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National Mock Exams 2024

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Model Answers AQA A-level PE - Paper 1

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 April 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 (Tuesday, 30th of April 2024, 15:00-16:30), 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



Subject	Physical Education
Course	AQA Linear GCE PE Paper 1: Factors affecting participation in physical activity and sport
Time allowed	120 minutes

First name	
Last name	
Class	
Teacher	

Title	AQA A-level PE Paper 1 - National Mock Exam 2024
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Guidance	<ul style="list-style-type: none">• This paper is marked out of 105 marks.• You have 120 minutes (plus additional time for those who have Exam Access Arrangements).• Answer all questions.• A calculator is permitted for this exam.• This paper contains three 8-mark and three 15-mark questions.• Good luck.
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Total marks	105
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SECTION A: Applied Anatomy and Physiology

1. Which of the following is correct for the cardiac output of a **trained** individual? (HR = Heart Rate, SV = Stroke Volume)

- A** Increased SV and increased resting HR
- B** Decreased SV and Increased resting HR
- C** Decreased SV and Decreased resting HR
- D** Increased SV and decreased resting HR

Option D.

Marks: **[1]**

2. Only one of the following cardiovascular exercise responses relates to Starling's law of the heart. Which one?

- A** Increased venous return leads to increased stroke volume.
- B** Increased venous return leads to a smaller diastolic filling.
- C** Decreased venous return leads to a decreased stroke volume.
- D** Decreased venous return leads to a decreased ejection fraction.

Option A.

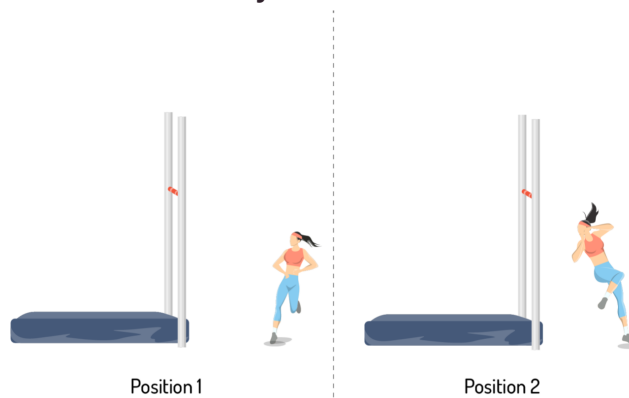
Marks: **[1]**

3. Describe the process of measuring respiratory exchange ratio (RER) of energy expenditure.

RER is the volume of carbon dioxide expired per minute divided by oxygen consumed per minute. It uses indirect calorimetry to estimate which fuel source is being used by an athlete during exercise in order to determine whether respiration is aerobic or anaerobic. If the RER is close to one, the fuel source are carbohydrates. However, a RER close to 0.7 suggests fats are being utilised.

Marks: **[3]**

4. The image shows a high jump take-off. Complete the table for the **ankle** joint as the athlete moves from position 1 to 2.



Joint	Type of joint	Antagonist	Plane of movement	Axis of rotation
Ankle	A	B	C	D

- A: Hinge joint
- B: Tibialis anterior
- C: Sagittal plane
- D: Transverse axis

Marks: **[4]**

5. Analyse the functional characteristics of type IIx muscles fibres and their importance to a football player.



Type IIx muscle fibres provide high contraction speed to allow a footballer to jump high and head the ball. These muscle fibres also provide a high force of contraction to allow the footballer to sprint quickly and powerfully to recover the ball after losing possession. Lastly, type IIx muscle fibres recover relatively quickly from exhaustion, so the footballer can continually attack and defend at sufficient intensity for 90 minutes.

Marks: **[3]**

6. Analyse the transportation of oxygen during a marathon race. Refer to the following in your answer:

- Haemoglobin
- Myoglobin
- Oxyhaemoglobin dissociation curve
- Bohr shift



Haemoglobin is found in red blood cells and plays a part in the transportation of oxygen during a marathon race. Haemoglobin combines with oxygen to form oxyhaemoglobin.

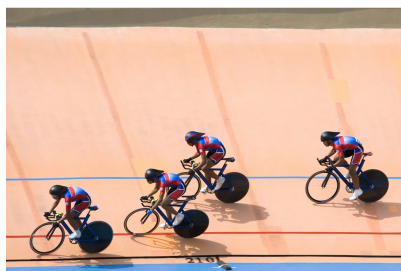
During a marathon, partial pressure at the lungs is high, leading to full saturation of oxyhaemoglobin. At the working muscles, partial pressure of oxygen is low, so haemoglobin offloads oxygen to oxidise glycogen and fats. Myoglobin is often referred to as muscle haemoglobin. It has a higher affinity to oxygen than haemoglobin and acts as an additional oxygen store in the muscles during a marathon race.

This can then be released to the working muscles and used when the runner is low on oxygen in order to extend aerobic respiration. The oxyhaemoglobin dissociation curve shows the relationship between partial pressure and how the blood transports and releases oxygen. The Bohr shift is when the oxyhaemoglobin dissociation curve shifts to the right on a graph. The Bohr shift is caused by a lower muscle pH level due to the presence of increased carbon dioxide. This is a product of aerobic respiration. The impact is an increased dissociation of oxygen to the working muscles. Therefore, greater quantities of oxygen is delivered to the mitochondria and the runner is able to work at a higher aerobic intensity.

Marks: **[8]**

7. Analyse the contribution of anaerobic energy systems to the performance of a track cyclist.

Refer to the use of a warm-up **and** passive stretching to prevent injury.



The ATP-PC system will be used by a track cyclist. This system involves the breakdown of phosphocreatine (PC) caused by the release of creatine kinase, resulting in energy release. This energy is used to resynthesise ATP. The ATP-PC system provides energy for high-intensity activities lasting up to 10 seconds. For the cyclist, the use of this energy system is useful at the start of the race to get ahead of their opponents by pedalling powerfully. There are no fatiguing by-products, so pedalling efficiency is not interrupted. It also provides fast muscle phosphagen recovery so that the system can be used in a sprint to the finish line. However, there are limited PC stores, so the system can only make a short contribution to the track race. Therefore, the glycolytic system is predominant. The glycolytic system is used during high-intensity activity after the first 10 seconds of activity. Anaerobic glycolysis includes the breakdown of glycogen and glucose to pyruvic acid and pyruvate. The glycolytic system produces more ATP than the ATP-PC system and, therefore, is effective for the remainder of a track cycling race. The cyclist may be in a team or individual event and equally take part in different types of track cycling races. Some of these events involve power and speed, so the glycolytic system will be useful, as it's used for high-intensity activities (whereas other events require greater endurance). As the glycolytic system does not produce as much ATP as the aerobic system, the aerobic system would be used for these endurance events. The lactic acid produced as part of the glycolytic system will also be detrimental to the cyclist performance and prevent the cyclist competing effectively over prolonged periods.

Passive stretching is stretching that occurs with the help of an external force, such as a partner or leaning on a wall. These types of stretches are important due to the high intensity of cycling events to make sure the performer does not suffer sprains and strains. Passive stretching can help team dynamics, as you are working with a partner. They will help to increase elasticity of the muscles to be used in the cycling events and allow the athlete a period of time to mentally rehearse whilst stretching. Passive stretching can be used as one phase of a larger warm-up. By warming up, it will increase the temperature of the muscles and increase the production of synovial fluid to ensure joints move efficiently.

Marks: **[15]**

SECTION B: Skill Acquisition

8. According to Vygotsky, which of the following three parameters are correct to construct learning?



"What can I do with help?"
"What can I do now?"
"What can I not do yet?"



"What can I do alone?"
"What can I do on my own?"
"What can I wait to do?"



"What can I do alone?"
"What can I do with help?"
"What can I not do yet?"



"What can I do alone?"
"What can I do with help?"
"What can I wait to do?"

Option C

Marks: **[1]**

9. A badminton player takes up tennis but finds that their wrist action is problematic in the tennis serve because they are hitting it "like they do in badminton".

Which type of transfer is occurring?

- A Bilateral transfer
- B Positive transfer
- C Negative transfer
- D Zero transfer

C - This is an example of negative transfer.

Marks: **[1]**

10. Describe **three** characteristics of the **autonomous** stage of learning.

Characteristic 1: The actions of an autonomous learner are fluent and efficient.

Characteristic 2: They have a fully developed motor programme.

Characteristic 3: Autonomous learners are often elite athletes.

Marks: **[3]**

11. Define choice reaction time. Give a sporting example.

Definition: Choice reaction time is the time taken between a stimulus and an action which requires choice.

Sporting example: For example, when a fly half in rugby receives the ball from a scrum half, they have to choose to run, pass or sidestep, depending on the position of others.

Marks: **[2]**

12. Explain how proprioception is used in the input stage of information processing.

Proprioception is used mainly in the kinaesthesia sense to provide information through input about the position of the body. This will be achieved by receptors detecting change in muscle tension to inform the perceptual mechanisms for a decision to be processed.

Proprioception works closely with other senses such as touch and balance so skills can be developed accurately.

Marks: **[2]**

13. Look at the image of a basketball lay-up shot. Evaluate the use of **chaining** as a strategy to improve information processing of the lay-up skill.



Chaining is useful for learning the lay-up shot, as the lay-up is a serial skill and this type of skill is usually learned effectively through chaining. For example, the step part of the lay-up shot can be taught prior to teaching the jump and shot execution part, which helps understanding. However, if the first subroutine is incorrect, it can lead to the whole skill being performed incorrectly. Therefore, it could be argued that the lay-up shot can be taught as effectively as a whole.

Marks: **[3]**

14. Analyse the use of knowledge of performance **and** knowledge of results for a swimmer training to develop their dive at the start of a race.



Knowledge of performance and knowledge of results usually come in the form of extrinsic feedback. However, if the learner is at the autonomous stage of learning, they can be a form of intrinsic feedback. Knowledge of performance is where the performer gets feedback from the execution of the skill. For example, a diving coach could give feedback about the diver's entry into the water. The coach could use video analysis of the dive technique as a way of feeding back using knowledge of performance. The impact of knowledge of performance is that the swimmer gets detailed feedback about their technique and regular use of knowledge of performance will develop the motor programme and strengthen the S-R bond. Knowledge of results is feedback about the outcome of a skill. For example, the coach could refer to the reaction time taken to initiate the dive and the effect this has on the outcome of the start of the race. The coach could use a stopwatch as a way of using knowledge of results. This results-driven feedback will give the diver tangible evidence to make adjustments in developing the skill. Knowledge of results is also useful to store the motor programmes for technique leading to good results in the long-term memory.

Marks: [8]

15. Review the image of a vault in gymnastics.

Evaluate the suitability of the different methods of presenting practice for this performance.



There are a variety of different ways to present practice for vaulting. One method is through whole practice. This is where the vault is practised as one whole skill, so the run-up, take-off and landing would all be practised together. Using whole practice will allow the vaulter to understand the whole skill and refine the fluency of it. It would, therefore, be a suitable method for an autonomous gymnast, as they can cope with performing the skill as a whole. The vault would also be performed in this way in competition, so it gives the gymnast a chance to practise in competitive conditions. However, a gymnast who is at the cognitive stage of learning would not be able to cope with performing the full skill and would need it to be broken down. Performing it as a whole may lead to a loss of confidence and motivation, as they can't access the skill as a whole. Whole-part-whole practice is when the skill is performed as whole initially, in order to identify weaknesses in technique. The weaknesses are then practised in isolation before going back to performing the whole skill again. For example, the gymnast may watch a video analysis of their technique and pick up that one part of the skill is weaker than another. This might be that the run up is too slow, or their hand placement on the vault is incorrect. Whole-part-whole is, therefore, an effective method for developing a weak element of a whole skill. This can increase motivation and self-efficacy, as the gymnast will see this part of the skill improve and when it's put back into the full skill, will see an overall improvement. However, the whole-part-whole method can be time-consuming and boring for the performer. Focusing on only one element of the skill can also lead to other parts of the skill deteriorating due to lack of practice.

Progressive part practice is learning the first part of a skill and then adding each subsequent part of the skill. For the vault, the gymnast would practise the run-up first, then the take-off on the springboard, followed by the vault itself, followed by the landing. These parts would then be added together. This type of practice is effective for learning the vault, as it's a serial skill. This means each subroutine can be isolated and made the focus of each training session and the vaulter can master each subroutine in isolation. Learning a skill like vaulting is potentially dangerous, so learning the skill gradually is beneficial for the performer's confidence and safety. However, this is also a time-consuming method and can lead to boredom. The links between each element of the skill can also be missed, so this will negatively affect the fluency of the overall skill and the kinaesthesia experienced by the vaulter.

SECTION C: Sport and Society

16. Which of the following is a local partner with Sport England?

- A** Active Partnerships
- B** Activity Alliance
- C** Street Games
- D** Women in Sport

Option A - Active Partnerships

Marks: **[1]**

17. Which of the following is a correct description of secondary socialisation?

- A** Conforming to culturally defined gender roles
- B** Socialisation through the influence of peer groups and school
- C** Learning of values and attitudes that are incorporated within yourself
- D** Socialisation through the influence of immediate family

Option B

Marks: **[1]**

18. State **three** characteristics of sport and society in pre-1780 Britain.

Characteristic 1: No rules

Characteristic 2: Sport was often violent and cruel

Characteristic 3: Sporting events were infrequent

Marks: **[3]**

19. Explain how public schools helped rationalise track-and-field athletics between 1870 and 1900.

The public schools led to the development of NGBs such as the AAA, so rules for track and field events were codified. As part of setting up NGBs, the boys from their public schools established leagues and competitions so the rules and regulations could be adhered to for all those participating. The Wenlock Society were inspired by the developments in track and field and established the first Wenlock Games to promote physical and intellectual development.

Marks: **[3]**

20. Define what is meant by the term the golden triangle in the study of PE.

The link between sports events, sponsorship by business and the media.

Marks: **[1]**

21. Evaluate the impact of social media on elite track-and-field athletes.

Elite track-and-field athletes can use social media to raise their profile and attract sponsorship, which can result in greater financial security. Social media can also elevate the athlete to role-model status. This can inspire greater participation and allow the athlete to positively influence others. However, social media can leave the athlete open to abusive messages and this can have a detrimental effect on their mental health.

Marks: **[3]**

22. Evaluate the effects of social stratification on a young netball player aspiring to join an elite talent pathway.

Social stratification is the division of society associated to social characteristics such as wealth or status. Social inequalities will most likely be defined by the athletes' social class. For example, certain groups have more access to wealth, income and power than others. Factors which might contribute to social class include employment, background, education and income. If the young netball player has wealthy parents, she may have attended a private school with greater access to high-profile netball coaches, better training facilities, a higher standard and regular competition. She would also have had a greater opportunity to have been talent-spotted at these higher standard competitions. Not only would her netball have improved with better training sessions, but her private school might have offered her better access to strength and conditioning coaches, giving her another advantage in the selection process. If the young netballer's parents were wealthy and had more disposable income, she would have more access to netball camps, whereas if her parents didn't have as much money, she might miss out on the best equipment and clothing. Often, lower-class families value working over sport and training. In these cases, there might be less time and money to drive to all the training, competitions and training camps, leading to young athletes missing out on further opportunities leading to elite talent pathways.

Marks: **[8]**

23. It was reported by the BBC in 2023 that four in 12 football coaches in the Women's Super League (WSL) are female.

Analyse the representation of female coaches in the WSL. Refer to strategies for breaking down barriers in elite female football in your answer.

Four out of 12 football coaches is a low statistic. This may be low for a number of reasons. One reason for this is negative self-image, where women think they are unable to coach in a traditionally male-dominated sport, or a lack of self-confidence to pursue coaching in a perceived male role. However, there are numerous strategies trying to change and improve the low statistics of women in football coaching, such as the Sex Discrimination Act, making discrimination unlawful. Elite football clubs are fully aware of this and see it as their responsibility to use football to tackle gender discrimination. Another reason for the low number of women in football coaching is the lack of access to a coaching pathway. There are numerous FA campaigns to promote female coaches and officials. The FA want to create equal participation between boys and girls in 2024 and this has led to a greater social acceptance of women pursuing careers in football. Low levels of media coverage of successful female coaches and fewer role models in an elite coaching capacity also contribute to few female coaches. Coaches and role models such as Emma Hayes and Sarina Wiegman have proved really successful at higher levels, breaking stereotypes and paving new ways for female coaches. Lack of funding in women's football and less commercialisation in the Women's Super League is another big contributor to a lack of coaches that are female. Additionally, fewer sponsorship opportunities for women in sport can impact affordability of the role. One strategy trying to support more women into coaching is to improve childcare provision, which can create more time for females, allowing them to access more coaching qualifications and not worry about the time or cost of childcare. Coaching qualifications are now more flexible, with virtual coaching options and females can access and balance the qualifications with existing commitments.

Additionally, increased media coverage of the WSL has led to more role models being promoted in football and, following the huge success of the Lionesses in the Euros and World cup, greater capacity is being created for females on the world stage under a female coach. It may be seen that there is a negative impact of school PE programmes and not promoting the coaching route in football for girls. Furthermore, it might be the case that schools and social pressures channel female coaches into certain female sports, such as netball. Specialist organisations such as Women in Sport and the Youth Sport Trust have placed a lot of emphasis on supporting female participation in all areas of sport, and campaigns such as This Girl Can are helping to further break down old-fashioned stereotypes, helping to increase female participation in both playing and coaching. In recent years, we have already seen an increase in the number of professional female footballers. Therefore, the likelihood is that this will evolve into an increase in women going into coaching roles at the end of their footballing career. The more female coaches are being trained the more momentum will be built for other females to follow. These strategies are driving the positive change in female football coaching numbers.

Marks: **[15]**

END OF PAPER