



The EverLearner

National Mock Exams 2024

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Model Answers BTEC Tech Award in Sport – Component 3 Summer 2024

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 (Thursday, 25th of April 2024, 15:00-16:30), available via the BTEC Tech Award in Sport Revision page:

<https://pages.theeverlearner.com/2024-btec-tech-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	BTEC Tech Award in Sport (2022) Component 3: Developing Fitness to Improve Other Participants' Performance in Sport and Physical Activity
Time allowed	1 hour 30 minutes

First name	
Last name	
Class	
Teacher	

Title	BTEC Tech (2022) Component 3 National Mock Exam Summer 2024
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Guidance	<p>This is a full National Mock Exam designed to help support students taking the Component 3 exam in Summer 2024. The paper has been modelled on the 2022 SAMS but contains brand new content. All questions and mark schemes are written with a thorough attention to detail by experienced exam writers.</p> <p>Instructions:</p> <ul style="list-style-type: none">• Answer all questions.• The final question of the paper is a synoptic assessment.• Good luck!
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Total marks	60
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1. Filip's lacrosse matches are 60-minutes long. He plays in midfield. Which of the following components of fitness would be most important to ensure that Filip can continuously keep up with the play?



Filip

- A Speed
- B Aerobic endurance
- C Body Composition
- D Power

My answer is B - Aerobic endurance

Marks: [1]

2. Filip also needs flexibility when he is playing. Which of the following is the correct definition of flexibility?

- A The amount of muscle that can stretch to allow improvements in technique
- B The amount a person can reach forward to allow improvements in technique
- C The range of movement around a bone to allow improvements in technique
- D The range of motion possible at a joint to allow improvements in technique

My answer is D - The range of motion possible at a joint to allow improvements in technique

Marks: [1]

3. To be the best that he can be, Filip regularly uses fitness testing to assess his fitness. Name two tests to measure flexibility **and** two tests to measure reaction time.

Flexibility test 1: [Sit-and-reach test](#)

Flexibility test 2: [Shoulder flexibility test](#)

Reaction time test 1: [Ruler-drop test](#)

Reaction Time test 2: [Online reaction-time test](#)

Marks: **[4]**

4. Filip has recently completed a fourth set of fitness tests to measure his current fitness levels. Which **component of fitness** shows improvement over the year?

Fitness testing	January	April	July	October
30m sprint test	4.4 s	4.2 s	4.1 s	4.0 s
Hand-grip dynamometer test	55	56	56	55
Bleep test	L11S10	L11S11	L11S11	L11S10
T test	10.13 s	10.33 s	11.13 s	11.33 s

[Speed](#)

Marks: **[1]**

5. Filip uses the vertical jump test to assess his leg power. He scores **64 cm**. Identify the correct category for his test score.

Vertical-jump test

The following are national norms for 16- to 19-year-olds. (Davis 2000)

Gender	Excellent	Above average	Average	Below average	Poor
Male	> 65cm	50 - 65cm	40 - 49cm	30 - 39cm	< 30cm
Female	> 58cm	47 - 58cm	36 - 46cm	26 - 35cm	< 26cm

Data from DAVIS, B. et al. (2000) Physical fitness and fitness testing. In DAVIS, B. et al. *Physical Education and the study of sport*. 4th ed. London: Harcourt Publishers p.123

Above average

Marks: **[1]**

6. Filip wants to use circuit training to help him improve his aerobic endurance. Describe the key characteristics of an aerobic endurance circuit.

An aerobic endurance circuit should have at least six stations set up. Exercises are completed for a set amount of time before a short rest period between stations. The stations should be varied to include working different muscle groups. The performer should aim to work in their aerobic training zone during the circuit.

Marks: **[3]**

7. Filip's coach wants to create a training programme for Filip in order to help him improve his areas of weakness. Suggest the types of personal information that Filip's coach should use in order to influence the training programme.

Filip's coach should firstly work out the aim of the athlete and what they want to achieve. The coach should also gather information on lifestyle history, such as a history of smoking. Lastly, the coach should gather information on current physical fitness and any medical considerations for being physically active.

Marks: **[3]**

8. Phoebe trains every day and is part of a para-swimming team aiming to make the next Olympics. Explain why she requires a high level of coordination in swimming.

Phoebe



Phoebe will require coordination to ensure her arms and legs work smoothly together in executing a swimming stroke. For example, her arms will need to rotate in and out of the water at the same time as her legs kicking to propel herself in a freestyle stroke.

Marks: [2]

9. In order for Phoebe to improve her coordination, she needs to train it. Describe coordination training.

Coordination training should allow Phoebe to work two or more body parts smoothly and effectively. Therefore, her training should include working her arms and legs in the pool at the same time to improve stroke efficiency.

Marks: [2]

10. In addition to her other training, Phoebe also uses continuous training. Suggest two advantages **and** two disadvantages of this method of training.

Advantage 1: An advantage of continuous training is that it requires no equipment other than the swimming pool itself.

Advantage 2: It is also specific to training for middle- to long-distance swimming events, as these are performed at a steady state.

Disadvantage 1: However, a disadvantage of continuous training is that it can be boring and repetitive, leading to demotivation.

Disadvantage 2: It is also not specific to the anaerobic elements of swimming, particularly 50m sprint events.

Marks: **[4]**

11. Phoebe is highly motivated to train and compete at her best. Describe the different types of motivation **and** explain the benefits to Phoebe's performance.

Phoebe could be intrinsically motivated, which is where she participates for enjoyment.

For example, Phoebe competes in a swimming race as she enjoys the physical challenge.

Intrinsic motivation is useful in task persistence, so if Phoebe finds something difficult, she

won't give up and will continue to try her best. Extrinsic motivation is the use of rewards or

prizes to motivate a performer. An example would be Phoebe competing in a swimming

race to try and win a trophy. The reward could also be intangible (for example, getting

praise from her coach). Extrinsic motivation will ensure Phoebe stays focused on training

intensely, in order to receive her rewards. In conclusion, both types of motivation can be

used to increase Phoebe's performance levels in swimming and being motivated will

improve her fitness levels to compete well.

Marks: [6]

12. Explain why muscular strength is important to Samira when she is playing badminton.

Samira



Muscular strength is important to allow Samira to hit the shuttle powerfully in a smash shot. This will make it easier for Samira to win points, as the opponent won't be able to return the shuttle easily. It is also important to help create the power to jump high, preventing her opponent from clearing the shuttle over her head.

Marks: **[2]**

13. Samira wants to test her strength using the grip dynamometer test. Describe the protocol for this fitness test.

For the hand-grip dynamometer test, the individual will stand with their arm by their side and squeeze the grip lever as hard as hard as possible for five seconds. For reliability, this is repeated three times.

Marks: **[2]**

14. Samira would like to improve her balance, but first she must find out how good her balance is. Name a balance test and explain why this is a suitable test to assess balance.

A suitable test for balance is the standing stork test. The test is suitable for balance, as it requires the participant to maintain their centre of mass over their base of support whilst on their toes.

Marks: **[2]**

15. State what the F in FITT stands for and suggest how this could be applied to a six-week training programme.

Samira



F is: Frequency

Applied to a six-week programme

This can be applied to a six week training programme by increasing the number of sessions completed each week from two sessions per week for weeks 1-3 to three sessions per week in weeks 4-6.

Marks: **[2]**

16. Explain how Samira would adapt her circuit training to develop her muscular endurance and her muscular strength.

Samira would adapt a circuit training session for muscular strength by lifting heavy weights with low repetitions. She would adapt the circuit training for muscular endurance by lifting light weights with high repetitions.

Marks: **[2]**

17. Before completing her circuit training, Samira is careful to ensure she warms up fully. Suggest the responses of the cardiorespiratory system during static stretches.

Samira



During the stretching part of the warm-up, Samira's heart rate will drop and her breathing rate will also decrease.

Marks: [2]

18. Describe, using an example, how the Borg scale can be used to monitor Samira's exercise intensity when completing her circuit training. The Borg scale measures perceived exertion when exercising. Samira will be able to rate her exertion on each station, with more intense activities rated higher. Samira can then plan to adjust the stations to amend intensity throughout the circuit.

Marks: [2]

19. Apart from the Borg scale, identify **two** other ways to measure exercise intensity.

Samira



Other way 1: Calculating 1RM for strength.

Other way 2: Measuring whether the heart rate is in the correct training zone

Marks: **[2]**

20. Mills competes for his local athletics club at the steeplechase, where he runs 2000m, jumping over obstacles. Therefore, body composition is important to Mills. What is the definition of body composition?

Mills



The ratio of fat mass to fat-free mass of the body

Marks: **[1]**

21. Which of the following body composition tests measure a person's weight in kilograms divided by their height in metres squared?

A Body composition test

C Body mass index

B Bioelectrical impedance analysis

D Waist-to-hip ratio

My answer is: C - Body mass index

Marks: **[1]**

22. Mills trains three times a week. His coach has recently decided to introduce Fartlek training to his training group. Justify his coach's choice for Fartlek training.

Mills



Fartlek is a form of training where intensity or terrain can be varied. This is a good choice for steeplechase, as the change of speeds is specific to a steeplechase race, where the athlete may start the race quickly, perform at a steady state in the middle part of the race, before sprinting at the end. It could also be argued that Fartlek training is less boring than continuous training, so may help the performer maintain motivation.

Marks: **[3]**

23. Describe a Fartlek session for Mills.

The session should last approximately 30 minutes and there should be a change in speeds throughout the session, with a mixture of low-, moderate- and high-intensity work.

Marks: **[2]**

24. In addition to Mills's Fartlek training, he has been using continuous training to help improve his steeplechase performance. Suggest the benefits of these types of training on Mills's body systems.

Regular continuous training will lead to cardiac hypertrophy, which means that the heart will contract more forcefully to get oxygen to the working muscles. It will also lead to increased capillarisation, which will improve gaseous exchange efficiency. Lastly, it will result in decreasing resting heart rate.

Marks: **[3]**

25. Evaluate the use of the Harvard step test and 12-minute Cooper run for Mills to assess his fitness for the steeplechase.

Mills



The Harvard step test and 12-minute Cooper run are both useful tests for Mills to assess his fitness for steeplechase, as they both measure aerobic endurance. They are also both submaximal tests, which is specific to steeplechase as the event is submaximal. However, the Harvard step test is less specific to steeplechase, as it does not involve the action of running. In contrast, the 12-minute Cooper run does involve running, so it might be more suitable for Mills. Both tests are able to be completed with other people, similar to a steeplechase race, and they have high levels of reliability due to the way they are measured. In conclusion, both tests are useful for Mills, but perhaps the 12-minute Cooper run is the most useful of the two tests.

Marks: [6]