



Oxford Cambridge and RSA

AS Level Physical Education

H155/01 Physiological factors affecting performance

Friday 18 May 2018 – Morning

Time allowed: 1 hour 15 minutes



You may use:

- a scientific or graphical calculator



First name										
Last name										
Centre number						Candidate number				

INSTRUCTIONS

- Use black ink. HB pencil may be used for graphs and diagrams only. Please write clearly and in capital letters.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

INFORMATION

- The total mark for this paper is **70**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in the question marked with an asterisk (*).
- This document consists of **12** pages.

2 (a) (i) Which one of the following is **not** a function of proteins?

Put a tick (✓) in the box next to the correct answer.

- Growth of proteins
- Insulation of nerves
- Creation of enzymes
- Provider of energy

[1]

(ii) Identify a mineral responsible for the formation of haemoglobin.

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..... [1]

(iii) Identify **one** pharmacological aid that would enhance performance in weight lifting and describe **one** negative side-effect of this pharmacological aid.

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..... [2]

(b) Compare **two** tests used to evaluate aerobic capacity.

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..... [4]

(d) A gymnast will need excellent flexibility, explosive strength and strength endurance during a floor or apparatus routine.

(i) Explain, using practical examples from gymnastics, what is meant by dynamic and static flexibility.

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..... [2]

(ii) Outline, using examples, when explosive strength and strength endurance would be needed in gymnastics.

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..... [2]

(c) (i) Define Newton's first law of motion.

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..... [1]

(ii) Explain why Newton's first law applies to a golf ball in the following situations:

A golf ball on the tee
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A golf ball in flight at maximum velocity
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..... [3]

(iii) Explain, using a sporting example, why Newton's third law of motion is also known as the law of reaction.

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..... [2]

(d) Wind tunnels are one of many new technologies used by sports scientists to enhance performance.

Outline **one** sporting situation where a wind tunnel is used to enhance performance, **two** benefits of this technology and **one** disadvantage.

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..... [4]

A series of 25 horizontal dotted lines spanning the width of the page, providing a template for writing answers.

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).

A large rectangular area with a solid vertical line on the left side and horizontal dotted lines across the rest of the page, providing space for writing answers.



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