rotation during a skill. This can allow a coach to provide specific feedback on minor adjustments to be made in performance, leading to greater gains during performance. However, video analysis programmes can be expensive and not all sports or clubs at different levels have the same amount of access to these tools.

Paid subscriptions can restrict access to athletes and clubs who have greater funding available to them. Furthermore, they can take a considerable amount of time to set up and use, which can detract from fitness monitoring and skills-based training exercises. A foam roller is a self-massaging tool used by an athlete to target a particular muscle area, using their body weight to apply resistance. The foam roller releases tension in the muscles and can help to reduce muscle tightness. Alternatively, massage is carried out by someone else applying pressure to an athlete's muscles using qualified and safe techniques. This process increases blood flow to the targeted area, delivering more oxygen and nutrients to help speed up recovery, as well as increasing the rate at which lactic acid is removed. Additionally, massage releases tension in the muscle fibres and helps to break up scar tissue, which can reduce movement. Both foam rolling and massage could be used following exercise when sports analytics are being processed, which can then be shared with athletes.

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Marks: **[15]**

**END OF PAPER**