



The EverLearner

National Mock Exams 2024

POWERED BY ExamSimulator

Mark Scheme

NCFE L1/2 Technical Award in Health and Fitness 2024 (VCERT)

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 NCFE L1/2 Technical Award in Health and Fitness sample assessment material 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 (Thursday, 9th 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



Subject	Physical Education
Course	NCFE Level 1 & 2 (2022): Technical Award in Health and Fitness
Time allowed	1 hour 30 minutes

Title	NCFE Level 1 & 2 (2022) Technical Award in Health and Fitness - National Mock Exam Summer 2024
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Guidance	<ul style="list-style-type: none">• This paper is marked out of 80 marks.• You have 90 minutes (plus additional time for those who have Exam Access Arrangements).• Answer all questions.• A calculator is permitted for this exam.• This paper contains two 9-mark questions.• Good luck.
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Total marks	80
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1. Look closely at this image. Which bone is classified as a long bone?

Marking points (maximum 1)

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

2. Look closely at this image. Which is the correct definition of abduction?

Marking points (maximum 1)

(1) [AO 1] Option B Movement away from the midline/Option B/Movement away from the midline

3. Look closely at this image. Which of the muscles contracts concentrically to cause knee extension?

Marking points (maximum 1)

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

4. Other than protection of vital organs and support, state **one** function of the skeletal system.

Marking points (maximum 1)

(1) [AO 1] Movement/Leverage

(2) [AO 1] Storage of minerals

(3) [AO 1] Blood-cell production

(4) [AO 1] Shape/Structure

5. Look closely at this image of the heart. Identify features A **and** B.

Marking points (maximum 2)

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

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

6. Identify an activity where type 2B muscle fibres would be most important **and** describe the characteristics of this fibre type that make it so important in the activity.

Marking points **(maximum 3)**

(1) [AO 2] Javelin throwing/Sprinting/Powerful punch in boxing

(2) [AO 2] High contractile speed and force means it can provide explosive energy

(3) [AO 2] Low fatigue resistance means it is suited to short-duration activities

7. Describe the aerobic energy system **and** provide one sporting example where aerobic energy is most important.

Marking guidance

Accept any other relevant sporting example of aerobic energy release activities.

Marking points **(maximum 3)**

(1) [AO 1] Energy release in the presence of sufficient oxygen/Glucose + oxygen ----> carbon dioxide + water and energy release

(2) [AO 1] Long duration and low intensity

(3) [AO 2] Marathon/10km running/Recovery between explosive activities such as sprints

8. Finlay is 16 years old. Calculate his maximum heart rate. Include your workings and units.

Marking guidance

Second point is only awarded with the correct units of bpm. No/wrong unit, no mark.

Marking points **(maximum 2)**

(1) [AO 2] $220 - \text{age} / 220 - 16$

(2) [AO 2] MHR = 204bpm/204bpm

9. Finlay takes part in a circuit training session. Explain how his blood is redistributed during the session.

Marking points (**maximum 4**)

(1) [AO 3] Process of vascular shunting/Vascular shunt

(2) [AO 3] Cardiac output is redistributed to areas of most need

(3) [AO 3] Cardiac output is diverted away from areas of lower demand

(4) [AO 3] Blood vessels leading to the working muscles widen/Blood vessels leading to the working muscles vasodilate

(5) [AO 3] Blood vessels leading to other organs narrow/Blood vessels leading to other organs vasoconstrict

10. Analyse the features of the alveoli that make them suited to gaseous exchange.

Marking guidance

Please accept "partially permeable membrane" as correct. Eagle-eyed teachers and students will notice that this term is not listed in the NCFE specification document. HOWEVER, the membrane structure is necessary to allow gaseous exchange and students learn this concept in GCSE biology. Therefore, it is essential that we do recognise it in PE too, as it is a critical feature of an alveolus in relation to gaseous exchange.

Marking points (**maximum 4**)

(1) [AO 3] Moist, thin walls/Very thin walls/One-epithelial-cell thick

(2) [AO 3] Partially permeable membrane/Allow diffusion to occur

(3) [AO 3] Large surface area

(4) [AO 3] Short diffusion pathway

(5) [AO 3] Large blood supply/Surrounded by capillaries

11. Look closely at this image. Identify the test most relevant to muscular endurance.

Marking points **(maximum 1)**

(1) [AO 1] Option D - Squat test/Option D/Squat test

12. Look closely at this image. Which of the options is a short-term effect of exercise?

Marking points **(maximum 1)**

(1) [AO 1] Option B Decreased hydration levels/Option B/Decreased hydration levels

13. Look closely at this image. Which is the correct format for FITT?

Marking points **(maximum 1)**

(1) [AO 1] Option A Frequency Intensity Time Type/Option A/Frequency Intensity Time Type

14. Both Tracey (female) and Imran (male) score exactly 19.3 seconds on the Illinois agility test. Analyse the image and provide their test ratings.

Marking points **(maximum 2)**

(1) [AO 3] Tracey is rated average

(2) [AO 3] Imran is rated below average

15. Other than specificity, name **two** principles of training.

Marking points **(maximum 2)**

(1) [AO 1] Progression

(2) [AO 1] Overload

(3) [AO 1] Reversibility

(4) [AO 1] Tedium

16. Identify **two** characteristics of good health.

Marking points (**maximum 2**)

- (1) [AO 1] Physical well-being
- (2) [AO 1] Mental well-being
- (3) [AO 1] Social well-being

17. Discuss the suitability of the stork stand test for a surfer.

Marking guidance

Sub max two marks for strengths and sub max two marks for weaknesses.

Marking points (**maximum 3**)

- (1) [AO 3] Strength is it is a test of balance and surfing relies on balance
- (2) [AO 3] Strength is it is a test of standing balance and surfers stand
- (3) [AO 3] Strength is the test can be done in almost all locations/Practical test/Quick to conduct
- (4) [AO 3] Weakness is it is a static test and surfing is dynamic
- (5) [AO 3] Weakness is it is a one-legged balance and surfing is done on two legs
- (6) [AO 3] Weakness is it cannot be done on sand, as an even surface is needed

18. Define **both** flexibility and agility **and** give an example of both from the sport of Association football.

Marking points **(maximum 4)**

(1) [AO 1] Flexibility is an adequate range of motion at a joint

(2) [AO 2] Goalkeeper arching their back to stretch to tip the ball over the bar/Defender stretching to make a slide tackle/Striker stretching to touch the ball into the net at the back post

(3) [AO 1] Agility is the ability to change direction quickly without losing control

(4) [AO 2] Forward spins to make an unexpected run behind the defensive line/Defender changes direction quickly to make a tackle against a very mobile winger/Goalkeeper responds to a deflected shot by quickly changing the direction of their dive

19. Identify the two training methods represented in this image **and** explain why both methods are popular with triple jumpers.

Marking points **(maximum 4)**

(1) [AO 1] Training method A is plyometric training/Plyometrics

(2) [AO 2] Plyometrics are excellent for developing power, which helps a triple jumper to get maximal force and speed

(3) [AO 1] Training method B is weight training/Free weights

(4) [AO 2] Weight training is excellent for developing strength, which helps a triple jumper to apply maximal force to the ground

20. Look closely at this image. Which of the options is a negative effect of smoking?

Marking points **(maximum 1)**

(1) [AO 1] Option C Reduced blood flow/Option C/Reduced blood flow

21. Delayed reactions is a side effect of alcohol consumption. Which of the activities in the image would be most affected by delayed reactions?

Marking points **(maximum 1)**

(1) [AO 2] Option C Sprint start/Option C/Sprint start

22. Look closely at this image. Which of the options is the recommended daily calorific intake for women?

Marking points **(maximum 1)**

(1) [AO 1] Option A 2,000 kcal/Option A/2,000 kcal

23. Identify **one** recovery method from exercise **and** explain how it improves recovery rate.

Marking guidance

Sub max one mark for A01 and sub max one mark for A02. The A02 point must be related to the A01 point.

Marking points (maximum 2)

- (1) [AO 1] Sleep and rest/Sleep/Rest
- (2) [AO 2] Adaptions occur during sleep/Feeling of restfulness
- (3) [AO 1] Cool-down
- (4) [AO 2] Gradually reduces exercise intensity/Minimises DOMS
- (5) [AO 1] Static stretching
- (6) [AO 2] Relieves tension in worked muscles
- (7) [AO 1] Massage
- (8) [AO 2] Reduces soreness and promotes relaxation
- (9) [AO 1] Ice baths
- (10) [AO 2] Reduces muscle swelling and pain
- (11) [AO 1] Rehydration
- (12) [AO 2] Improves muscle cell function
- (13) [AO 1] Intake of food/Intake of protein/Intake of carbohydrate
- (14) [AO 2] Helps muscle tissue repair/Provides energy

24. Look at this image. State the missing SMART principle **and** explain how the missing principle could be applied to goal setting for a competitive swimmer.

Marking points (maximum 2)

- (1) [AO 1] A is attainable/Attainable
- (2) [AO 2] Set targets that are challenging but within reach/Don't only set huge targets/Set process-based targets that are controllable by the swimmer

25. Explain why a person's lifestyle would be considered sedentary.

Marking points (**maximum 2**)

- (1) [AO 2] Too much time sitting or lying down
- (2) [AO 2] Over a long period of time

26. Ken has been asked to devise a warm-up for a group fitness class. Identify **two** phases Ken should include in the warm-up and explain the benefits of completing these phases.

Marking guidance

Sub max two marks for A01 and sub max two marks for A02.

Marking points (**maximum 4**)

- (1) [AO 1] Mobilisation
- (2) [AO 2] Mobilise joints/Reduce the risk of injury
- (3) [AO 1] Pulse raiser
- (4) [AO 2] Gradually increase heart rate
- (5) [AO 1] Dynamic stretches
- (6) [AO 1] Practise movement
- (7) [AO 2] Prepare the muscles for the specific activity

27. Ken encourages his participants to drink water throughout the warm-up and main activity. Justify Ken's approach.

Marking points (**maximum 3**)

- (1) [AO 3] Prevent dehydration/Maintain hydration/Keep the performer hydrated
- (2) [AO 3] Dehydration causes blood thickening/Increased blood viscosity/Causes heart rate to increase
- (3) [AO 3] Performers have to do more work anaerobically/Heart has to work harder/More work anaerobically
- (4) [AO 3] Performer wants to maintain body temperature/Needs to keep temperature stable/Wants to avoid overheating
- (5) [AO 3] Overheating will slow them down/Overheating will cause a dramatic reduction in pace/Has to stop
- (6) [AO 3] Reactions can become worse/Increased reaction time/Slower reactions
- (7) [AO 3] Slower reactions could cause accidents
- (8) [AO 3] Dehydration can cause cramps/Dehydration can cause muscle fatigue/Lack of electrolytes from fluids can cause cramp

28. Identify **two** safety considerations a trainer should make when planning a session **and** explain how these actions reduce the chance of injury.

Marking guidance

Sub max two marks for A01 and sub max two marks for A02.

Marking points (maximum 4)

- (1) [AO 1] Check the facilities
- (2) [AO 2] Ensures the surface or space is appropriate for the activity and group
- (3) [AO 1] Equipment checks
- (4) [AO 2] Prevents injuries such as blisters and cuts/Prevents equipment failures
- (5) [AO 1] Set expectations for participant behaviour
- (6) [AO 2] Reduces the chances of participants injuring one another
- (7) [AO 1] Ensuring appropriate levels of progress
- (8) [AO 2] Progress sessions when the participants are physically and mentally ready will reduce the chances of injury
- (9) [AO 1] Check appropriate clothing and footwear
- (10) [AO 2] Prevents slips and falls/Prevents overheating/Prevents exposure to the cold

29. Justify the importance of weight training for a 100m sprinter.

Marking points (maximum 9)

- (1) [AO 1] Weight training is a method with free weights or resistance machines/Use of free weights or machines/Free weights or machines
- (2) [AO 1] High weight and low repetitions for muscular strength and power/For muscular strength use high resistance low reps/High weight low reps for power
- (3) [AO 1] Low weight and high repetitions for muscular endurance/For muscular endurance low weight and high reps/Low weight high reps for muscular endurance
- (4) [AO 2] 100m sprinter requires power to run fast/Fast sprinting time relies on power/More power equals a faster sprint time
- (5) [AO 2] Sprinters require power in the sprint start/Sprint start is based on power/Sprint start needs power
- (6) [AO 2] 100m sprint uses mostly anaerobic respiration/Sprinters release most energy through anaerobic respiration/Sprinting is mostly anaerobic
- (7) [AO 3] Weight training causes muscle hypertrophy of the sprinter
- (8) [AO 3] Increased power leads to more force applied to the track for a faster sprint technique/More power means more force applied/More power causes more speed
- (9) [AO 3] 70% of 1 rep max to develop power/Power requires 70% 1RM/70% 1RM for power
- (10) [AO 3] Sprinter can isolate specific muscle groups/Isolate the quadriceps and hamstrings/Isolate the deltoids
- (11) [AO 3] Weight training can be combined with interval training/Sprinter may use both weight and interval training/Weight and interval training together
- (12) [AO 3] Powerful sprint start leads to a quicker drive phase/Good sprint start improves drive phase/Sprint start is linked to drive phase
- (13) [AO 3] Faster start leads to a quicker time/Good sprint start improves time/Faster time after a faster start
- (14) [AO 3] Plyometrics may be more important than weight training/Plyometrics can be done on the track/Plyometrics rather than weights
- (15) [AO 3] Sprinter must not ignore flexibility/Training flexibility is also important/Static stretching could be used by the sprinter

(16) [AO 3] Static stretching could improve hip flexibility/Flexibility training for the hip

30. A basketball team often use fitness tests to identify strengths and weaknesses.

Discuss the suitability of the Illinois agility test **and** the ruler-drop test to assess the fitness levels of the team.

Marking guidance

[9-mark level descriptors.](#)



Marking points (**maximum 9**)

(1) [AO 1] The test involves a 10 metres by 5 metres grid and cones placed in the four corners and placed in a line spaced apart in the middle of the grid

(2) [AO 1] A performer starts in a prone position and attempts to run the course as fast as possible/Start in prone position/Start face down

(3) [AO 1] Result is time in seconds

(4) [AO 1] Ruler-drop test is a test of reaction time

(5) [AO 1] Ruler is held at 0 cm between the thumb and index finger

(6) [AO 1] Ruler is dropped and the performer has to catch between the two fingers

(7) [AO 1] Distance dropped is measured in cm

(8) [AO 2] Basketball player will use agility in all playing positions in order to change direction at speed to be able to beat an opponent/Agility is essential to dribble around an opponent

(9) [AO 2] Agility is required by a basketball player in order to change direction at speed to be able to create space to receive a pass

(10) [AO 2] Reaction time is used in basketball to respond to the stimulus of an attacker moving

(11) [AO 2] A basketball player will use reaction time to respond to the movements of an attacker in order to move into position to make an interception

(12) [AO 2] Reaction time can be seen in a basketball game when a player responds to a loose ball situation

(13) [AO 2] Without agility, a basketball team will not be as effective, as they will find it more challenging to get away from defenders

- (14) [AO 3] Illinois agility test is suitable to identify baseline levels of agility for a basketball team
- (15) [AO 3] Illinois agility test can be also used to monitor improvement during the training programme
- (16) [AO 3] SMART targets based on agility can be established once a test has been completed
- (17) [AO 3] Illinois agility test can be undertaken on a basketball court to make it specific
- (18) [AO 3] Illinois agility course does not replicate the movements of basketball
- (19) [AO 3] Illinois test does not incorporate a basketball but this can be easily added into the test procedure
- (20) [AO 3] A basketball team includes different positions all of which may require slightly different amounts of agility
- (21) [AO 3] A point guard is the main ball carrier and the one who has to bring the ball up court and have to beat opponents
- (22) [AO 3] This player may need a different agility test than a forward, who may require more testing on leg power due the importance of rebounds
- (23) [AO 3] Illinois agility test does involve gross skills which are in line with gross movements in basketball
- (24) [AO 3] The validity of the Illinois agility test is low for a basketball team due to the lack of inclusion of a ball and an opponent
- (25) [AO 3] The reliability of the agility test is also low, as there are many external factors which could affect the team test results
- (26) [AO 3] Basketball teams may need to focus on other components of fitness in order to assess fitness levels such as speed
- (27) [AO 3] The 30m sprint test may be seen just as suitable as the Illinois agility test, as a basketballer requires speed to move quickly between phases of play
- (28) [AO 3] A player's diet can affect the results of the agility test, as they may not have eaten enough carbohydrates for energy
- (29) [AO 3] Arousal levels of a player may be low and without optimum arousal they may perform poorly in a maximal fitness test

(30) [AO 3] Reaction time is an important part of a game. However, the ruler-drop test does not replicate the gross body movements required by a basketballer when they respond to a stimulus

(31) [AO 3] The ruler-drop test is not completed in a competitive environment, whereas the reaction time required by a basketball team will always be under the pressure of the opposition

(32) [AO 3] Catching a ruler can be classified as a closed skill, whereas the reactions required by a basketball player are largely needed during open skills

(33) [AO 3] Basketball players require an entire battery of fitness tests, not just tests of agility and reaction time