



The EverLearner

National Mock Exams 2025

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Mark Scheme

CIE AS Level Sport & Physical Education

Please read before distributing to students.

Purpose of this document

This document and the associated question paper are based on the data analysis performed by The EverLearner Ltd and published within the 2025 infographics. Please, note the following:

- We believe this mark scheme has a very strong association with previous CIE AS Level Sport & Physical Education exams in relation to command terms, skills, AO distribution, extended writing requirements and topics.
- However, this is categorically NOT a mark scheme for a predicted paper. No one can accurately predict an exam paper and we make no claim to this end.
- It is vital that you only use this document internally in your school/college. Publishing the document online or sharing it in any other way is strictly prohibited, as this will undermine the potential educational experiences of students in other schools/colleges.
- Finally, please make sure you attend the associated revision session in May.

This mark scheme contains:

- Copy of each question for reference
- Marking guidance where appropriate
- Marking points containing alternative acceptable responses plus relevant assessment objective

How should schools use this mark scheme?

The mark scheme has been constructed specifically for the exam paper used in The EverLearner's National Mock Exams from 2025. Many of these questions will be discussed in the live revision show provided by James Simms on Friday 9th of May 2025 at 11:00 BST (available to all subscribing schools live and on demand; a shorter version for non-subscribers will be available on YouTube after the live session).

The paper is available to be set, answered and marked online via [ExamSimulator](#). [ExamSimulator](#) is a premium resource available via [TheEverLearner.com](#) and provides immediate diagnostics of student writing performance after every exam answer. [Get in touch with us](#) to start a free trial.

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

James Simms



Subject	Physical Education
Course	CIE AS CIE AS Sport and Physical Education (8386)
Time allowed	1 hour 45 minutes

Title	CIE AS Sport and Physical Education NME 2025
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Guidance	<ul style="list-style-type: none">• This paper is marked out of 70 marks.• You have 1 hour and 45 minutes (plus additional time for those who have Exam Access Arrangements).• Answer all questions.• If the timer reaches zero prior to you submitting your paper, the software will automatically submit your responses.• Good luck!
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Total marks	70
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1. The image shows the heart rate of a performer during a training run.
Describe what is occurring at point B and explain how this benefits the performer.

Marking guidance

Award up to two marks for outlining anticipatory rise and up to two marks for providing two explanations of impact on performance.

Marking points (maximum 4)

- (1) [AO 1] B is an anticipatory rise/Anticipatory rise
- (2) [AO 1] Caused by a release of adrenaline/Adrenaline acting on the heart
- (3) [AO 1] Increased oxygen delivery to the working muscles/More oxygen available for the working muscles
- (4) [AO 1] Less lactic acid produced at the start of the performance/Less anaerobic work at the start
- (5) [AO 1] Reduced oxygen deficit/Athlete may not experience oxygen deficit
- (6) [AO 1] Reach steady state sooner/Able to move into the aerobic training zone more quickly
- (7) [AO 1] Post-exercise recovery occurs faster

2. Calculate the maximal potential cardiac output for a 20-year-old athlete with a maximal stroke volume of 160ml of blood.

Marking guidance

Do not award the mark if there are no units. Accept l per min or ml per min with the appropriate answer.

Marking points (maximum 2)

- (1) [AO 1] $\text{MaxHR} = 220 - \text{age}$ / $\text{MaxHR} = 220 - 20$ / $\text{MaxHR} = 200$
- (2) [AO 2] $\text{Maximal cardiac output} = \text{Maximal heart rate} \times \text{Maximal stroke volume}$ / $\text{Maximal cardiac output} = 200 \times 160$ / $\text{Maximal cardiac output} = 32\text{l per minute}$

3. Explain how gaseous exchange at the alveoli changes during a long rally in badminton.

Marking points (maximum 4)

- (1) [AO 2] During exercise, the partial pressure of CO_2 in the blood at the alveoli is greater than at rest
- (2) [AO 2] During exercise, the partial pressure of O_2 in the blood at the alveoli is lower than at rest
- (3) [AO 2] Greater concentration gradient compared to rest
- (4) [AO 2] More O_2 diffuses into the blood/More O_2 diffuses into the alveoli
- (5) [AO 2] Oxyhaemoglobin curve shifts to the right/Dissociation curve shifts right/Bohr shift to the right
- (6) [AO 2] O_2 associates with haemoglobin more readily/Haemoglobin is saturated with O_2
- (7) [AO 2] More aerobic respiration takes place in the muscle cell/Mitochondria receives more O_2

4. The image shows a spirometer trace. Identify the names of the missing volumes labelled A, B and C.

Marking points (maximum 3)

- (1) [AO 2] A is tidal volume
- (2) [AO 2] B is inspiratory reserve volume
- (3) [AO 2] C is expiratory reserve volume

5. The image shows a long jumper taking off from the board.
Complete the table to describe the action at the ankle.
Ensure your responses are correctly linked to the relevant letter in your answer.

Marking guidance

Mark the first answer for each letter/space only.

Only accept answers correctly linked to the relevant letter. For example, do not accept 'A is plantar flexion.'

Accept either 'plantar flexion' or 'plantarflexion' for B but guide students to use the correct format 'plantar flexion'. For reference, the correct format of the opposing movement is 'dorsiflexion'.

Marking points (maximum 3)

- (1) [AO 1] A is hinge
- (2) [AO 1] B is plantar flexion
- (3) [AO 1] C is gastrocnemius

6. Compare the joint stability of a ball-and-socket joint and a hinge joint.

Marking points (maximum 4)

- (1) [AO 1] Ball-and-socket joint allows flexion, extension, abduction and adduction
- (2) [AO 1] Hinge joint only allows flexion and extension
- (3) [AO 1] The more movement a joint allows the less stable it is
- (4) [AO 1] Hinge joint is more stable, as it allows less movement/Ball-and-socket joint is less stable, as it allows a greater range of movement

7. Describe the structure **and** function of the muscle fibres predominant in a marathon race.

Marking guidance

Award up to two marks for structure and up to two marks for function. No mark is awarded by naming the slow oxidative fibre as the predominant fibre.

Marking points (maximum 4)

- (1) [AO 1] Function: Low force production
- (2) [AO 1] Function: Low speed of contraction
- (3) [AO 1] Function: Low fatiguability
- (4) [AO 1] Function: High aerobic capacity
- (5) [AO 1] Function: High aerobic capacity/Low anaerobic capacity
- (6) [AO 1] Structure: Small muscle fibre diameter
- (7) [AO 1] Structure: Small motor neurone size
- (8) [AO 1] Structure: Red in colour
- (9) [AO 1] Structure: High mitochondrial density/High mitochondrial content
- (10) [AO 1] Structure: High capillary density
- (11) [AO 1] Structure: Low myosin ATPase
- (12) [AO 1] Structure: Low PC stores

8. Explain how **gravitational force** affects the following performances:

A track cyclist

A golf ball being lifted

Marking points (maximum 2)

- (1) [AO 2] Keeps the cyclist and their bicycle in contact with the ground
- (2) [AO 2] Pulls the ball back down towards the ground

9. Using a sporting example, describe the conservation of angular momentum.

Marking points (maximum 4)

(1) [AO 1] Angular momentum of a high diver remains constant during flight/Angular momentum of a skater rotating on ice remains constant during the rotation

(2) [AO 1] Angular velocity can be changed during a high diver's flight/Angular velocity of a skater can be changed while they spin

(3) [AO 1] By bringing the body into a tucked position and reducing moment of inertia during the dive/By bringing the arms and legs towards the longitudinal axis during a skater's spin to decrease moment of inertia

(4) [AO 1] So, whilst angular momentum remains constant, the aesthetic of the dive can be manipulated/Aesthetic of the spin can be manipulated

10. Describe the nature of motor programmes.

Marking points (maximum 3)

- (1) [AO 1] Generalised store of movement pattern
- (2) [AO 1] Made up of subroutines
- (3) [AO 1] Effector mechanisms are nerve impulses and muscle contractions
- (4) [AO 1] Subroutines completed in a specific order

11. Identify **two types of feedback and explain why **both** are important for a beginner in gymnastics.**

Marking guidance

Do not accept 'concurrent', as a beginner is unlikely to use concurrent feedback until the skill is well learned. Do not accept intrinsic due to the nature of a beginner lacking the knowledge of kinaesthesia.

Marking points (maximum 4)

- (1) [AO 1] Extrinsic feedback
- (2) [AO 2] Verbal, external coaching instructions help the beginner to use the correct techniques/Extrinsic coaching can help to correct errors
- (3) [AO 1] Terminal feedback
- (4) [AO 2] Feedback takes place after the skill is completed due to fast nature of the skill/Slow processing time for a beginner, feedback is most effective after the skill is completed
- (5) [AO 1] Knowledge of performance
- (6) [AO 2] Beginners benefit motivationally from feedback on performance as this is within their control
- (7) [AO 1] Knowledge of results
- (8) [AO 2] Feedback about the overall quality of a skill such as a coach awarding a score or even praising the outcome

12. Analyse the role of choice and simple reactions for a sprint relay team.

Marking points (maximum 3)

- (1) [AO 1] Choice reactions happen when there are numerous possible alternative responses to a stimulus
- (2) [AO 2] Choice reactions occur when a sprinter needs to choose when to set off as their teammate approaches
- (3) [AO 1] In simple reactions there is only one possible response to a stimulus
- (4) [AO 2] Simple reactions occur when the sprinter on the first leg responds to the gun

13. Negative reinforcement and punishment both play a role in operant conditioning.

Using an example for each, explain why a coach may decide to use both negative reinforcement and punishment.

Marking guidance

Accept other suitable explanations.

Marking points (maximum 6)

- (1) [AO 1] Negative reinforcement is when a coach stops shouting at a player when the performer does something well
- (2) [AO 2] Negative reinforcement increases the likelihood of a correct response being repeated
- (3) [AO 2] Negative reinforcement is the removal of an adverse stimulus
- (4) [AO 2] Negative reinforcement strengthens the stimulus-response bond
- (5) [AO 1] Punishment is when a red card is given for committing a bad foul in football/Court violation for smashing a racket on the ground/Laps for poor effort
- (6) [AO 2] Punishment weakens the stimulus-response bond
- (7) [AO 2] Punishment is associated with an unpleasant stimulus

14. Evaluate the effectiveness of both types of motivation for an elite performer.

Marking points (maximum 6)

- (1) [AO 2] Negative of extrinsic is that the performer becomes reliant on it/Performers learn to need praise
- (2) [AO 2] Positive of extrinsic rewards is that they can increase the sense of pride/Extrinsic make athletes feel good/Coach's praise increases self-satisfaction
- (3) [AO 2] Negative is that elite performers don't all respond well to praise or rewards/Elite performers prefer feedback to rewards
- (4) [AO 2] Positive of extrinsic is they are easy to achieve
- (5) [AO 2] Positive of intrinsic is that it persists longer-term
- (6) [AO 2] Negative of intrinsic is that it is harder to control by the coach
- (7) [AO 2] Intrinsic is good because it is generally more effective than extrinsic/Intrinsic is more effective/Intrinsic must be present, otherwise extrinsic won't work
- (8) [AO 2] Extrinsic rewards most beneficial as tangible rewards in the form of certificates/Money/Trophies
- (9) [AO 2] Intangible, extrinsic rewards can also motivate elite athletes building feel-good factor and confidence

15. The number of athletes competing in the Olympics was over 10,000, many of whom came through different pathways to excellence.

Use the bar chart to calculate the difference between the percentage of females who attended specialist sports schools and the percentage of females who were selected through a talent identification programme.

Marking points (**maximum 1**)

(1) [AO 1] 10 per cent/10%/10

16. Describe **three** similarities and **three** differences between the concepts of physical education and sport.

Marking points (**maximum 6**)

(1) [AO 1] Similarity: Values of fair play

(2) [AO 1] Similarity: Develop health and fitness

(3) [AO 1] Similarity: Skill development

(4) [AO 1] Similarity: Develop social skills and teamwork

(5) [AO 1] Similarity: Give confidence

(6) [AO 1] Similarity: Shared cultural background/19th-century history

(7) [AO 1] Similarity: Both scheduled

(8) [AO 1] Difference: Level of competitiveness

(9) [AO 1] Difference: Different timings/Sport is normally at weekends/PE during weekdays

(10) [AO 1] Difference: Sport is optional but PE is compulsory

(11) [AO 1] Difference: PE aims to develop a wider skill set than sport

(12) [AO 1] Difference: Sport is coach-led but PE is teacher-led

(13) [AO 1] Difference: Sport has more extrinsic rewards

(14) [AO 1] Difference: Different NGBs

(15) [AO 1] Difference: PE is always institutional

17.Describe **three** different examples of how technology can be used in athletics.

Marking guidance

Accept other suitable descriptions.

Marking points (maximum 3)

- (1) [AO 1] Equipment: Starting block force plates to measure reaction time to the gun for sprint starts
- (2) [AO 1] Clothing: Compression wear to reduce drag/Compression wear to increase venous return
- (3) [AO 1] Footwear: Running shoes to improve foot strike power
- (4) [AO 1] Cameras: Photo finish to improve accuracy of results
- (5) [AO 1] Software: Biomechanical analysis to improve technique

18.Identify **two** factors leading to the commercialisation of sport.

Marking points (maximum 2)

- (1) [AO 1] Growth in media interest
- (2) [AO 1] Growth in public interest/Spectatorism
- (3) [AO 1] Professionalism
- (4) [AO 1] Advertising
- (5) [AO 1] Sponsorship

19.Describe **two** forms of competition manipulation that a tennis player might use.

Marking points (maximum 2)

- (1) [AO 1] Betting on their own match
- (2) [AO 1] Match-fixing/Tanking
- (3) [AO 1] Spot-fixing

20. A rugby player throws an uppercut punch during a scrummage. Explain the consequences of violence for the performer **and** the sport.

Marking guidance

Accept other suitable examples. Award max. two marks for the performer. Award max. two marks for the sport.

Marking points (maximum 4)

- (1) [AO 2] Performer: Suspension preventing them from playing, leading to potentially being dropped for future games/Fined for violent conduct
- (2) [AO 2] Performer: Loss of reputation, leading to lack of role-model status
- (3) [AO 2] Performer: Loss of sponsorship leading to lower income/Fewer monetary opportunities
- (4) [AO 2] Performer: Negative media image affecting future job opportunities
- (5) [AO 2] Sport: Develops a bad reputation affecting participation numbers/Viewing figures
- (6) [AO 2] Sport: Media rights sell for lower figures, leading to a drop in funding for grassroots level
- (7) [AO 2] Sport: Lack of positive role models can reduce participation uptake