



Rewarding Learning

ADVANCED

General Certificate of Education

2023

Centre Number

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Candidate Number

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Sports Science and the Active Leisure Industry

Unit A2 2

assessing

The Application of Science to Sports Performance

[AAL21]

WEDNESDAY 24 MAY, AFTERNOON



AAL21

TIME

2 hours.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all five** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Questions **3(c)**, **4(b)(ii)**, **5(b)** and **5(c)**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	

Total Marks	
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Answer **all** questions

Examiner Only	
Marks	Remark

1 (a) (i) Define cardiac output.

[2]

(ii) Describe the short term impact of exercise on cardiac output.

[2]

(b) Explain the **two** phases of the cardiac cycle at **rest**.

(i) Diastole:

[2]

(ii) Systole:

_____ [2]

(c) Describe the structural cardiovascular adaptations experienced by an endurance athlete following a prolonged period of aerobic training.

_____ [4]

Examiner Only	
Marks	Remark

2 (a) Identify and describe **two** motivational strategies a coach could use to prevent young people dropping out of sport.

(i) _____

_____ [3]

(ii) _____

_____ [3]

Examiner Only	
Marks	Remark

(b) Sporting skills can be classified on a continuum.

Using a sporting example, describe each of the following classifications:

(i) Open skills:

[2]

(ii) Gross skills:

[2]

(iii) Self-paced skills:

[2]

Examiner Only	
Marks	Remark

4 (a) A pivot joint allows rotational sporting movements.

Identify **three** other types of synovial joint. Describe the bones that articulate at the joint and the movements they allow using a relevant sporting action.

(i) _____

_____ [4]

(ii) _____

_____ [4]

Examiner Only	
Marks	Remark

(iii) _____

_____ [4]

(b) (i) Name **two** types of muscular contraction.

_____ [2]

Examiner Only	
Marks	Remark

[10]

Examiner Only	
Marks	Remark

5 (a) In the competitive world of sport, some athletes use illegal ergogenic aids to enhance performance.

Explain an illegal method used by athletes to improve **aerobic** performance and describe the risks involved.

(i) Illegal method:

[4]

Examiner Only	
Marks	Remark

THIS IS THE END OF THE QUESTION PAPER

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