AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

GCSE
PHYSICAL EDUCATION

Paper 1 The human body and movement in physical activity and sport

Wednesday 16 May 2018 Morning Time allowed: 1 hour 15 minutes

Materials
For this paper you may use:
- a calculator.

Instructions
- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer 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.

Information
- The marks for questions are shown in brackets.
- The maximum mark for the paper is 78.
- 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.

For Examiner's Use	
Page	Mark
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
16	
TOTAL	

Answer **all** questions.

Do not write outside the box

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. ⊗

0 1 Which **one** of these is the most appropriate test to measure maximal strength?

A The 30 Metre Sprint Test ⬭

B The Handgrip Dynamometer Test ⬭

C The One Rep Max Test ⬭

D The Vertical Jump Test ⬭

[1 mark]

0 2 Which **one** of these lung volumes is defined as 'the volume of air left in the lungs after maximal expiration?

A Expiratory reserve volume ⬭

B Inspiratory reserve volume ⬭

C Residual volume ⬭

D Tidal volume ⬭

[1 mark]

2

Do not write outside the box

0 3 Which **one** of these muscles is found at the shoulder joint?

A Deltoid ⬭

B Gastrocnemius ⬭

C Gluteals ⬭

D Tibialis anterior ⬭

[1 mark]

0 4 Which **one** of these bones is located at the ankle joint?

A Femur ⬭

B Humerus ⬭

C Scapula ⬭

D Talus ⬭

[1 mark]

0 5 Which **one** of these best describes coordination?

A To change body position quickly ⬭

B To exercise the body for long periods of time ⬭

C To move two or more body parts together smoothly ⬭

D To perform strength movements quickly ⬭

[1 mark]

3

Turn over for the next question

Do not write outside the box

0 6 Which **one** of these is a long term benefit of exercise?

A Higher resting heart rate ⬭

B Reduced blood pressure ⬭

C Reduced stroke volume ⬭

D Reduced tidal volume ⬭

[1 mark]

0 7 Which **one** of these are suitable methods of collecting qualitative data?

A Interviews and observations ⬭

B Interviews and surveys ⬭

C Observations and surveys ⬭

D Questionnaires and surveys ⬭

[1 mark]

2

0 8 **Figure 1** shows a photograph of Usain Bolt driving away from the starting blocks in a 200m race.

Figure 1

Do not write outside the box

0 8 . 1 Using **Figure 1**, identify the joint movements at the hip and ankle of Usain Bolt's driving leg.

[2 marks]

Hip _____

Ankle _____

0 8 . 2 Using **Figure 1**, identify the main agonist at the knee and ankle of Usain Bolt's driving leg.

[2 marks]

Knee _____

Ankle _____

0 9 When a performer exercises, blood is redistributed to different parts of the body.

Explain **two** ways in which the body redistributes blood during exercise.

[4 marks]

1 _____

_____

_____

_____

2 _____

_____

_____

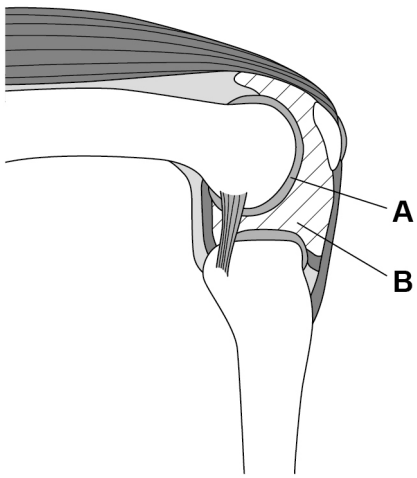
_____

8

Turn over for the next question

1 0 **Figure 2** shows a diagram of the knee joint.

Figure 2



1 0 . 1 Identify structures **A** and **B** from **Figure 2**.

[2 marks]

Structure A _____

Structure B _____

1 0 . 2 For **one** of the structures identified in question **1 0 . 1**, describe its function in the prevention of injury.

[2 marks]

Structure _____

Function _____

_____

_____

4

Do not write outside the box

1 1 Following a period of intensive exercise, Rosie is experiencing excess post-exercise oxygen consumption (EPOC).

State what happens to Rosie's breathing immediately after intensive exercise. Explain the reasons why her breathing is like this.

[4 marks]

1 2 . 1 Define concentric contraction.

Use a sporting example in your answer.

[2 marks]

1 2 . 2 Define isometric contraction.

Use a sporting example in your answer.

[2 marks]

8

Do not write outside the box

1 3 State **two** short-term effects of exercise (24 to 36 hours after exercise).

[2 marks]

1 _____

2 _____

1 4 Fitness testing is becoming increasingly important in sports preparation and performance.

Identify **two** limitations of fitness testing.

[2 marks]

1 _____

_____

2 _____

_____

1 5 Justify why balance is an important component of fitness to a netball or basketball player.

[4 marks]

_____

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8

Do not write outside the box

1 6 . 1 Give an example from the skeleton of where a hinge joint can be found.

[1 mark]

1 6 . 2 Give an example from the skeleton of where a ball and socket joint can be found.

[1 mark]

1 6 . 3 Define rotation.

Use a sporting example in your answer.

[2 marks]

1 6 . 4 Define abduction.

Use a sporting example in your answer.

[2 marks]

6

Turn over for the next question

1 7 Complete **Figure 3** to show the pathway of blood through the heart during the cardiac cycle.

Write the numbers from the following list in the boxes shown in **Figure 3** to show the correct order of the pathway.

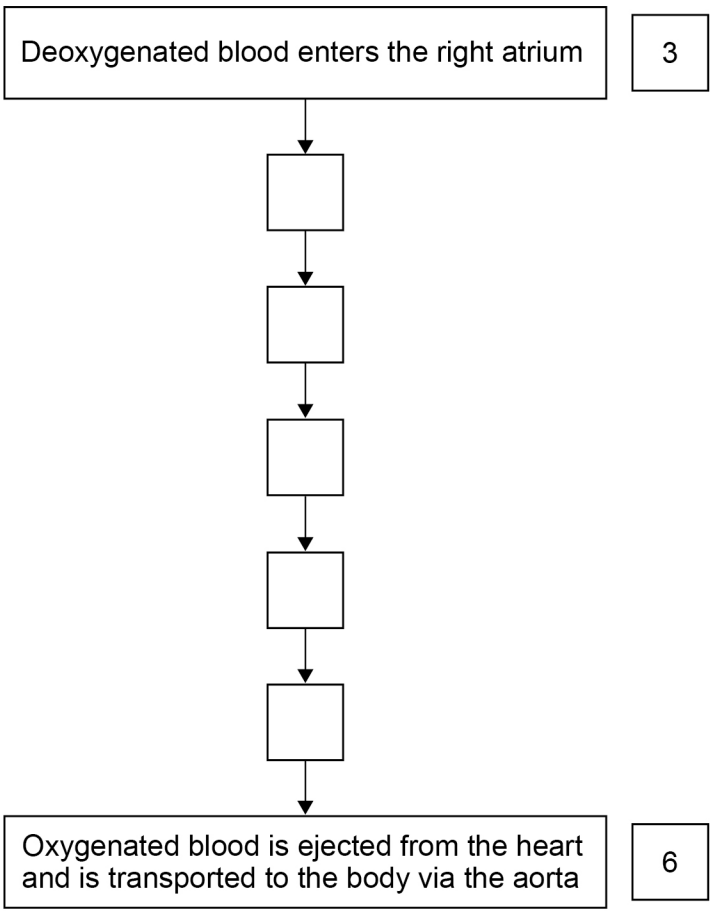
The first and last positions in **Figure 3** have been completed for you. Use each number only once.

1 Gaseous exchange takes place (resulting in oxygenated blood)
2 It passes to the left ventricle
3 Deoxygenated blood enters the right atrium
4 Then passes into the right ventricle
5 The pulmonary vein transports (oxygenated) blood to the left atrium
6 Oxygenated blood is ejected from the heart and is transported to the body via the aorta
7 The pulmonary artery transports (the deoxygenated) blood to the lungs

[5 marks]

Do not write outside the box

Figure 3



5

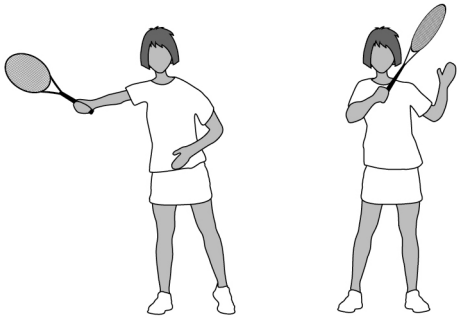
Do not write outside the box

1 8 Justify why reaction time is important for a cricketer.

[3 marks]

1 9 **Figure 4** is a diagram of a forehand tennis stroke.

Figure 4



1 9 . 1 Identify the plane **and** the axis when the arm bends at the elbow.

[2 marks]

1 9 . 2 Identify the type of lever being used at the elbow during the forehand tennis stroke.

[1 mark]

6

Question 19 continues on the next page

1 9 . 3 Draw a fully labelled diagram to show this type of lever.

[2 marks]

Do not write outside the box

2 0 Circuit training is a popular method of training for games players.

Discuss whether circuit training is an effective type of training for games players.

[5 marks]

Extra space

7

Do not write outside the box

2 1 Two female students completed the Multi Stage Fitness Test as part of their GCSE lesson. The following results were recorded.

Hannah who is 15 years old scored 5/7

Saskia who is 16 years old scored 9/9

Table 1 shows the normative data for females for the Multi Stage Fitness Test.

Table 1

Multi Stage Fitness Test (females)

	Poor	**Fair**	**Average**	**Good**	**Very good**	**Excellent**
	Level/ Shuttle	Level/ Shuttle	Level/ Shuttle	Level/ Shuttle	Level/ Shuttle	Level/ Shuttle
14–15 years	3/4	5/3	6/5	7/6	8/8	10/7
16–17 years	4/2	5/7	7/2	8/5	9/8	11/11

2 1 . 1 Analyse the data in **Table 1**. What does it show about Hannah and Saskia's levels of cardiovascular fitness?

[2 marks]

2 1 . 2 Explain why the score for the Multi Stage Fitness Test is quantitative data.

[2 marks]

4

Turn over ►

2 2 In preparation for an important event, a marathon runner may train at altitude.

Evaluate the effectiveness of altitude training as a way to improve the performance of a marathon runner.

[6 marks]

Extra space

6

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2 3 Athletes use knowledge of training seasons, training zones and other factors to ensure that they are in peak condition for a major event, such as the Olympic Games.

Analyse how a 1500m runner would plan their training year before a major event.

[9 marks]

Do not write outside the box

Do not write outside the box

Extra space

9

END OF QUESTIONS