The EverLearner

National Mock Exams 2023

POWERED BY ExamSimulator

Model Answers
AQA A Level PE - Paper 2

This document contains:

- Model answers for the National Mock Exam questions
- Model examples of extended writing
- Marking for each of the model answers in order to guide teachers and students to credit-worthy elements of the answers

How should schools use these papers?

These model answers are written to support PE teachers and students review the National Mock Exam 2023 and to prepare for the live revision sessions delivered by James in May 2023. We strongly recommend that students learn these model answers in preparation for the summer exams 2023. The questions posed and the answers provided are based on significant analysis of past papers.

Please, use these model answers in combination with the National Mock Exam paper, mark scheme and the revision session (Thursday, 25th May 5.00pm-6.30pm), available in the AQA A Level PE Revision page: https://pages.theeverlearner.com/2023-aqa-a-level-pe-revision.

All questions are taken from ExamSimulator. Please note, there are hundreds of additional questions on ExamSimulator covering all topics and skills. ExamSimulator is a premium resource available via TheEverLearner.com.

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

James Simms

The EverLearner

Subject	Physical Education
Course	AQA Linear GCE PE Physiological Factors
Time allowed	2 hours

First name	
Last name	
Class	Physical Education A-Level
Teacher	

Title	AQA A-level PE Paper 2

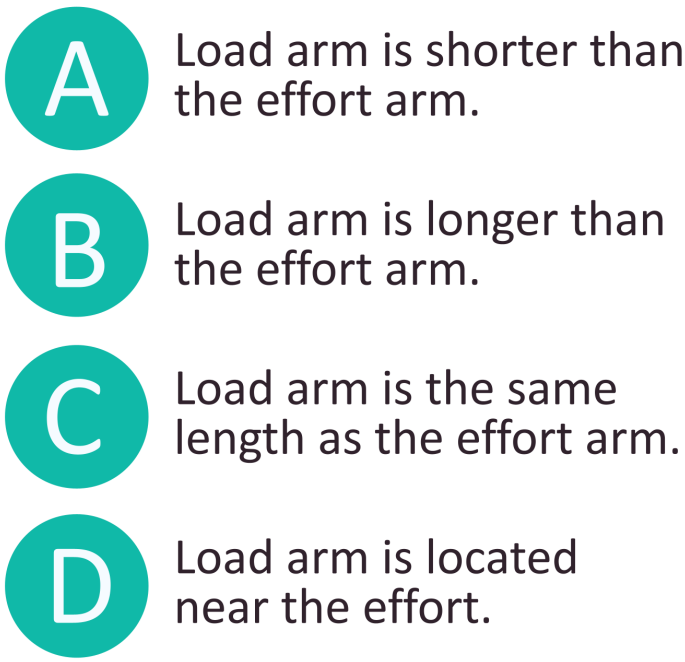
Guidance	• This paper is marked out of 105 marks. • You have 2 hours minutes (plus additional time for those who have Exam Access Arrangements). • Answer all questions. • A calculator is permitted for this exam. • This paper contains one 8-mark and one 15-mark question. • Good luck.

Total marks	105 / 105 (100%)

1. Look at the image closely.
Which of the following is an example of an acute injury in basketball?

Option A - Hamstring tear from sprinting up the court.	No comments provided.
	Marks:[1/1]

2. Look at the image closely.
Which of the following is an accurate description of mechanical disadvantage?



Option B - The load arm is longer than the effort arm.	No comments provided.
	Marks:[1/1]

3. State **two** factors which can affect the stability of a rugby player.

1 - Mass of the player. 2 - Size of the base of support.	No comments provided.
	Marks:[2/2]

4. Define the terms moment of inertia **and** angular velocity.

Moment of inertia is the distribution of mass from the axis of rotation. Angular velocity is the rate of spin around an axis.	No comments provided.
	Marks:[2/2]

5. Define Newton's first law of angular motion.
Give a sporting example.

Newton's 1st law of angular motion states that a rotating body will continue in a state of constant angular momentum until acted upon by an external torque. A sporting example of this is when a high diver continues to rotate with constant angular momentum until a large torque force is applied by the water at the point of entry.	No comments provided.
	Marks:[2/2]

6. A table tennis ball has been struck with backspin and is rotating at a rate of 120 revolutions per second.
Calculate the total revolutions that the ball will make if it travels through the air for 3 seconds before landing on the table.

120 x 3 = 360 revolutions. (1)	No comments provided.
	Marks:[1/1]

7. Evaluate the suitability of Fartlek training for a football player.

Fartlek training is suitable, as the sprint section mimics the high - intensity periods of a football game (1) such as sprinting onto the ball. Likewise, the low - intensity periods are similar to the jogging needed for a player to recover back into position or similar to the intensity to last the duration of the game. However, Fartlek training can be very tedious (6) and without the use of the ball (4) - and football - related skills, the player can lose intrinsic motivation.	No comments provided.
	Marks:[3/3]

8. Analyse how impulse affects the performance of a 100m sprinter.

Impulse = Force x Time. A greater impulse will lead to a greater change in momentum. A sprinter increases impulse by applying more force to the ground during the drive phase or against the block at the start of the race and applies this force for as long as possible by plantar flexing their ankle of the drive leg. At the start of the race, there is a large positive impulse, resulting in a greater change in momentum. This is likely to lead to a greater acceleration. There is a small negative impulse so the athlete can push off the ground to accelerate. During the race, the sprinter needs to maximise force when the ball of the foot contacts the ground. The spikes help with connection with the track but the foot is in contact for a short time. As the the middle of the race approaches, the net impulse is zero, which means that the sprinter is at constant velocity from equal contact of both the drive and recovery leg. Towards the end of the race, a large negative impulse occurs as the sprinter is decelerating and dipping for the finish line. This will lead to a larger negative

No comments provided.

8. Analyse how impulse affects the performance of a 100m sprinter.

impulse. A positive impulse is very unlikely at the end of a race, as phosphocreatine stores will be almost fully depleted.	
	Marks:[8/8]

9. Evaluate the use of recovery methods for an elite rugby player.
Refer to motivation in your answer.

Intrinsic motivation in sport is the drive to participate based on internal factors. In comparison, extrinsic motivation is the equivalent drive from external sources. Massage is a recovery method associated with rugby. Elite rugby players have an allocated and qualified masseur or masseuse to apply pressure to sore muscle tissue immediately after training and games. This is beneficial for the player, as it speeds up the removal of toxins such as lactic acid, which exists in the muscle fibres following high - intensity exercise. Consequently, DOMs will be reduced to optimise muscle performance in the next training session. A massage can enhance intrinsic motivation, as the drive to participate in training is higher if the muscles are feeling less tense. However, this process can be timely for the entire squad, and for this reason only those with potential inflammation will access the massage. Cold therapy such as cryotherapy is an alternative recovery method. Players enter a cryo chamber containing extremely cold air for a short period of time with their joints and extremities covered and protected. Cryotherapy is really beneficial for elite rugby players, as it can decrease inflammation and swelling (common with contact from tackles), resulting in a reduction in pain and soreness after games without having to take pain - relief medication. The vasodilation of arteries and capillaries after exiting the cold chamber causes a flush of fresh, oxygenated blood to the working muscles, causing lactic acid to be dispersed and removed more quickly. However, cryotherapy can feel very uncomfortable and put the player at risk of potential nerve damage. The extrinsic drive provided from the coach's encouragement to be fully recovered for the next training session / game may ensure the player can tolerate the

10 Very good equivalent.

9. Evaluate the use of recovery methods for an elite rugby player.
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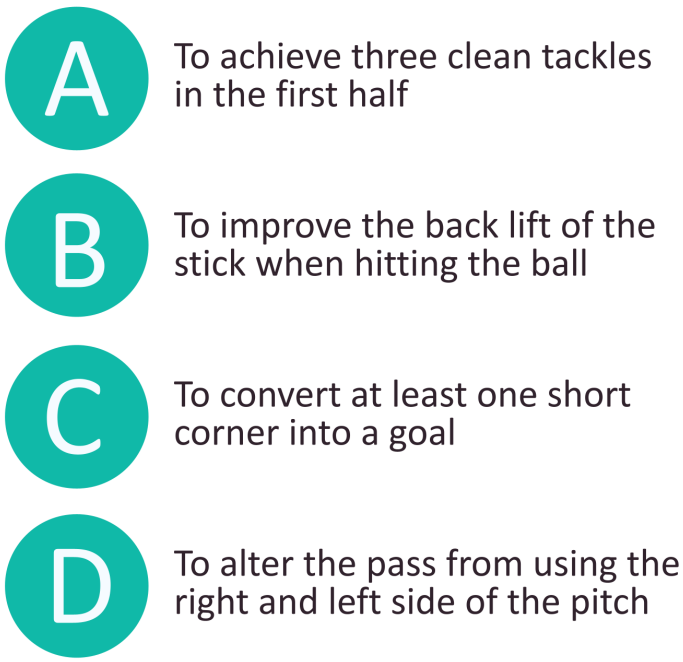
short period of discomfort. Finally, compression garments can be used. Tight - fitting clothing is worn for up to 12 hours after training. The compression around areas such as the legs increases venous return to speed up the slow component of EPOC. All elite players are likely to have access to compression products and they could serve as a tangible reward to heighten extrinsic motivation to train and play at the highest intensity. However, the tight fit may not be very comfortable to wear for the body types associated with elite rugby players and they may prefer to use a foam roller or complete a range of stretching techniques.	
	Marks:[15/15]

Section B : Sport Psychology

10. Look at the image closely.
Which of the following is an example of tangible motivation?

Option C - Medal from a coach.	No comments provided.
	Marks:[1/1]

11. Look at the image closely.
Which of the following is an example of a process goal for a hockey player?



Option B - To improve the back lift of the stick when hitting the ball.	No comments provided.
	Marks:[1/1]

12. Describe the frustration-agression theory of aggression.

Frustration develops when the goal - directed behaviour is blocked. The theory states that this frustration will always lead to aggression. If aggression is successfully released, this can lead to catharsis and further frustration is lowered. If the frustration is punished or unsuccessfully released, this could have the opposite effect and lead to further frustration and aggression.	No comments provided.
	Marks:[4/4]

13. Explain how social loafing can lead to poor performance in netball.

A player who is displaying social loafing does not see their value in the team, so they do not respond actively to a player requesting they run into position and, therefore, does not receive the ball. The player may also present as lethargic and not attempt any interceptions.	No comments provided.
	Marks:[3/3]

14. Discuss the use of an autocratic leadership style when coaching beginners in rock climbing.

A positive is that enjoyment will be maximised by the beginner as the leader will choose the routes to follow. Furthermore, the beginners will feel safe from the regular instruction and develop the correct motor programmes for climbing. However, the beginner may want to make decisions on where to climb and without this, boredom may increase significantly.	No comments provided.
	Marks:[3/3]

15. Evaluate the use of breathing control **and** progressive muscular relaxation to manage stress before a 10m platform dive.

Breathing control involves slow, deep and controlled breathing. The diver can be on the top of the 10m platform and have time to complete deep and timed breaths. The technique can be used almost anywhere and does not take up too much time. This is ideal for a diver to reduce any arousal ahead of the complexity of the dive or allow the diver to filter out irrelevant information and noise such as the crowd. A consequence of being in an optimal zone of arousal leads to a strong execution of the dive. However, breathing control may be forgotten easily if the diver is using visualisation techniques to work through the rotations and movements involved in the dive. PMR is a technique to tense muscles and then release slowly. This can also be completed immediately before the dive and compliments the breathing control techniques. They can be completed together at the same time. PMR is beneficial as it can allow any muscle tension to be reduced. Muscle tension can hinder a dive and prevent the fluidity of the movements. The diver will therefore maximise marks awarded from the judges. However, to complete this technique from head to toe may be time consuming and not feasible to complete with the time available on the platform before the dive. It also requires dedicated time for correct completion. Divers may prefer to focus on specific dive training rather than stress management techniques such as PMR.	1 In combination with the referencing of other methods, this achieves point 1.
	Marks:[8/8]

16. A swim relay coach must select four swimmers from a squad of seven to compete at a gala. Analyse the role that Tuckman's model of group formation could have in helping the coach choose the best team.

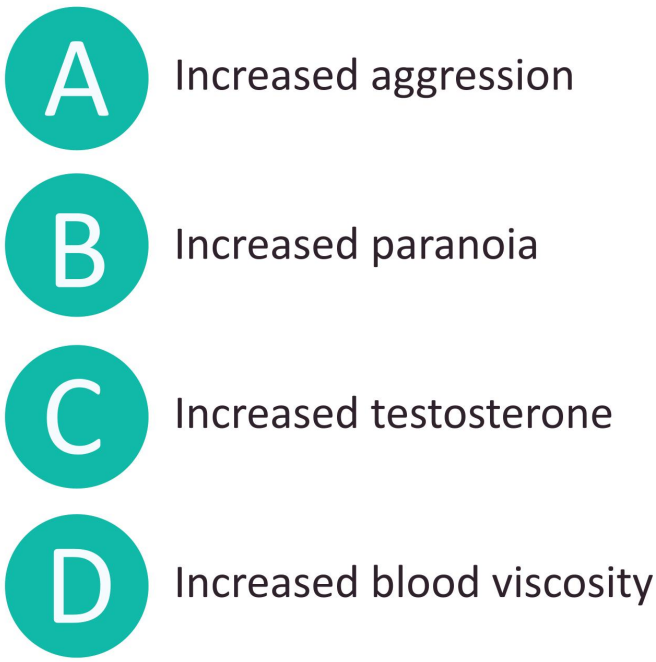
1 Tuckman's model is forming, storming, norming and performing. 2 Forming is a first - stage of group formation and a temporary 3 stage where bonding occurs. A coach can observe how the seven swimmers are connecting in the early stages of being selected. They will be finding out about each other and whether they fit in. 4 They could be focussing on connection during relay change overs by looking at the strengths of the individual compared to the strengths of the whole team. An impact of the observations is 4 that judgements can be made and combinations for each leg applied in the training environment to capitalise on strengths. 5 Storming is when potential conflict occurs when others compete 6 for position of status in the team. The coach can use combinations that rely on leadership and decision - making. The conflict may be unpleasant by the squad but allow the coach to 7 see emerging leaders or optimal performers in certain combinations. Norming follows after and 8 conflict is resolved and agreement emerges so group standards are fully accepted. Once again, the 9 coach must see and hear the agreements and establishment of common goals. As a result, the swim team will appear more settled and selection can take place which 10 does not contain any cliques or potential underperformance. The final stage is performing. The team will be 11 working towards a common goal 12 based on optimal cooperation and cohesion with 13 the highest potential to swim well together with minimal errors to 14 achieve the fastest time. Occasionally, 15 mourning can occur when goals have been achieved and the squad disbands.	⑮ Fantastic point but not featured on this specific mark scheme.
	Marks:[15/15]

Section C : Sport and Society and The Role of Technology

17. Look at the image closely.
Which of the following is the correct description of subjective data?

Option A - Feelings and opinions.	No comments provided.
	Marks:[1/1]

18. Look at the image closely.
Which of the following is a side effect of an athlete taking EPO?



Option D - Increased blood viscosity.	No comments provided.
	Marks:[1/1]

19. National governing bodies (NGBs) invest money into deprived areas to increase participation in sport and physical activity.
State **three** other functions of NGBs.

1 - Target underrepresentation in sport. 2 - Establish talent pathways for young athletes. 3 - Work with regional development officers to drive policy and products to all communities.	No comments provided.
	Marks:[3/3]

20. Define positive deviance.

Behaviour outside the norm but with no intent to harm or break the rules.	No comments provided.
	Marks:[1/1]

21. Give **three** examples of positive deviance in relation to a performer in sport.

1 - Continuing to play through injury. 2 - Overtraining. 3 - Causing injury without the intent to do so.	No comments provided.
	Marks:[3/3]

22. A television match official is a common feature of elite rugby.
Evaluate the use of the technology on a **spectator** in rugby.

One advantage is that the spectator will experience less frustration as the TMO leads to all decisions being correct in line with the rules. In addition, the spectator may experience more enjoyment by having the ability to see a play in slow motion on the big screens. However, the spectator's positive experience can be reduced if they feel a sense of boredom when the play stops during a decision review.	No comments provided.
	Marks:[3/3]

Elite long jumpers are explosive athletes.

23. Evaluate the use of anabolic steroids to maximise jumping performance.
Refer to muscle fibres in your answer.

Anabolic steroids are artificial testosterone. Type IIx muscle fibres are recruited in the long jump. Type IIx muscle fibres are characterised by high levels of glycogen and PCr. They also produce a high force of contraction. Long jump is an anaerobic event occurring at a high - intensity over a very short duration. Increased muscular force is needed on the run - up to be able to reach maximum speed before taking off. The high PCr stores means that an immediate energy source is available through the alactic energy system. Anabolic steroids promote muscle growth, leading to a long jumper experiencing Type IIx hypertrophy. This would lead to an increased power on the take - off to increase momentum and maximal horizontal distance. A steroid can also lead to the athlete training at a higher intensity for longer, with quicker recovery. For example, they could complete additional sets of plyometric training, leading to a further increase in power for a faster sprint on the run - up. However, anabolic steroids are well documented for various physiological side effects, such as heart failure and decreased fertility. Anabolic steroids are also proven to lead to psychological problems such as paranoia and increased aggression, which will alter the athlete's approach to training and competition. The jumper is likely to be over aroused and to execute 'no jumps'. Finally, drugs are an illegal performance enhancement which can lead to bans, fines or loss of profitable sponsorship deals.	No comments provided.
	Marks:[8/8]

24. Technology is used to modernise sporting equipment and facilities.
Evaluate the impact of hi-tech equipment **and** facilities on sport **performers**.

MUGA and artificial grass surfaces are examples of modern facilities developed across the UK from the iconic facilities initiative following the 2012 Olympics. This means that sports performers have access to one facility that covers numerous sports, for example rugby, football, cricket and athletics to name a few. A significant outcome of this is the increased access to predictable and stable training facilities without the disruption caused by the weather. It also means that leagues and competitions can continue with less disruption and performers are going to want to participate more. However, for sports like football, the facility does not reflect the true bounce of grass, leading to painful joints and ligaments. The availability of MUGAs is also overwhelmed by demand, which means that in some regions performers are missing out on the opportunity to participate and perform as they are all fully booked. The 2012 Olympics also lead to specially designed facilities such as Lee Valley whitewater centre. Performers in water - based sports

22 Opposite point made. Inverse is accepted.

24. Technology is used to modernise sporting equipment and facilities.
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such as kayaking, therefore, have increased opportunity to train in their host country and compete on the world stage. Opportunities also increased for people to experience and try water - based sports. This increases activity levels and offsets any physical or mental health problems. However, they are very expensive, which denys access to all. Likewise, for some areas of the UK, it will be too far and too expensive to travel to the facility. Assistive technology such as specially designed wheelchairs for track athletes have evolved through increased technology. Similarly, prosthetic devices and carbon flex fibre has developed more for track running. A strength of this is that athletes are able to train optimally, causing a development in Paralympic performance. Barriers to disability are further minimised as more disabled athletes are competing at a high level, feeling safe as the equipment is designed and specific to the athlete to reduce any risk of injury. However, the equipment is very expensive and may be only available to athletes at the elite level, which will widen the gap which currently exists between elite and non - elite disabled athletes. Inclusive wheelchair rugby clubs may not be able to afford the adaptive technology needed to be able to run an entire session.	
	Marks:[15/15]

END OF QUESTIONS