



Rewarding Learning

ADVANCED
General Certificate of Education
2024

Centre Number

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Candidate Number

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Sport Science and the Active Leisure Industry

Assessment Unit A2 2

assessing



The Application of Science
to Sports Performance

[AAL21]

AAL21

TUESDAY 11 JUNE, MORNING

TIME

2 hours.

INSTRUCTIONS TO CANDIDATES

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

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page, or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

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)**.



Answer **all** questions

During exercise, muscles contract to produce efficient movement.

1 (a) Identify and describe **two** types of muscular contraction.

(i) _____

_____ [2]

(ii) _____

_____ [2]



Successful coaches use a range of transfer methods to enhance learning and performance.

(b) Explain each transfer of learning method using a relevant sporting example.

(i) Positive Transfer:

[2]

(ii) Bilateral Transfer:

[2]



(iii) Retroactive Transfer:

[2]



Skills are acquired for sport through learning and practice.

3 (a) Identify three types of skill.

[3]





[8]

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[Turn over



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Synovial joints allow a range of movement patterns to complete sporting actions.

4 (a) Define each of the movement patterns using relevant sporting examples. Identify the synovial joint and the agonist/prime mover.

(i) Plantar Flexion:

Sporting example:

Synovial joint:

Agonist/prime mover:

[4]



(ii) Flexion of the elbow:

Sporting example:

Synovial joint:

Agonist/prime mover:

[4]



(iii) Abduction of the shoulder:

Sporting example:

Synovial joint:

Agonist/prime mover:

[4]



An efficient cardiovascular system is essential for an endurance athlete.

(b) (i) Define the term bradycardia and identify a **structural** adaptation that enables it to occur.

[2]

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[16]

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Question Number	Marks
1	
2	
3	
4	
5	

Total Marks	
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Examiner Number

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