A

AQA

Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

GCSE

PHYSICAL EDUCATION

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

8582/1

Wednesday 16 May 2018 **Morning**

Time allowed: 1 hour 15 minutes

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

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]

J U N 1 8 8 5 8 2 1 0 1

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INSTRUCTIONS

- **Use black ink or black ball-point pen. Pencil should only be used for drawing.**
- **Answer ALL questions.**
- **You must answer questions in the space provided. Do not write 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.**

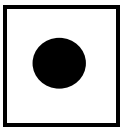
DO NOT TURN OVER UNTIL TOLD TO DO SO

Answer ALL questions.

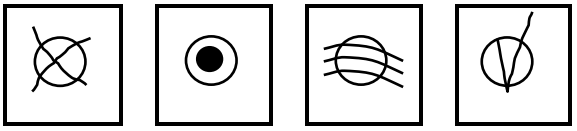
Only ONE answer per question is allowed.

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

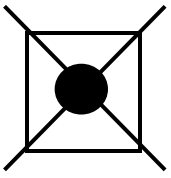
CORRECT METHOD



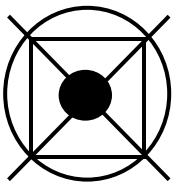
WRONG METHODS



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? [1 mark]**

- ○ **A** The 30 Metre Sprint Test
- ○ **B** The Handgrip Dynamometer Test
- ○ **C** The One Rep Max Test
- ○ **D** The Vertical Jump Test

0 2 **Which ONE of these lung volumes is defined as 'the volume of air left in the lungs after maximal expiration? [1 mark]**

- ○ **A** Expiratory reserve volume
- ○ **B** Inspiratory reserve volume
- ○ **C** Residual volume
- ○ **D** Tidal volume

2

[Turn over]

0 3 **Which ONE of these muscles is found at the shoulder joint? [1 mark]**

- ○ **A** Deltoid
- ○ **B** Gastrocnemius
- ○ **C** Gluteals
- ○ **D** Tibialis anterior

0 4 **Which ONE of these bones is located at the ankle joint? [1 mark]**

- ○ **A** Femur
- ○ **B** Humerus
- ○ **C** Scapula
- ○ **D** Talus

0 5 **Which ONE of these best describes coordination? [1 mark]**

- ○ **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

3

0 6 **Which ONE of these is a long term benefit of exercise? [1 mark]**

- ○ **A** Higher resting heart rate
- ○ **B** Reduced blood pressure
- ○ **C** Reduced stroke volume
- ○ **D** Reduced tidal volume

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0 7 **Which ONE of these are suitable methods of collecting qualitative data? [1 mark]**

○ **A** **Interviews and observations**

○ **B** **Interviews and surveys**

○ **C** **Observations and surveys**

○ **D** **Questionnaires and surveys**

2

[Turn over]

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

FIGURE 1

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 _____

_____

[Turn over]

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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]

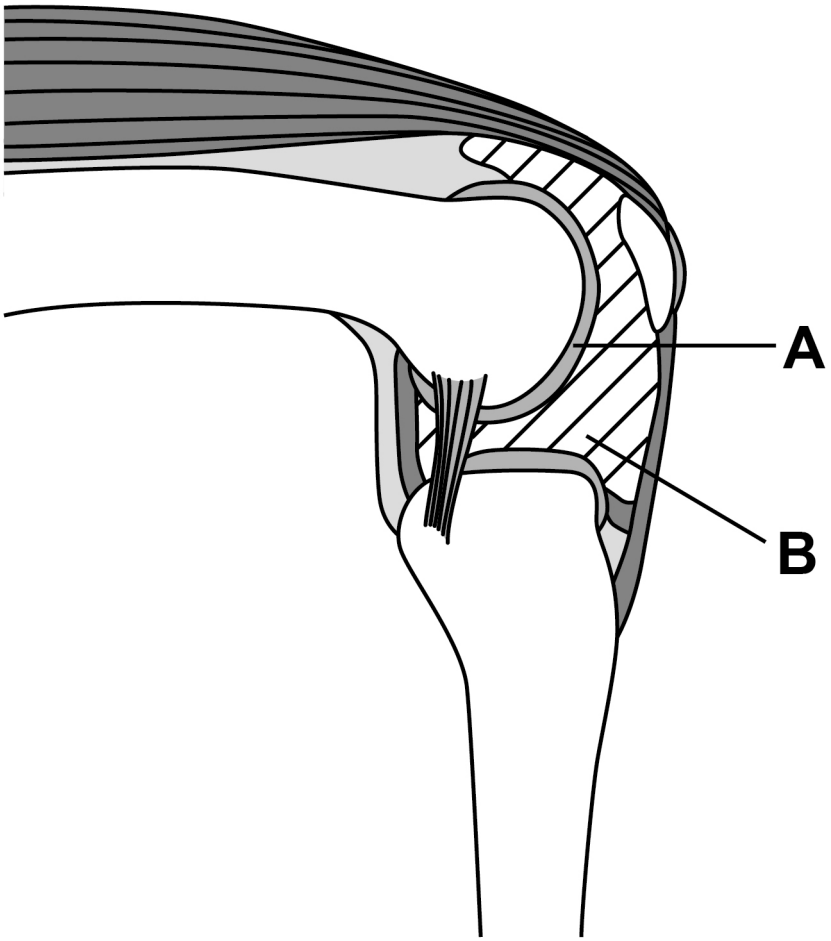
1

2

8

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

FIGURE 2



10.1 **Identify structures A and B from FIGURE 2. [2 marks]**

Structure A _____

_____

Structure B _____

_____

10.2 **For ONE of the structures identified in question 10.1, describe its function in the prevention of injury. [2 marks]**

Structure _____

_____

Function _____

_____

_____

_____

4

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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

[Turn over]

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]

8

[Turn over]

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

1 7 **Complete FIGURE 3, on the opposite page, 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. [5 marks]

1 Gaseous exchange takes place (resulting in oxygenated blood)

2 It passes to the left ventricle

3 Deoxygenated blood enters the right atrium

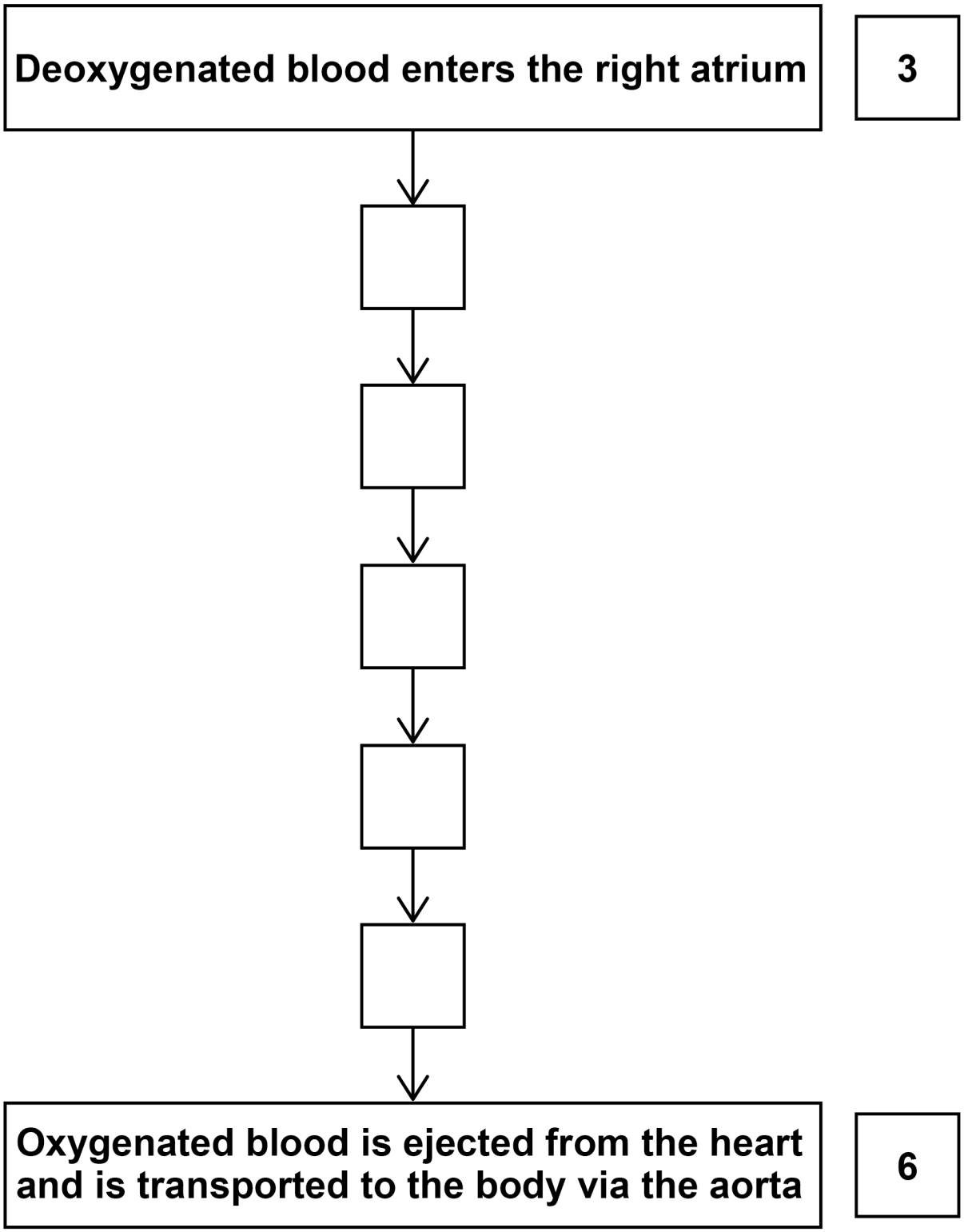
4 Then passes into the right ventricle

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

FIGURE 3


Deoxygenated blood enters the right atrium
3
Oxygenated blood is ejected from the heart and is transported to the body via the aorta
6

5

1 8 **Justify why reaction time is important for a cricketer. [3 marks]**

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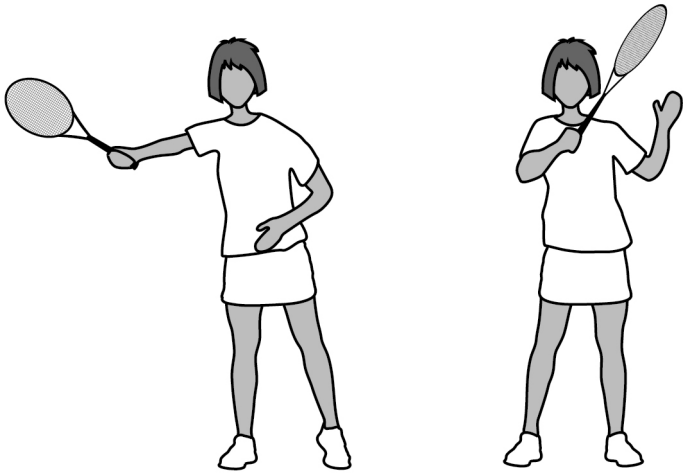
[Turn over]

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

1 9 . 3 Draw a fully labelled diagram to show this type of lever. [2 marks]

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]

7

[Turn over]

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, on the opposite page, shows the normative data for females for the Multi Stage Fitness Test.

2 1 . 1 **Analyse the data in TABLE 1, on page 33. What does it show about Hannah and Saskia's levels of cardiovascular fitness? [2 marks]**

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

[Turn over]

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

4

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]

6

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]

9

END OF QUESTIONS

There are no questions printed on this page

For Examiner's Use	
Page	Mark
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32-34	
35-36	
37-41	
TOTAL	