



Time Allowed: 60 minutes

- a pen, a pencil and ruler

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the bottom of this page.
- Answer all questions. You must answer the questions in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 62.
- Questions should be answered in continuous prose. You will be assessed on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Candidate signature _____

Multiple-choice questions	/ 6	<u>Target Grade</u>
Levers & Mechanical Advantage	/ 8	
Basic movements	/ 6	
Planes of movement & axes of rotation	/ 5	<u>Mark /62</u>
Health & fitness/ The components of fitness	/ 9	
Benefits & limitations of fitness testing	/ 8	
Fitness testing	/ 8	<u>Test Grade</u>
The principles of training	/ 3	
Scenario questions	/ 9	

Answer all questions

For questions with four responses only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

Multiple-choice questions

Q1. Which of the following best describes isometric contractions?

A The muscle stays the same length under tension

☐

B The muscle shortens under tension

☐

C The muscle shortens and lengthens under tension

☐

D The muscle lengthens under tension

☐

(1 mark)

Q2. Lactic acid occurs when an athlete's body is:

A Digesting a large meal

☐

B Working aerobically

☐

C Sitting still for a long period of time

☐

D Working anaerobically

☐

(1 mark)

Q3. Which of the following is not an immediate effect of exercise?

A Sweating increases

☐

B Resting heart rate decreases

☐

C Breathing rate increases

☐

D Feel hotter as your temperature increases

☐

(1 mark)

Q4. The SPORT acronym stands for which of the following when referring to principles of training?

A Specificity, Progress, Overload, Reversibility, Tedium

☐

B Specificity, Progressive Overload, Reversibility, Tedium

☐

C Specificity, Progressive Overload, Reliability, Tedium

☐

D Specialty, Progressive Overload, Reversibility, Tedium

☐

(1 mark)

Q5. The sit and reach test measures which component of fitness?

A Power

☐

B Balance

☐

C Coordination

☐

D Flexibility

☐

(1 mark)

Q6. Which of the following best describes a FIRST class lever:

A The fulcrum and effort are in the same place as the load

☐

B The fulcrum is midway between the effort and the load

☐

C The load is between the fulcrum and the effort

☐

D The effort is placed between the fulcrum and the load

☐

(1 mark)

(Total 6 marks)

Levers & Mechanical Advantage

Q7. When performing a chest pass in netball the elbow extends. NAME, DRAW and LABEL the lever system operating at the elbow during this type of movement.

(3 marks)

Q8. When running, the knee joint works as a lever system. NAME, DRAW and LABEL the lever system operating at the knee during running.

(3 marks)

Q9. When running the ankle joint works as a second-class lever. State TWO mechanical advantages of a second-class lever.

1. _____

2. _____

(2 marks)

(Total 8 marks)

Basic Movements

Q10. Distinguish between adduction and abduction movements.

(2 marks)

Q11. Describe the movements occurring at the knee and name the agonist muscle involved in the action of kicking a ball.

(2 marks)

Q12. Complete the following table to describe the type of contraction, main agonist muscle and joint movements occurring at the elbow during a push-up.

	Type of contraction	Main agonist muscle	Joint movement/ action
Upward phase			
Downward phase			

(2 marks)

(Total 6 marks)

Planes of movement/ Axes of rotation

Q13. When a performer runs during a 100m sprint, through which plane of movement do their legs move?

(1 mark)

Q14. As part of a training programme, a performer completes star jumps. In which plane and in what axis are these movements performed?

(2 marks)

Q15. When a Discus thrower performs their throw, in which plane and in what axis does their movement occur?

(2 marks)

(Total 5 marks)

Health & Fitness/ The Components of Fitness

Q16. Define the term HEALTH.

(1 mark)

Q17. Name a sport that requires participants to have good reaction time. JUSTIFY your answer.

(2 marks)

Q18. What is balance, and, using examples, why is it needed in both team and individual sports?

(3 marks)

Q19. Identify THREE components of fitness required by a gymnast.

(3 marks)

(Total 9 marks)

Benefits & Limitations of Fitness Testing

Q20. Suggest ONE benefit and ONE limitation of using fitness tests

(2 marks)

Q21. Would the sit and reach test be an appropriate test for a ballet dancer? Justify your answer.

(3 marks)

Q22. Would the Illinois Agility test be appropriate for a netball player? Justify your answer.

(3 marks)

(Total 8 marks)

Fitness Tests

Q23. Describe the protocol for carrying out the Illinois Agility test.

(2 marks)

Q24. Identify the component of fitness the Wall Toss Test measures and define that component of fitness.

(2 marks)

Q25. Jamal is a goalkeeper in football and is required to have high levels of flexibility. He has identified, by doing a sit and reach test, that his flexibility requires improvement.

He decided to perform both static and ballistic stretching techniques three times per week for six

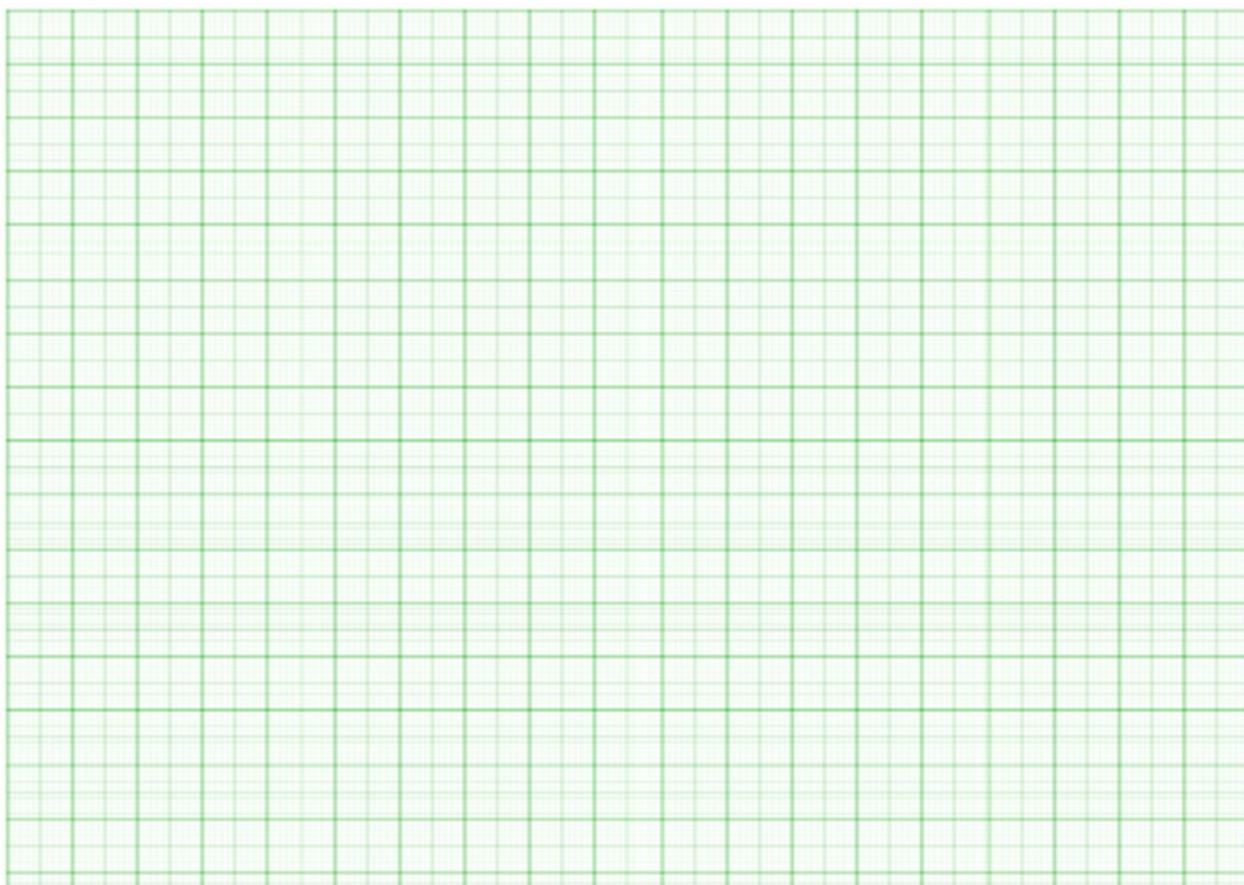
weeks and monitor the improvement in his flexibility by taking the sit and reach test each week.

- a) Plot Jamal's results from **Fig.1** in a line graph on the graph paper below:

(2 marks)

Fig.1

	Initial Test	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Sit & Reach Test (cm)	19 cm	20 cm	22 cm	22 cm	26 cm	27 cm	28 cm



- b) Explain why the sit and reach test may not provide Jamal with accurate and reliable data of his overall flexibility needed to be an effective goalkeeper.

(2 marks)

(Total 8 marks)

The Principles of Training

Q26. What does the principle of FREQUENCY refer to?

(1 mark)

Q27. What is meant by the term PROGRESSIVE OVERLOAD?

(2 marks)

(Total 3 marks)

Scenario questions

Rachel is a popular 15-year-old girl who belongs to a 'sporty' family. She attends the local comprehensive school where she is a prefect and sports captain. Rachel is due to take GCSE Physical Education at the end of the school year. She is interested in analysis of her own movement and improving her sporting performance.

Rachel enjoys sport and has represented the school and county at football, swimming and cross-country. Rachel's cross-country running helps her keep fit to play in the midfield for football and to take part in four swimming sessions a week. She also uses the school fitness suite to improve her muscular strength using bicep curl and leg extension activities.

Outside of school, Rachel has been a member of a swimming club, where her mother is a coach, since she was six years old. She has, with a group of friends, just become a member of a newly formed local football club, which is struggling to establish itself. She trains and competes regularly for both clubs.

Q28.

- a) Identify the lever system used to allow Rachel's elbow to flex and extend when completing bicep curls.

(1 mark)

Lever system: _____

b) Draw and label the lever system used:

(2 marks)

c) State THREE components of physical fitness that Rachel would need when taking part in either football, swimming or cross-country. Explain how these components could improve her performance in that activity.

(6 marks)

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(Total 9 marks)

END OF QUESTIONS