



The EverLearner

**National Mock Exams 2024**

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# Mark Scheme

## Edexcel GCSE PE - Paper 1

**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 2024 infographics. Please, note the following:

- We believe this mark scheme has a very strong association with previous Edexcel GCSE PE Paper 1 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 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 2024. The model answers will be available in early April and many of these questions will be discussed in the live revision show provided by James Simms (Wednesday 8th of May, 16:30-18:00 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*





<b>Subject</b>	Physical Education
<b>Course</b>	Edexcel GCSE PE 9-1
<b>Time allowed</b>	1 hour 30 minutes

<b>Title</b>	Edexcel GCSE PE 9-1 Paper 1 National Mock Exam 2024
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<b>Guidance</b>	<ul style="list-style-type: none"><li>• This paper is marked out of 80 marks.</li><li>• You have 90 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 a 9-mark question.</li><li>• Good luck.</li></ul>
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<b>Total marks</b>	80
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1. Which of the following images shows the fibula as the highlighted bones?

Marking points **(maximum 1)**

(1) [AO 1] Option C/C

2. Which of the following is the correct function of white blood cells?

Marking points **(maximum 1)**

(1) [AO 1] Option B/B/To fight infection

3. Which of the following is a by-product of anaerobic respiration?

Marking guidance

We used the term "by-product" in the question to ensure clarity. However, we encourage teachers to begin to use the term "product" in relation to lactic acid to align with the students' study of GCSE biology and chemistry. Lactic acid is a "product" of anaerobic respiration.

Marking points **(maximum 1)**

(1) [AO 1] Option D/D/Lactic acid

4. Look at the image. Along which plane of movement is the cartwheel performed?

Marking points **(maximum 1)**

(1) [AO 1] Option B/B/Frontal plane

5. Look at the images closely.

Identify the voluntary muscles labelled A and B.

Marking guidance

Do not accept answers in the wrong order. For example, "A are the hip flexors" is incorrect.

Marking points (**maximum 2**)

(1) [AO 1] A is the gastrocnemius/A gastrocnemius

(2) [AO 1] B are the hip flexors/B hip flexor

6. Give a sporting example in which the muscles labelled A and B are the the **agonist** muscle.

Marking guidance

Accept sporting examples only. The mark scheme is not exhaustive. They are just examples of A (plantar flexion of the ankle) and B (flexion of the hip). Please accept clear sporting examples of either of these movements.

The sporting example **must** be linked to the correct agonist.

Marking points (**maximum 2**)

(1) [AO 2] Muscle A is an agonist in a calf raise/At the ankle in a long jump take-off/Raising onto the toes when taking a shot in netball

(2) [AO 2] Muscle B is an agonist in bringing the leg forward of a long jumper to land the jump/Driving the leg upwards to step up onto a bench/Lead leg when jumping a hurdle

7. State **two** long-term training effects on the muscles identified in the image.

Marking points (**maximum 2**)

(1) [AO 1] Increased strength of tendons and ligaments/Tendons and ligaments become stronger/Tendons and ligaments can withstand more force

(2) [AO 1] Muscular hypertrophy occurs/Increased muscular hypertrophy/Muscles get bigger

(3) [AO 1] Increased muscle strength/Muscles are stronger

**8.** Look closely at the statement about the movement at a joint.

Complete the statement by writing the words that could replace the letters for A, B and C.

### Marking guidance

For section C of the statement, please accept a clear example from **football** when the knee is extended.

### Marking points (maximum 3)

(1) [AO 1] A is extend/A is extension/A extension

(2) [AO 1] B is hinge joint/B hinge

(3) [AO 2] C is when striking the ball/Kicking the football/Lunging and straightening the leg to tackle the ball

**9.** State the movement occurring at the knee joint when the knee bends in preparation for kicking a football.

### Marking points (maximum 1)

(1) [AO 1] Flexion

**10.** George is a long-distance road cyclist.

Explain why the arteries **and** veins are important when completing a road race.

### Marking guidance

Award one A01 mark for the identification of the function of the blood vessel.

Award one A02 mark for linking the function to a road cyclist.

Award one A03 mark for the importance of the function to a road race. This is repeated twice (once for arteries and then again for veins).

### Marking points (maximum 6)

(1) [AO 1] Arteries carry blood away from the heart under pressure/Blood away from the heart

(2) [AO 2] Oxygenated blood is taken to the working muscles to provide oxygen for aerobic respiration/Heart rate increases, which leads to an increase in blood flow in the arteries

(3) [AO 3] Cyclist can continue to work aerobically for longer/Cyclist can offset fatigue/Delay fatigue

(4) [AO 1] Veins carry blood towards the heart under low pressure/Blood towards the heart

(5) [AO 2] Deoxygenated blood is returned to the right side of the heart to recycle blood/Increased blood flow in the veins/Contain valves to promote effective flow of blood

(6) [AO 3] Cyclist does not become light-headed from blood pooling/More blood returning to the heart leads to quicker gaseous exchange/Remove waste products from the muscles

**11.** This table shows values for tidal volumes of tennis players at rest and during performance.

Identify the performers with the least **and** greatest changes in tidal volume **and** calculate these changes.

### Marking points (maximum 4)

(1) [AO 1] Least change in TV is performer D/Tennis player D/Person D

(2) [AO 2] Least calculated change in TV is 2.0 litres/2.0 l/2000 millimeters

(3) [AO 1] Greatest change in TV is performer B/Tennis player B/Person B

(4) [AO 2] Greatest calculated change in TV is 2.8 litres/2.8 l/2800 millilitres

**12.** The image shows a shot-put action.

Analyse the movement at the **elbow** of the throwing arm when the athlete moves from position 1 to position 2.

Marking points (**maximum 3**)

(1) [AO 1] A are the biceps and triceps/A biceps and triceps

(2) [AO 2] B is extension/B extension

(3) [AO 3] C is triceps/Agonist muscle are the triceps/C triceps

**13.** Identify the lever system operating at the **elbow** of the throwing arm during the shot-put.

Marking points (**maximum 1**)

(1) [AO 3] First-class lever system/First class lever/1st class

**14.** Look closely at the image.

Analyse the movement at the **ankle** when the volleyball player moves from position 1 to 2.

Marking points (**maximum 3**)

(1) [AO 1] A is a hinge joint/A hinge

(2) [AO 2] B is dorsiflexion/B dorsiflexion

(3) [AO 3] C is tibialis anterior/Agonist muscle is the tibialis anterior



**15.** Look at the image closely.

Identify the components of the heart labelled A, B and C.

### Marking guidance

Do not accept answers in the wrong order. For example, "A is the pulmonary vein" is incorrect.

### Marking points (maximum 3)

(1) [AO 1] A are the atria/A atria

(2) [AO 1] B is the aorta/B aorta

(3) [AO 1] C is the pulmonary vein/C pulmonary vein

**16.** Look at the image closely.

Which of the blood vessels carries deoxygenated blood to the lungs?

### Marking guidance

"Artery" on its own is too vague. The learner needs to state "pulmonary artery" to be awarded the mark.

### Marking points (maximum 1)

(1) [AO 1] Option D/D/Pulmonary artery

**17.** Explain why the blood vessel identified in the previous question carries deoxygenated blood to the lungs.

### Marking points (maximum 2)

(1) [AO 3] Blood has circulated from the right side of the heart/Blood from the right ventricle

(2) [AO 3] Deoxygenated because it is blood returning from the working muscles following respiration/Returning to the heart to be reoxygenated

**18.** Identify the **main** muscle fibre type used by a marathon runner. Explain how it impacts performance.

### Marking guidance

Award one A02 mark for applying the correct muscle fibre type.

Award a further two A03 marks for how the muscle fibre impacts performance. Answers must be specific to a marathon runner.

### Marking points (maximum 3)

(1) [AO 2] Slow-twitch type 1/Type I/Type 1

(2) [AO 3] Fatigue-resistant/High fatigue resistance/They do not tire

(3) [AO 3] Work aerobically for long duration/Maintain steady-state performance/Keep working for over two hours

**19.** Look at the training data for Honey.

Which of the following principles of training is correct for the number of sessions completed?

### Marking points (maximum 1)

(1) [AO 2] Option A/A/Frequency

**20.** Honey decides to accompany the weight training with continuous training.

Which of the following principles of training has Honey used?

### Marking points (maximum 1)

(1) [AO 1] Option D/D/Type

**21.** Which training method typically involves bounding and leaping and is an excellent way of improving power?

### Marking points (maximum 1)

(1) [AO 1] Option B/B/Plyometrics

**22.** Which of the following will be the **most likely** long-term benefit for Honey if she completes the weight-training sessions for six-weeks?

Marking points (**maximum 1**)

(1) [AO 2] Option A/A/Increased strength of ligaments

**23.** Weller is an 18-year-old netball player.

Look at the data showing her heart rate range during each quarter of a netball game.

Using your knowledge of training zones, justify which quarter of the game was most demanding for Weller.

Marking guidance

Award one A02 mark for identifying the correct netball quarter.

Award a further two A03 for using knowledge of the training zones to support the reasons why the quarter has been used.

Learners are expected to use the data provided in the question and show how they have used this data.

Marking points (**maximum 3**)

(1) [AO 2] Quarter three is the anaerobic training zone

(2) [AO 3] Weller has a Max HR of  $202\text{bpm}/220 - \text{age}/220 - 18$

(3) [AO 3] 80% of 202 is 161bpm and 90% of 202 is 182bpm

**24.** Weller is an 18-year-old netball player and she is developing a training programme to develop her cardiovascular fitness.

State two factors to consider when planning her training.

Marking points (**maximum 2**)

(1) [AO 1] Fitness requirements for netball/Position requirements

(2) [AO 1] Facilities available

(3) [AO 1] Current level of fitness

(4) [AO 1] Individual requirements/Age/Weight

(5) [AO 1] Level of experience

**25.** Name **one** fitness test Weller could use to assess her current levels of cardiovascular fitness.

Describe **one** advantage of this test.

### Marking guidance

Do not accept "bleep test" or "multi-stage fitness test". This test is not on the Edexcel specification. Do not accept "Cooper run" or "Cooper swim" without reference to the timeframe of 12 minutes. Accept other suitable advantages.

### Marking points (maximum 2)

(1) [AO 2] Harvard step test

(2) [AO 2] Cooper 12-minute run

(3) [AO 2] Cooper 12-minute swim

(4) [AO 3] Test is inexpensive to set up/Test is easy to set up

(5) [AO 3] Test requires little equipment/Test does not require specialist equipment

(6) [AO 3] Test is specific to assessing aerobic endurance/Cardiovascular fitness

(7) [AO 3] Large numbers of participants can be tested at once/Can test large numbers at once

(8) [AO 3] Test can be self-administered/Test does not need other people to complete it/Nature of the test means performer can operate the equipment needed

**26.** Chester is a para athlete and trains three times per week, including one circuit training session for **cardiovascular fitness**.

State **three** ways in which Chester can use circuit training to develop cardiovascular fitness.

Marking points **(maximum 3)**

(1) [AO 1] Chester will complete a series of exercises in succession/Follow a route of exercise stations/Use a number of exercise stations

(2) [AO 1] Minimal rest periods between stations/Little rest between stations/Minimal rest

(3) [AO 1] Vary the muscle groups as the focus is cardiovascular endurance and not muscle endurance/Use different muscle groups to avoid muscle fatigue/Vary muscles used at each station

(4) [AO 1] Use a work:rest ratio so the cardiorespiratory system is being used/Work:rest ratio must be set so cardiovascular endurance can be developed/Appropriate work:rest ratio

(5) [AO 1] Chester would need to be working at 60-80% max HR/Intensity should be 60-80%HR max/Intensity must be in the aerobic training zone

**27.** Before wheelchair-tennis training, Chester completes a warm-up to prepare his body for exercise.

State **three** phases of his warm-up.

Marking points **(maximum 3)**

(1) [AO 1] Pulse-raiser/Movement to raise pulse/Movement to increase the heart rate

(2) [AO 1] Mobility exercise/Mobilisation of the joints/

(3) [AO 1] Game-related activities/Skill-related practice/Hitting the ball

**28.** Chester completes a hand-grip dynamometer fitness test for strength. Using the table below, state Chester's rating for the test if he scores **41**.

Marking points **(maximum 1)**

(1) [AO 3] Below average

**29.** Describe **two** examples where strength is used in wheelchair tennis.

### Marking guidance

Accept other suitable examples. The examples must be specific to tennis.

### Marking points (maximum 2)

- (1) [AO 2] To hit the ball hard when returning the ball
- (2) [AO 2] To hit a hard serve/To hit an ace
- (3) [AO 2] To push the wheelchair powerfully when moving across court/To propel the wheelchair
- (4) [AO 2] To hit a winning smash shot

**30.** Coordination is important in wheelchair tennis.

Define coordination and give **one** example of using coordination in tennis.

### Marking guidance

Award one A01 mark for an accurate definition.

Award one A02 mark for a suitable example. The example must be specific to tennis.

### Marking points (maximum 2)

- (1) [AO 1] The ability to use two or more body parts smoothly and effectively/The ability to use two or more body parts together
- (2) [AO 2] Coordination used to change direction of the wheelchair
- (3) [AO 2] Hand-eye coordination used in hitting the ball/Hand-eye coordination used in serving the ball
- (4) [AO 2] Coordination used to move backwards and reach up to return a lob

**31.** Using examples, explain how Chester can apply specificity **and** progressive overload to a tennis-training programme.

### Marking guidance

Award one A02 mark for how each of the principles of training can be applied, up to two marks. Award a further A03 mark for the impact of each principle of training, up to two marks.

Explanation includes impact.

Accept other suitable examples.

### Marking points (maximum 4)

- (1) [AO 2] Progressive overload by gradually increasing the number of training sessions/Gradually increase times per week/Gradually increase times per month
- (2) [AO 2] Progressive overload by gradually increasing the weight or intensity in relation to one-rep max or maximum heart rate/Increase how hard you train/Gradually increase how fast
- (3) [AO 2] Progressive overload by gradually increasing the number of reps/Gradually increase sets/Slowly decrease recovery time
- (4) [AO 2] Progressive overload by slowly changing the training method to more complex and demanding sessions/Gradually increase difficulty/Gradually increase complexity
- (5) [AO 3] Progressive overload allows adaptations to take place without getting injured/Allows adaptations
- (6) [AO 3] Progressive overload allows performer to continue improving their fitness/Fitness improves/Allows performers to make appropriate fitness gains
- (7) [AO 3] Progressive overload allows performer to work gradually towards peak condition/Peak at the right time before competition
- (8) [AO 2] Specificity by using training methods relevant to tennis/Using interval training
- (9) [AO 2] Specificity by training in a specific heart-rate zone/Specific threshold/Specific % of max HR
- (10) [AO 2] Specificity by completing number of reps/Specific number of reps/Specific exercises to target fitness goals

(11) [AO 3] Specificity means the performer will focus on fitness components linked to tennis

(12) [AO 3] Specificity will allow performer to maintain optimum weight/Optimum muscle mass/Optimum body shape for tennis

(13) [AO 3] Specificity helps performer stay focused on specific goals/Focus on specific parts of their performance/Focus on improvement in the right areas

**32.** The image shows a basketball player.

Identify **one** type of injury that could occur at the basketball player's ankle after landing from a jump.

### Marking guidance

Accept other suitable injuries. Accept specific types of fracture. Do not accept "ligament damage" or "cartilage damage", as this is too vague.

### Marking points (maximum 1)

(1) [AO 2] Fracture/Break

(2) [AO 2] Dislocation

(3) [AO 2] Torn cartilage

(4) [AO 2] Strain/Muscle strain

(5) [AO 2] Sprain/Sprained ligament/Torn ligament

(6) [AO 2] Graze/Abrasion/Cut

(7) [AO 2] Bruising/Bruise

**33.** A basketball player might be treated using the RICE method following an injury.

State what C stands for within RICE.

### Marking points (maximum 1)

(1) [AO 1] Compression/Compress



**34.** Other than warming up or cooling down, explain **one** other injury-prevention method for a basketball game.

### Marking guidance

Do not accept warm-up and cool-down, as these are already stated in the question.

Award one A02 mark for applying an accurate injury-prevention method.

Award one **linked** A03 mark to show the impact of the chosen injury-prevention method.

### Marking points (maximum 2)

(1) [AO 2] Correct application of principles of training/Not overtraining

(2) [AO 3] Ensures player is sufficiently conditioned/Able to meet demands of the game/Ensures player does not play with an injury

(3) [AO 2] Correct application of the rules/Adherence to the rules

(4) [AO 3] Reduces chance of dangerous play/Play that could lead to injury to the player or opponent/Reduces chances of violent acts

(5) [AO 2] Use of protective clothing

(6) [AO 3] Appropriate footwear reduces the risk of slipping/Falling/Appropriate clothing ensures player regulates temperature

(7) [AO 2] Checking equipment/Checking facilities before the match

(8) [AO 3] Ensures court surface is safe/Not slippery/Ensures hoops and posts are protected and won't collapse

**35.** Identify **one** way to assess an individual's personal readiness for training.

### Marking guidance

Only accept PARQ or physical activity readiness questionnaire. Do not accept any other responses.

### Marking points (maximum 1)

(1) [AO 1] PARQ/Physical Activity Readiness Questionnaire

**36.** Shelley is an elite sprinter. She has been feeling disappointed with racing much slower than her personal best (PB).

Shelley has been considering performance enhancement.

Evaluate the use of stimulants, anabolic steroids and narcotic analgesics for Shelley's sprint performance.

Marking guidance

[9 Mark Level Descriptors](#)



A01 is knowledge and understanding of the performance enhancing drugs listed in the question.

A02 is applying that knowledge to Shelley as a sprint athlete.

A03 is making reasoned judgements about the positive and negative effects that each drug will have on her sprint performance.

Reward all acceptable answers and responses which are not limited to the marking points.

Learners only providing A01 points can not move beyond the level 1 descriptors.

Marking points (**maximum 9**)

- (1) [AO 1] Stimulants increase alertness/Increase reactions/Increase aggression
- (2) [AO 1] Example of a stimulant is caffeine
- (3) [AO 2] Shelley needs to react to the gun at the start of a sprint race
- (4) [AO 3] Therefore, a stimulant will lead to a quicker reaction/Faster start/Ahead of opponents
- (5) [AO 3] Provides a better opportunity to win the race/Complete the race in the fastest time
- (6) [AO 3] However, stimulants can lead to insomnia, disturbing pre-race preparations
- (7) [AO 1] Anabolic steroids are an artificial testosterone
- (8) [AO 1] Steroids increase muscle mass/Strength/Power
- (9) [AO 2] Shelley needs power to be able to drive out of the starting blocks/Power in the leg muscles to run quickly/High muscle mass in the arms for the arm drive when sprinting
- (10) [AO 3] Therefore, Shelley is able to exert more force on the blocks for a quicker start/More force on the track to run faster/More powerful arm drive to support the acceleration phase
- (11) [AO 3] Shelley is also able to train harder for longer/Less rest time in training

(12) [AO 3] Leading to quicker adaptations and faster times

(13) [AO 3] However, there are multiple risks to health/Liver damage/Higher risk of a stroke

(14) [AO 1] Narcotic analgesics are painkillers/Mask injury

(15) [AO 1] Example of a narcotic is morphine

(16) [AO 2] Sprinting is a sport with repetitive movements/Explosive sport/High risk of muscle injury

(17) [AO 3] Therefore, Shelley will be able to compete when injured/Overtrain/Have increased coping mechanisms with the impact of training

(18) [AO 3] However, this will lead to more damage/Further injury

(19) [AO 3] Narcotics are also highly addictive and lead to mental health problems such as depression