



Surname _____

Forename(s) _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

A-level

PHYSICAL EDUCATION

Paper 2

**Factors affecting optimal performance in
physical activity and sport**

7582/2

Thursday 8 June 2023

Morning

Time allowed: 2 hours

[Turn over]



At the front of this book, write your surname and forename(s), your centre number, your candidate number and add your signature.

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.**
- **Answer ALL questions. You must answer the questions in the spaces provided. Do NOT write on blank pages.**
- **If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).**



- **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 105.**
- **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



SECTION A**EXERCISE PHYSIOLOGY AND
BIOMECHANICS**

Answer ALL questions in this section.

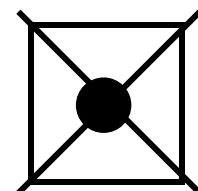
Only ONE answer per question is allowed.

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

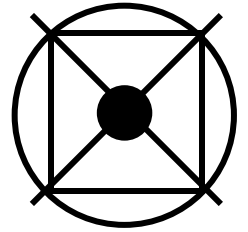
CORRECT METHOD 

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 the following dietary supplements will improve the mobilisation of fatty acids in the body?
[1 mark]

A Caffeine

B Creatine

C Sodium bicarbonate

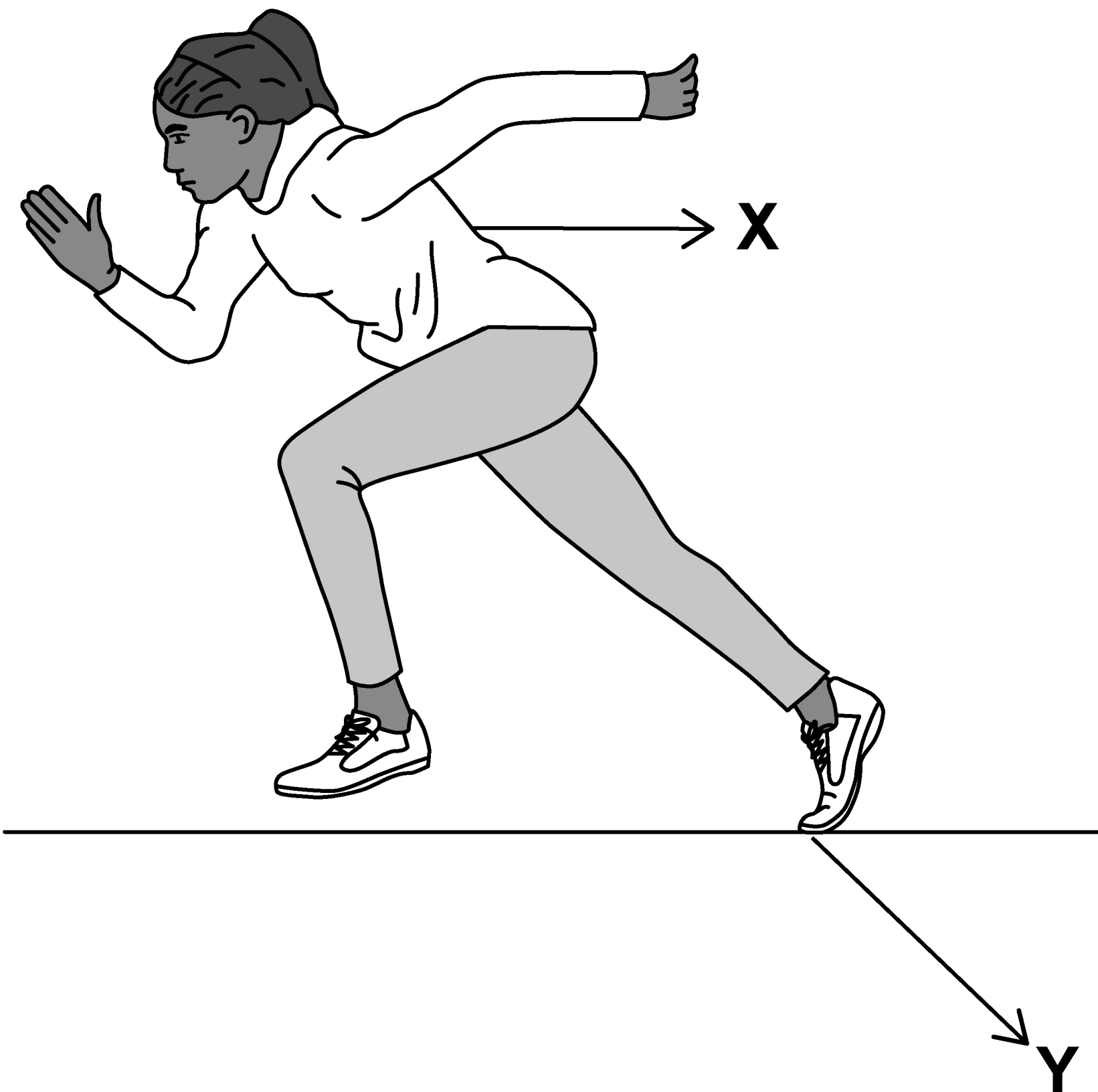
[Turn over]



0 2

FIGURE 1 shows a sprinter during a training session.

FIGURE 1



Identify the forces labelled X and Y in FIGURE 1, on the opposite page.

[1 mark]

**A X: Air resistance
Y: Ground reaction force**

**B X: Air resistance
Y: Internal-muscular force**

**C X: Weight
Y: Ground reaction force**

**D X: Weight
Y: Internal-muscular force**

[Turn over]



0 3

The phases of the training season are preparation, competition, and transition.

Describe the main focus of training in EACH of these phases. [3 marks]

Preparation _____

Competition _____

Transition _____

04

**Give three sporting examples of how a swimmer can reduce drag during a race.
[3 marks]**

1 _____

2 _____

3 _____

[Turn over]



0	5
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Newton's laws of linear motion can be adjusted to explain the movement of rotating bodies, known as angular motion.

0	5	.	1
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State Newton's first law of angular motion. [1 mark]



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[Turn over]



05.2

FIGURE 2 shows a figure skater rotating in the air during a jump.

FIGURE 2



Analyse how Newton's laws of angular motion can account for the figure skater's speed of rotation throughout the movement. [3 marks]



[Turn over]



0	6
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A sprinter is driving out of the blocks in a 100 m race.

Analyse how the lever systems operating at the ankle AND knee give the sprinter an effective start.

Include fully labelled diagrams of the lever systems in your answer. [8 marks]

You may use this space to plan your answer.



[Turn over]





[Turn over]





Lined area for writing with horizontal lines.

[Turn over]



[Turn over]



0	7
---	---

Analyse how using a hyperbaric chamber would help rehabilitation from a muscle strain.

Refer to the following in your answer:

- **gas exchange at the alveoli and muscles**
- **transportation of oxygen.**

[15 marks]

You may use this space to plan your answer.



[Turn over]







[Turn over]





[Turn over]



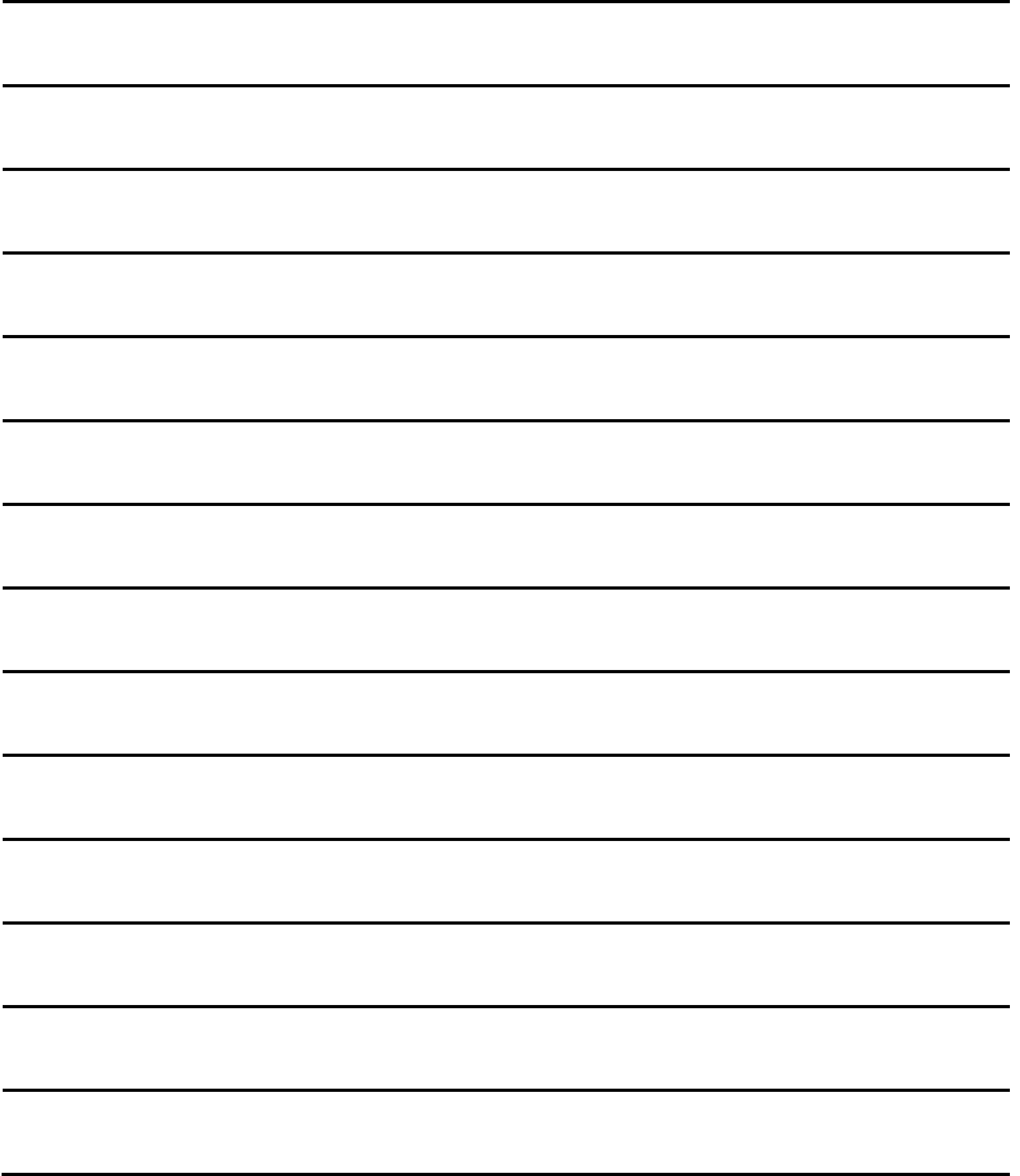
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[Turn over]





SECTION B**SPORT PSYCHOLOGY**

Answer ALL questions in this section.

0 8

‘The belief in your ability to master a specific sporting situation.’

Which term is described in this statement? [1 mark]

A Self-confidence

B Self-efficacy

C Self-esteem

[Turn over]



0	9
---	---

Zajonc classified ‘others present in sport’ into four categories.

While participating in badminton there are players involved in a match on the court next to yours.

Which ONE of these categories would these players be placed in? [1 mark]

A Audience

B Co-actor

C Competitive co-actor

D Social reinforcer



10.1

Define the term 'attribution'. [1 mark]

[Turn over]



10.2

Describe the link between attribution and task persistence when an athlete encounters:

- **success**
- **failure.**

[2 marks]

11.1

Outline Steiner's model of group productivity. [1 mark]

[Turn over]



1	1	.	2
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Explain how Steiner's model accounts for a team winning against a significantly higher-ranked opponent. [3 marks]

1 2

Evaluate the effectiveness of using questionnaires to measure the anxiety levels of all the players in a rugby squad. [3 marks]

[Turn over]



1	3
---	---

A football match ends in a draw. A penalty shoot-out is used to decide the winner of the match. One player refuses to take a penalty.

Analyse why the player refuses to take a penalty AND the strategies that could be used to encourage the player to take the penalty next time. Refer to Atkinson's Model of achievement motivation in your answer. [8 marks]

You may use this space to plan your answer.



[Turn over]





[Turn over]



Horizontal lines for writing.



[Turn over]



1	4
---	---

A golfer may use cognitive stress management techniques during an important competition.

Analyse how the golfer could use these techniques to improve their performance in the competition. [15 marks]

You may use this space to plan your answer.



[Turn over]



[Turn over]





[Turn over]





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[Turn over]

<hr/>
35



SECTION C**SPORT AND SOCIETY AND
TECHNOLOGY IN SPORT**

Answer ALL questions in this section.

1 | 5

Which set of characteristics ALL apply to physical education? [1 mark]

A Competitive, fun, voluntary

**B Compulsory, formal,
pre-planned**

C Flexible, highly skilled, serious

D Informal, tactical, self-officiated



1	6
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Which ONE of the following is the definition of negative deviance? [1 mark]

- A Behaviour that goes against norms and has a detrimental effect on sport**
- B Bending the rules to gain an advantage**
- C Conforming to the rules, spirit and etiquette of sport**
- D Over-conformity to the norms and expectations of sport**

[Turn over]



17

Outline THREE ways that National Institutes of Sport can help to improve the performance of an athlete. [3 marks]

1 _____

2 _____

3 _____

1 8

Explain THREE situations where a footballer would be protected by sports legislation. [3 marks]

1 _____

2 _____

3 _____

[Turn over]



19

Drug taking in elite sport is an increasing problem as elite athletes seek to gain an advantage over their opponents.

19.1

State ONE PSYCHOLOGICAL reason why performers might use illegal drugs and doping methods to aid performance. [1 mark]

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[Turn over]



19.2

Analyse how the physiological effects of each of the following drugs can improve performance in the named sports:

- erythropoietin (EPO) taken by a road cyclist
- anabolic steroids taken by a boxer
- beta blockers taken by a golfer.

[3 marks]

Erythropoietin (EPO) taken by a road cyclist _____

Anabolic steroids taken by a boxer

Beta blockers taken by a golfer

[Turn over]



20

TABLE 1 shows the percentage of people with disabilities who were considered inactive over a 4 year period according to Sport England's Active People Survey.

Inactivity is defined as taking part in less than 30 minutes of sport or physical activity each week. [8 marks]

TABLE 1

YEAR	INACTIVITY RATE (%)
2015–2016	43.3
2016–2017	43.4
2017–2018	42.0
2018–2019	39.8



Evaluate the impact that the development of new technology and equipment has had on enabling people with disabilities to overcome barriers to participation.

Refer to the data in TABLE 1 in your answer.

You may use this space to plan your answer.

[Turn over]



[Turn over]





[Turn over]



2	1
---	---

Evaluate the impact of the increased commercialisation of sport on coaches AND the audience. Use sporting examples in your answer. [15 marks]

You may use this space to plan your answer.



[Turn over]





[Turn over]



[Turn over]





END OF QUESTIONS

35



Additional page, if required.

Write the question numbers in the left-hand margin.

Lined area for writing answers, consisting of 15 horizontal lines and a vertical margin line on the left.

Additional page, if required.

Write the question numbers in the left-hand margin.

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For Examiner's Use	
Section	Mark
A	
B	
C	
TOTAL	

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