



The EverLearner

National Mock Exams 2023

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Mark Scheme

IGCSE PE Paper

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 2023 infographics. We are confident that:

- We believe this mark scheme has a very strong association with the actual external exam in 2023 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 potentially educational experiences of students in other schools/colleges.
- Finally, please check the publication dates of the model answers for this paper as well as the associated revision sessions 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 2023. The model answers will be available on the 28th April and some of these questions will be discussed in the live revision show provided by James Simms (Tuesday 2nd May, 16:00-17:30 on [youtube.com/TheEverLearner](https://www.youtube.com/TheEverLearner)).

All questions/mark schemes are available on ExamSimulator. Please note, there are hundreds of additional questions and mark schemes on ExamSimulator covering the IGCSE PE topics and skills. Within the platform, the teacher is assisted with the marking and full diagnostic feedback is also provided. ExamSimulator is a premium resource available via TheEverLearner.com.

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

James Simms



Subject	
Course	IGCSE PE 9-1
Time allowed	1 hour 45 minutes

Title	IGCSE PE 9-1 National Mock Exam 2023
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Guidance	<ul style="list-style-type: none">• This paper is marked out of 100 marks.• You have 105 minutes (plus additional time for those who have Exam Access Arrangements).• Answer all questions.• A calculator is permitted for this exam.• Good luck.
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Total marks	100
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1. State **two** by-products of **aerobic** respiration.
-

Marking guidance

Do not accept any reference to lactic acid.

Do not accept any reference to carbon monoxide.

Do not accept any reference to carbon alone.

Please note that in both GCSE biology and chemistry, teaching refers to water and carbon dioxide as "products" of aerobic respiration. In PE, we tend to refer to them as "by-products". You may wish to discuss this with your students.

Marking points (maximum 2)

(1) [AO 1] Carbon dioxide/CO₂

(2) [AO 1] Water/H₂O

2. Describe the function of carbohydrates **and** protein in a balanced diet.
-

Marking points (maximum 2)

(1) [AO 1] Carbohydrates are the main source of energy/Energy source/Energy

(2) [AO 1] Proteins help muscle tissue to grow/Growth/Adaptation process

3. Identify **two** locations in the body where glycogen is stored.
-

Marking guidance

Students may like to be taught that the largest store of glycogen is in the liver. Muscle glycogen stores are relatively small.

Marking points (maximum 2)

(1) [AO 1] Muscle

(2) [AO 1] Liver

4. Compare the energy needs of a teenager in Year 10 of secondary school with a young child attending primary school in Year 2.
-

Marking points (maximum 2)

- (1) [AO 2] Teenagers tend to consume more calories than young children
- (2) [AO 2] Teenagers tend to have a larger body than younger children
- (3) [AO 2] Teenagers tend to be more active than younger children

5. Describe the typical characteristics of **two** different personality types.
-

Marking guidance

Sub max two marks for naming the personality type.
Sub max two marks for a correctly linked characteristic.

Marking points (maximum 4)

- (1) [AO 1] Introvert
- (2) [AO 2] Tends to be shy/Quiet in social scenarios/Not overly sociable
- (3) [AO 2] Tends to be thoughtful/A deep thinker/Cognitive
- (4) [AO 2] Tends to enjoy being on their own/Tends to be solitary/Enjoys alone time
- (5) [AO 1] Extrovert
- (6) [AO 2] Enjoys interactions with others/Tends to be sociable/Aroused by others
- (7) [AO 2] Tends to be enthusiastic with lots of obvious energy/Tends to be talkative/High levels of enthusiasm
- (8) [AO 2] Prone to boredom when isolated/Gets bored when alone/Needs to be stimulated by others

6. Suggest a physical activity suited to **each** of the two different personality types.
-

Marking guidance

One mark for each activity suited to an introvert and extrovert .

The answer must include a relevant sporting example.

Accept alternative examples of individual sports (or coactive) sports for introverts and team sports (or interactive) sports for extroverts.

Encourage students to realise that these are generalisations and many individuals will differ from these models.

Marking points (maximum 2)

(1) [AO 2] Introverts are more suited to Archery/Shooting/Fencing

(2) [AO 2] Extroverts are more suited to Rugby/Hockey/Football

7. Identify the type of guidance used when a netball coach gives a demonstration of an accurate pass.
-

Marking points (maximum 1)

(1) [AO 1] Visual guidance/Visual

8. Describe, using examples from a named physical activity, how **verbal** and **manual** guidance can be used.
-

Marking guidance

The learner needs to name a physical activity. The two marks for each type of guidance are broken down into

1. How the guidance is used.
2. An example of this for the physical activity named.

The examples provided in the marking points are from trampolining.

Please accept suitable examples from other physical activities.

Marking points (maximum 4)

(1) [AO 1] Verbal guidance is giving two coaching points/Instructing how to complete a skill/Coaching points

(2) [AO 2] For example instructing about leg and arm position in a straddle jump in trampolining/Providing instructions about where to land on the trampoline bed/Calling out the number of bounces in a routine

(3) [AO 1] Manual guidance is physically manipulating a performer through a movement

(4) [AO 2] For example, using a hand hold to guide a student through a somersault in trampolining/Holding the performers arms to make it clear where the finish above the head/Placing the hand on the back of the performer to emphasise the lift needed in the arm before executing a skill

9. Look at the image closely.
Identify **two** fitness components needed in a sprint start.
Describe the benefit of each fitness component to the sprinter.
-

Marking guidance

Sub max two marks for each named fitness component. Sub max two marks for a correct description of how the fitness component will benefit an athlete during a sprint start. The descriptions must be specific to sprint start, not just a sprint race.

Marking points (maximum 4)

- (1) [AO 1] Power
- (2) [AO 2] Sprint start involves fast, strong contractions to be able to push from the blocks quickly
- (3) [AO 1] Balance
- (4) [AO 2] The athlete needs to remain steady in the start position to prevent a false start
- (5) [AO 1] Coordination
- (6) [AO 2] The legs and arms of the sprinter work together when pushing from the blocks and track
- (7) [AO 1] Flexibility
- (8) [AO 2] A large range of movement at the hip helps with the leg drive away from the blocks
- (9) [AO 1] Reaction time
- (10) [AO 2] The athlete needs to respond to the stimulus of the gun to be able to get ahead of the opponents at the start of the race
- (11) [AO 1] Speed
- (12) [AO 2] The rate of movement of the arms and legs will lead to a fast acceleration

10. The image shows an athlete requiring flexibility in the hip joint. Describe how to carry out a named fitness test for flexibility.
-

Marking guidance

One mark for naming the test. Three marks for describing three key points from the test.

Marking points (maximum 4)

- (1) [AO 1] Sit-and-reach test/Sit and reach test/Sit-and-reach
- (2) [AO 1] Remove shoes/Bare feet/No shoes
- (3) [AO 1] Sit on the floor with legs straight out/Knees flat on the floor/Straight legs
- (4) [AO 1] Soles of the feet on the box/Feet against the sit-and-reach box/Feet flat against the box
- (5) [AO 1] Reach forward with one hand on top of the other/Reach forward with one hand above the other/Stretch forward with one hand on top of the other
- (6) [AO 1] Stretch as far as possible/Reach as far as possible
- (7) [AO 1] Hold for two seconds/Two seconds
- (8) [AO 1] No jerking movements/No bouncing/Not ballistic
- (9) [AO 1] Distance reached is measured/Distance measured in centimetres/Distance measured in cm

11. This is an image of a hurdler clearing a barrier.
State the type of joint at the hip.
-

Marking points (maximum 1)

(1) [AO 1] Ball-and-socket joint/Ball and socket

12. A marathon runner has chosen to use blood doping to enhance performance.
Describe the process of blood doping **and** the potential side effects for a marathon runner.
-

Marking guidance

Sub max four marks for describing the process of blood doping.

Sub max two marks for the side effects of using the blood doping process.

Marking points (maximum 6)

(1) [AO 1] Removal of blood a few weeks before competition/Blood collected weeks before competition/Blood extracted well before competition

(2) [AO 1] Blood is frozen/Kept in deep freeze

(3) [AO 1] Blood is carefully thawed/Carefully thawed out/Unfrozen

(4) [AO 1] Blood is reinjected before competition/Reinjected the day of competition/Reinjected shortly before competing

(5) [AO 2] Blood doping leads to a thickening of the blood/Increased blood viscosity/Increased blood pressure

(6) [AO 2] The marathon runner will fatigue quicker/Early fatigue/Run in a slower time

(7) [AO 2] Transfusions can cause infection for the runner/Risk of infection/Possibility of catching hepatitis

(8) [AO 2] There is a potential for heart attack/Heart attacks/Infarction

(9) [AO 2] Increased chance of embolism/Blockage of a blood vessel/Embolism

13. Describe two advantages **and** disadvantages of continuous training.

Marking guidance

Sub max of two marks for advantages and a sub max of two marks for disadvantages.

Marking points (maximum 4)

- (1) [AO 1] Specialist equipment is not necessary/Specialist equipment/Equipment
- (2) [AO 1] Ideal for a beginner/Beginner
- (3) [AO 1] Ideal for someone training on their own/Training on their own
- (4) [AO 1] Develops aerobic fitness/Aerobic fitness
- (5) [AO 1] Not suitable to teams/Not suitable to groups
- (6) [AO 1] Can be tedious/Tedious
- (7) [AO 1] Does not develop anaerobic fitness/Anaerobic fitness

14. This image shows the performance of a deadlift.
Identify the type of movement occurring at the **knee** in position A.

Marking points (maximum 1)

- (1) [AO 2] A is flexion at the knee/A is flexion/Flexion

15. This image shows the performance of a deadlift.
Identify the **agonist** and the **antagonist** at the knee when the performer moves from position A to position B.

Marking guidance

Do not accept the answer linked to the wrong role. For example, "the quadriceps are the antagonist" is wrong.

Do not accept muscles operating at other joints. This question asks specifically about the knee.

Marking points (maximum 2)

- (1) [AO 2] Agonist is the quadriceps/Agonist quadriceps
- (2) [AO 2] Antagonist is the hamstrings/Antagonist hamstrings

16. This image shows the performance of a deadlift.
State the type of **muscle contraction** in the **agonist** at the knee when the performer moves from position A to position B.
Describe this muscle contraction.
-

Marking guidance

One mark for the correct muscle contraction. One mark for the correctly linked description.

Marking points (maximum 2)

- (1) [AO 2] Concentric muscle contraction/Concentric
- (2) [AO 2] Muscle contracts and shortens/Shortens under tension/Shortens

17. The deadlift uses the principles of force.
State the meaning of the terms force **and** mass.
-

Marking points (maximum 2)

- (1) [AO 1] Force is a push or a pull action on an object/ $\text{Force} = \text{Mass} \times \text{Acceleration}$ / $F = ma$
- (2) [AO 1] Mass is the quantity of matter in a body/How much matter a body has/Idea of how much matter

18. Look at the image of the location of muscles in the body.
Identify the muscles A **and** B.
-

Marking points (maximum 2)

- (1) [AO 2] A is latissimus dorsi
- (2) [AO 2] B are the gluteals

19. Look at the image of the location of muscles in the body.
Identify muscle C **and** describe its role during plantar flexion.
-

Marking points (maximum 2)

- (1) [AO 2] C is the gastrocnemius
(2) [AO 2] Shortens to point the toes/Acts as an agonist/Uses concentric muscle contraction

20. Look at the image of the location of muscles in the body.
Identify muscle D **and** describe one sporting movement where it acts as an agonist.
-

Marking guidance

Accept any suitable sporting examples of triceps extension for the second marking point.

Marking points (maximum 2)

- (1) [AO 2] D is the triceps/D Triceps
(2) [AO 2] Throwing the ball in during a rugby line-out/Press-up/An overarm serve in volleyball

21. Look closely at this image of the heart.
Identify the heart structures labelled A, B and C.
-

Marking guidance

Only accept answers linked to the correct letters. For example, "A is the left atrium" is wrong.

Marking points (maximum 3)

- (1) [AO 1] A is the right atrium
(2) [AO 1] B is the right ventricle
(3) [AO 1] C is the left atrium

22. Look closely at this image of the heart.
Describe the role of the heart feature C.
-

Marking points (maximum 2)

- (1) [AO 1] Receive oxygenated blood from the pulmonary vein
- (2) [AO 1] Push blood through the valve
- (3) [AO 1] Pass oxygenated blood into the left ventricle

23. Explain the terms cardiac output, stroke volume and heart rate.
Include the units of each value in your answer.
-

Marking guidance

Please check the students have included the full explanation for each term.
For example, "the volume of blood to leave the heart" for cardiac output would not be creditworthy. The student would need to state "per minute" for the mark to be awarded.
Please apply this rule to all three cardiac volumes listed in the question.

Marking points (maximum 6)

- (1) [AO 1] Cardiac output is the volume of blood ejected by each ventricle of the heart per minute/Volume of blood ejected by the left ventricle per minute/Quantity of blood ejected from the heart per minute
- (2) [AO 2] Litres per minute/L.min/Stroke volume multiplied by heart rate
- (3) [AO 1] Stroke volume is the amount of blood pumped out of the left ventricle per beat
- (4) [AO 2] ml/Millilitres
- (5) [AO 1] Heart rate is the number of times the heart beats per minute/Number of heart beats per minute/Ventricular contractions per minute
- (6) [AO 2] Beats each minute/Beats per minute/BPM

24. Look at the image closely. Identify **S, M, T and E** from the SMARTER goal setting principle

Marking points (maximum 4)

- (1) [AO 1] Specific/Specificity
- (2) [AO 1] Measurable/Measure
- (3) [AO 1] Time phased/Time-bound/Timed
- (4) [AO 1] Exciting/Excitable/Excite

25. Suggest two reasons why **realistic** goals are important for an athlete.

Marking points (maximum 2)

- (1) [AO 2] Anxiety can be controlled/Reduce high arousal/Feel less anxious
- (2) [AO 2] Increased motivation/Feel more motivated
- (3) [AO 2] Better focus/Higher concentration
- (4) [AO 2] Setting up the correct training programme/Relevant practice

26. Identify **two** potential risks of playing basketball within a sports hall **and** explain the strategies to reduce both risks.
-

Marking points (maximum 4)

- (1) [AO 2] Hard flooring if a player falls
- (2) [AO 2] Reduce risk by penalising contact between players/Follow rules/Encourage the use of kneepads
- (3) [AO 2] Debris on the court
- (4) [AO 2] Inspect the playing surface before starting a session
- (5) [AO 2] Unsafe equipment being used
- (6) [AO 2] Maintain equipment such as markers, balls and bibs/Lift and carry equipment safely
- (7) [AO 2] Wrong footwear
- (8) [AO 2] Only allow basketball trainers to be worn
- (9) [AO 2] Overcrowded playing area
- (10) [AO 2] Limit playing numbers
- (11) [AO 2] Poor lighting
- (12) [AO 2] Maintain lights properly/Replace damaged bulbs
- (13) [AO 2] Risk of muscle injury
- (14) [AO 2] Use appropriate warm-up

27. A basketball player could get a blister **and** ligament sprain from playing in a sports hall. Suggest a cause **and** treatment for both.
-

Marking points (maximum 4)

- (1) [AO 2] Cause of a blister is repeat rubbing of the skin/Burning/Poorly fitted footwear or clothing
- (2) [AO 2] Treatment of a blister is to cover with a blister plaster/Cover with a gauze pad/Remove dead skin when blister has healed
- (3) [AO 2] Cause of a ligament sprain is overstretching/Impact causing movement of a joint in the wrong direction
- (4) [AO 2] Treatment for a ligament sprain is RICE/Rest the injury/Apply ice to reduce swelling

28. Name an open skill from basketball.
Justify your answer.
-

Marking guidance

Sub max one mark for a correctly identified open skill. The marking points are not exhaustive, so please accept suitable alternatives.
Sub max one mark for the linked justification.

Marking points (maximum 2)

- (1) [AO 2] Dribbling the ball/Making a pass/Interception
- (2) [AO 2] Dependent on the position of the opposition/Position on court/Position of team

29. The image shows an athlete training at altitude.
Suggest **one** reason why an athlete will complete their training at altitude.
-

Marking points (maximum 1)

- (1) [AO 2] Increase red blood cell count/Increase haemoglobin levels
- (2) [AO 2] Increase cardiovascular endurance/Better endurance
- (3) [AO 2] Allows the athlete to work aerobically for longer/Be able to run at a higher intensity for longer
- (4) [AO 2] Increase tolerance to lactic acid/Performer fatigues less quickly/Less fatigue
- (5) [AO 2] More oxygen can be carried/Oxygen transported more easily/Oxygen
- (6) [AO 2] More carbon dioxide can be carried/Carbon dioxide transported more easily

30. State which level of the performance from the sports development pyramid is **most likely** if an athlete is taking part in altitude training.
-

Marking points (maximum 1)

- (1) [AO 1] Elite

31. Describe the disadvantages of altitude training.

Marking points (maximum 4)

- (1) [AO 2] It can be difficult to complete training/Difficult to complete training
- (2) [AO 2] Benefits are lost quickly/Benefits don't last long/Effects don't last
- (3) [AO 2] Suffering from altitude sickness/Altitude sickness/Nausea
- (4) [AO 2] Doesn't suit anaerobic work as much/Doesn't suit explosive athletes
- (5) [AO 2] Expensive and only available for those athletes who can afford it/Affordability/Difficult to access
- (6) [AO 2] Athlete can become homesick
- (7) [AO 2] Cheaper alternatives to altitude training now exist/Hypoxic training is cheaper

32. If an athlete has an aim to increase aerobic fitness, describe an alternative training method to altitude training.

Marking guidance

Sub max one mark for naming the training method. A further mark for a linked description.

Marking points (maximum 2)

- (1) [AO 1] HIT/High Intensity Interval Training
- (2) [AO 1] Periods of work and rest can be manipulated for aerobic fitness/Period of recovery from intense effort develop aerobic fitness
- (3) [AO 1] Fartlek training
- (4) [AO 1] Training for long periods of time and altering the speed and terrain
- (5) [AO 1] Continuous training
- (6) [AO 1] Training a sub maximal pace for over 30 minutes
- (7) [AO 1] Circuit training
- (8) [AO 1] Stations can be assigned to develop cardiovascular endurance

33. State **two** types of media coverage.

Marking points (maximum 2)

- (1) [AO 1] Television/TV
- (2) [AO 1] Radio/Podcast
- (3) [AO 1] Social media
- (4) [AO 1] Internet
- (5) [AO 1] Newspapers/Print/Magazines

34. Describe **three** disadvantages of performance-enhancing drugs in **sport**.

Marking points (maximum 3)

- (1) [AO 1] Health implications/Damages the health of the athletes
- (2) [AO 1] Sport is humiliated/Tarnished reputation
- (3) [AO 1] Governing body is penalised financially/Financial penalties
- (4) [AO 1] Athletes are banned/Disqualification
- (5) [AO 1] Dsyfunctional impact on grassroots sports

35. State which class of lever is operating at the ankle during plantar flexion.

Marking points (maximum 1)

- (1) [AO 2] Ankle is a 2nd class lever/2nd class/Second class

36. Look at the image of a first class lever system.
Identify features A, B and C.
-

Marking points (maximum 3)

- (1) [AO 2] A is effort/A effort
- (2) [AO 2] B is fulcrum/B fulcrum
- (3) [AO 2] C is resistance/C resistance/C oad

37. Describe **two** features of social health and well-being.
-

Marking points (maximum 2)

- (1) [AO 1] Essential human needs are met
- (2) [AO 1] Value of friendship/Friends
- (3) [AO 1] Availability of support
- (4) [AO 1] Feeling valued in society
- (5) [AO 1] Able to mix with other people/Communicate/Collaborate

38.

Explain **three** different factors that might influence an individual's access to sport in their leisure time.

Marking points (maximum 3)

- (1) [AO 2] More time available/Flexible working/Increase in leisure time
- (2) [AO 2] Advances in technology/Less time doing work and chores because of technology
- (3) [AO 2] Better healthcare/People are healthier/Healthier nation
- (4) [AO 2] Better health awareness/People are more aware of the benefits of social health
- (5) [AO 2] More leisure facilities/Proximity of leisure facilities has improved
- (6) [AO 2] Reduced cost of equipment/More people can afford the equipment required
- (7) [AO 2] Improvements in travel/Travel is more reliable/Public transport
- (8) [AO 2] Wider media coverage inspires participation/Positive media coverage/Role modelling through the media
- (9) [AO 2] Digitalisation makes it difficult to meet others so individuals use leisure to make friends