

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

GCSE PHYSICAL EDUCATION

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

Wednesday 15 May 2019

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 spaces 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 this 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	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
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 describes the transverse axis of rotation?

[1 mark]

A The axis that passes horizontally through the body from back to front

B The axis that passes horizontally through the body from left to right

C The axis that passes vertically from the top of the body to the bottom

1

0 2

Which **one** of these uses an isometric contraction?

[1 mark]

A A burpee

B A plank

C A star jump

D A tricep dip

1



0 3

Which **one** of these best describes pre-season training?

[1 mark]

A When performers focus on their tactics

B When performers improve their fitness

C When performers play most of their games

D When performers rest and recuperate

1

0 4

In which **one** of these activities is reaction time most important?

[1 mark]

A Golf

B Gymnastics

C Horse riding

D Table tennis

1

0 5 . 1

Alex is a professional tennis player and is using weight training to improve his strength.

Outline **two** ways in which Alex can use his one rep max to help improve his maximal strength.

[2 marks]

1 _____

2 _____

Turn over ►



0 5 . 2 Which **two** of the following bones are found at Alex's knee?

[2 marks]

A Femur

B Humerus

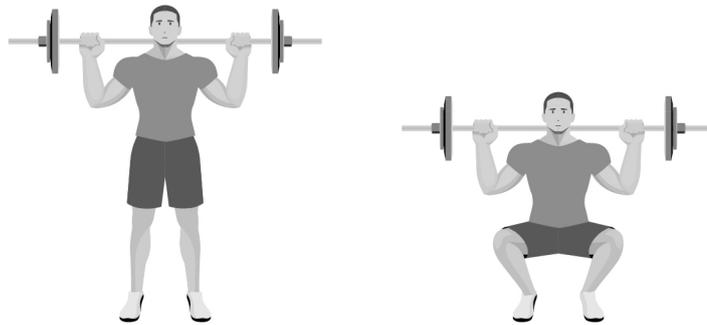
C Radius

D Tibia

E Ulna

In order to improve the strength in his legs, Alex performs some squats as shown in **Figure 1**.

Figure 1



0 5 . 3 Identify the **joint action** at the knee as Alex performs the downward phase of the squat.

[1 mark]

0 5 . 4 Identify the **main agonist** at the knee as Alex performs the downward phase of the squat.

[1 mark]

0 5 . 5 Identify the **muscular contraction** at the knee as Alex performs the downward phase of the squat.

[1 mark]



0 6 . 1 Veins form part of the circulatory system.

State **two** structural features of veins.

[2 marks]

1 _____

2 _____

Table 1 shows the redistribution of blood flow during rest and maximal exercise.

Table 1

Destination	Rest	Maximal exercise
Skeletal muscle	20%	88%
Brain	15%	3%
Heart	5%	4%
Skin	10%	3%
Liver and intestines	30%	1%
Kidneys	20%	1%

0 6 . 2 At rest the blood flow to the skeletal muscle is 20%. At rest the blood flow to the other organs is 80%.

Using the data in **Table 1**, calculate the blood flow to the other organs at maximal exercise.

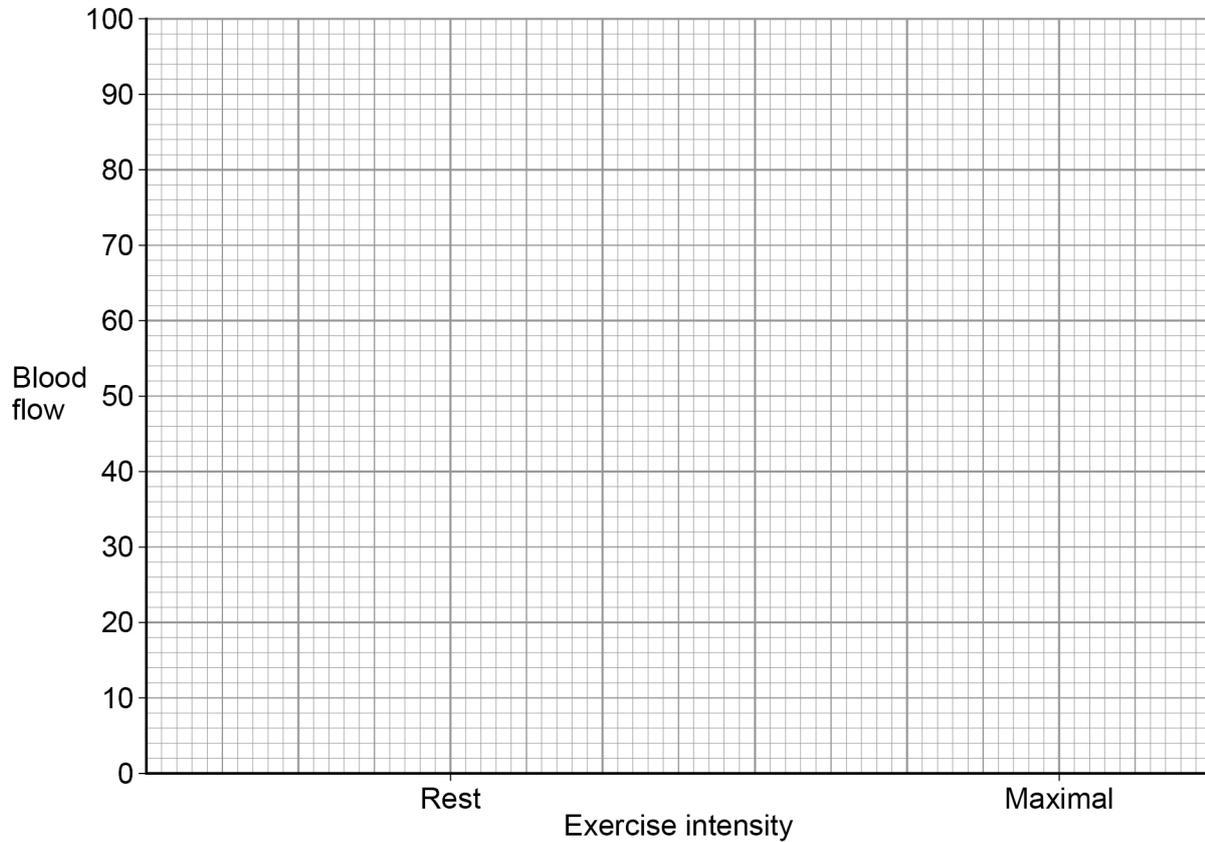
[1 mark]



0 6 . 3 Using the data in **Table 1**, plot and label the lines on the graph paper for the following:

- the skeletal muscle at rest and maximal
- all other organs combined at rest and maximal.

[2 marks]



0 6 . 4 Explain why the redistribution of blood during exercise is necessary.

[2 marks]

Turn over ►



0 7 . 1

Naveena regularly participates in hockey matches for her school and local club. She requires good coordination to compete successfully.

What is coordination?

[1 mark]

0 7 . 2

Why is it important for a hockey player to have good coordination?

[1 mark]

0 7 . 3

Coordination, cardiovascular endurance, muscular endurance, power/explosive strength, reaction time, speed and strength are important components of fitness for a hockey player.

Name **one** other component of fitness. Outline why it is important for a hockey player.

[2 marks]

Component of fitness _____



0 7 . 4 Naveena experiences excess post-exercise oxygen consumption (EPOC) after sprinting throughout the game.

State what happens to Naveena's breathing immediately after she sprints.

[1 mark]

0 7 . 5 State **three** benefits that Naveena will experience from cooling down immediately after the game.

[3 marks]

1

2

3

8

Turn over for the next question

Turn over ►



0 9 . 1 Movement and protection are two functions of the skeleton.

Name **three** other functions.

[3 marks]

- 1 _____
- 2 _____
- 3 _____

0 9 . 2 The shape and type of bones determine the amount of movement that is possible.

Explain the role of long bones during a game of badminton.

[3 marks]

Turn over for the next question

6

Turn over ►



1 0 . 1

Greg Rutherford won a bronze medal in the long jump at the 2016 Olympic Games in Rio de Janeiro.

In the take-off phase of the long jump, Greg Rutherford uses a second class lever at the ankle.

Draw a linear diagram of a second class lever.

[1 mark]



1 0 . 2

Explain why a second class lever system has a high mechanical advantage.

[2 marks]

1 0 . 3

Identify **two** types of movement that occur at the ankle.

[2 marks]

1 _____

2 _____



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1 0 . 5

Greg will need to apply the principles of training to his performance programme to enable him to be a more effective long jumper.

How can Greg use specificity and progressive overload to improve his level of performance in the long jump?

[2 marks]

Specificity _____

Progressive overload _____

13

1 1

A sportsperson may be fit, but not healthy.

Use examples to explain this statement.

[2 marks]

2



Turn over for the next question

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ANSWER IN THE SPACES PROVIDED**

Turn over ►



1 2 . 1 Zoe is a 16-year-old girl who plays football.

Which **one** of these is Zoe's maximum heart rate?

[1 mark]

A 192

B 198

C 204

D 210

1 2 . 2 Explain **three** ways in which an increase in explosive strength may improve Zoe's performance in football.

[3 marks]

1 _____

2 _____

3 _____



There are no questions printed on this page

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