3.2 Components of Fitness: Agility, Power, Speed and Reaction Time Testing: 30-minute Pack

AQA 8582 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Name the fitness test used to measure speed.

(Total for Question 1 is 1 mark)

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2 Which of these sports relies most heavily on balance as a component of fitness?

- ☐ A) Gymnastics beam routine
- ☐ B) Marathon running
- ☐ C) Shot put
- ☐ D) Long-distance swimming

(Total for Question 2 is 1 mark)

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3 Evaluate which components of fitness are most important to Aisha's role as goal attack, and discuss how she could test and train these components.

(Total for Question 3 is 9 marks)

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4 Name the fitness test used to measure agility.

(Total for Question 4 is 1 mark)

5 Name the fitness test used to measure balance.

(Total for Question 5 is 1 mark)

6 Name the fitness test used to measure reaction time.

(Total for Question 6 is 1 mark)

7 Name the fitness test used to measure power (explosive strength).

(Total for Question 7 is 1 mark)

8 Describe how the wall toss test is carried out.

(Total for Question 8 is 2 marks)

9 Describe how the Illinois agility test is carried out.

(Total for Question 9 is 3 marks)

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10 Describe how the stork stand test is carried out.

(Total for Question 10 is 3 marks)

11 Describe how the ruler drop test is carried out, and state which result (a shorter or longer distance caught) indicates a faster reaction time.

(Total for Question 11 is 3 marks)

12 Explain why reaction time is particularly important for a sprinter starting a 100 metre race from the blocks.

(Total for Question 12 is 2 marks)

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Mark scheme · 3.2 Components of Fitness: Agility, Power, Speed and Reaction Time Testing: 30-minute Pack

Question 1

30 metre sprint test **B1**

Answer: The 30 metre sprint test.

Question 2

A (gymnastics beam routine) **B1**

Answer: A (gymnastics beam routine)

Question 3

Level 3 A detailed and coherent response that identifies the components of fitness most relevant to Aisha's role, applies the discussion specifically to the goal attack position described (intercepting, losing a marker, jumping to catch), and evaluates suitable testing and training methods with a balanced, well-reasoned judgement. Sustained, accurate use of terminology throughout. **7-9**

Level 2 Some accurate identification of relevant components and some discussion of testing/training methods, with partial application to Aisha's specific role, but coverage may be incomplete or the evaluation may be underdeveloped or one-sided. **4-6**

Level 1 Basic or generic statements about fitness with little or no application to Aisha's specific role, and little or no discussion of testing or training. **1-3**

Level 0 No relevant content. **0**

Indicative content:

- Reaction time is important for intercepting passes, since Aisha must respond very quickly to an opponent's or teammate's pass before it is caught by someone else; this could be tested with the ruler drop test and trained through reaction drills.
- Agility is important for losing her marker, since she needs to change direction quickly and under control to create space to receive the ball; this could be tested with the Illinois agility test and trained through cone/ladder agility drills.
- Power is important for jumping to catch high passes above defenders, since this requires an explosive leg contraction to reach maximum jump height; this could be tested with the vertical jump test and trained through plyometric exercises such as bounding or box jumps.
- Balance may also be relevant when landing after a jump or pivoting to pass on, since losing balance could lead to a footwork infringement or turnover.
- Coordination supports catching a high pass cleanly while under pressure from a defender, linking eye tracking of the ball with hand positioning.
- A balanced evaluation should note that not all components of fitness are equally important to this specific role; reaction time, agility and power stand out as the priorities given the demands described, so training time should be weighted toward these rather than spread evenly across every component.
- Testing all three priority components before and after a training block would let a coach check whether training has been effective, and help set realistic, sport-specific starting points for Aisha's programme.

Question 4

Illinois agility test **B1**

Answer: The Illinois agility test.

Question 5

stork stand test **B1**

Answer: The stork stand test.

Question 6

ruler drop test **B1**

Answer: The ruler drop test.

Question 7

vertical jump test (Sargent jump test) **B1**

Answer: The vertical jump test (Sargent jump test).

Question 8

the performer stands a set distance from a wall and throws a ball against it with one hand, oe **B1**

the ball is caught with the OTHER hand and thrown back, alternating hands continuously for a set time; the number of successful catches is recorded, oe **B1**

Answer: The performer stands a set distance from a wall and throws a ball against it with one hand, catching it with the other hand and throwing it back, alternating hands continuously for a set time; the number of successful catches is recorded.

Question 9

the test uses a marked course, typically 10 metres by 5 metres, with cones set out including a line of cones down the centre, oe **B1**

the performer starts lying face down (or as instructed) and, on the command 'go', runs the set course as fast as possible, weaving around the central cones, oe **B1**

the time taken to complete the course is recorded; a faster time indicates better agility, oe **B1**

Answer: The performer runs a set course, typically 10 metres by 5 metres, marked out with cones including a central line of cones to weave around, starting from a lying position and running as fast as possible on the command 'go'. The time taken to complete the course is recorded, with a faster time indicating better agility.

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Question 10

the performer stands on their dominant leg with hands on hips and places the sole of the other foot against the inside of the standing knee, oe	**B1**
on command, the performer raises their heel off the ground to balance on the ball of the foot, oe	**B1**
the time is recorded until balance is lost (e.g. the heel touches down, the raised foot moves, or hands leave the hips); a longer time indicates better balance, oe	**B1**

Answer: The performer stands on their dominant leg with hands on hips, places the other foot's sole against the inside of the standing knee, then raises their heel to balance on the ball of the foot. The time is recorded until balance is lost, with a longer time indicating better balance.

Question 11

the tester holds a ruler vertically with the zero mark level with the performer's open finger and thumb, oe	**B1**
without warning, the tester releases the ruler and the performer catches it as quickly as possible between finger and thumb, oe	**B1**
the distance the ruler fell before being caught is read off the ruler; a SHORTER distance indicates a FASTER reaction time, oe	**B1**

Answer: The tester holds the ruler vertically with the zero mark level with the performer's finger and thumb, then releases it without warning; the performer catches it as fast as possible. The distance the ruler fell before being caught is recorded, and a SHORTER distance indicates a FASTER reaction time.

Question 12

the sprinter must respond to the starting gun as quickly as possible, oe	**B1**
since a 100m race is decided by very small time differences, a slower reaction at the start adds directly to the sprinter's overall finishing time and can be enough to lose the race, oe	**B1**

Answer: The sprinter must respond to the starting gun as quickly as possible; because a 100m race is decided by very small time differences, a slower reaction at the start adds directly to the sprinter's overall finishing time and can be enough on its own to lose the race.

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